

Make Your Course Count: Preparing Educators to Support Students with Mathematics Difficulty

[Intro Slide – Thanks for joining! We will begin the Webinar at the top of the hour.]: Teri Marx: Hello everyone.

[Slide 1 – Make Your Course Count - Preparing Educators to Support Students with Mathematics Difficulty]: Teri Marx: I am Teri Marx with the National Center on Intensive Intervention at the American Institutes for Research. We're going to be having this webinar focused on how to make your course count, preparing educators to support students with mathematics difficulty. Here at NCII, today we are joined by Dr. Sarah Powell an Associate Professor at that University of Texas at Austin.

[Slide 2 – Webinar Format & Questions]: We're going to go through a couple of housekeeping sorts of issues sort of right off the bat so that you all kind of know about the format for this particular webinar. Throughout the presentation, you can submit questions into the questions pod. And if you have any technical issues related to how to use that feature or anything else related to the platform itself you can go ahead and enter those into the question pod as well and we will make sure to the them; to get back to you with information.

For any content related question, we're going to be monitoring the; that pod throughout the duration of this webinar. And we'll pause and have some time to talk through those questions. Since it is a small group, we are interested in trying out the hand raising function to be able to allow you to actually vocally ask a question.

So, what we want to do right now is to practice that with all of you. So, if you can on your toolbar for the GoToWebinar platform locate the hand icon and go ahead and click on that to show me; oh, I see Ann on and Ashley. There are a couple of other folks. Yep, Jenna, Sarah; so, some of you are locating that icon right now.

So, if you want to ask a question. What we'll do is that we will ask you to raise your hand using that hand icon on your toolbar. If you're having trouble locating that, go ahead and pop a question into the question box and Nick will go ahead and help you out with finding that. If you do have a question that you want to ask, you will click on that icon and then we will unmute your line so that you can ask that question.

So, we'll be looking both at the question pod if you're not able to talk through your questions. But if you would like to vocally ask a question, we will use that raise the hand feature. So, right now I'm just going to clear that out for anybody that did practice that skill. And then we're

going to go ahead and use both; to try this out for this particular webinar since this is a smaller group.

[Slide 3 – Today’s Overview]: So, just an overview of today’s webinar. For those of you that have worked with us in the past or have been following out newsletter and now about our resources. You should see that we have redesigned the website to focus on various audiences. One of those audiences in particular is higher education faculty. And so, we are developing a number of resources in collaboration with a number of our partners on various course content.

And so, the University of Connecticut has been a partner with us, and they have an agreement and a partnership with Sarah Powell at UT Austin for this mathematics course. Which is the focus of today’s webinar. But we will also want to highlight for you that on the website if you searched for faculty information page or kind of look for information for it and select the higher education faculty. You should also see an explicit instruction course content resource and then this mathematics course.

We are also in the process of bringing out a couple more courses. That have a focus on behavior supports for academic intervention as a part of this intensive intervention process. As well as intensive reading intervention. So, those are yet to come and those are not posted on the website. But we will be doing dissemination.

And we’re going to review a couple of other resources as well. And we are focusing on about a half an hour of presentation. So, Sarah Powell is going to present to us for about a half an hour and then we’ll open up for that kind of dialogue and that conversation with all of you. We’re really interested in how this content can support faculty with preparing their courses especially as you’re thinking about the upcoming year. You know, what sorts of information would be helpful for you to have from the Center in order to kind of how to best integrate this content.

And so, that was kind of the impetus for this particular webinar today. But I’m just going to go ahead and allow Sarah Powell to talk through. I will be monitoring both the questions box as well as whether or not anybody is raising their hands. And I’ll be the person to interrupt you Sarah if that’s okay?

Sarah Powell: Okay

Teri Marx: So, you can go ahead Sarah.

Sarah Powell: Okay, thank you so much

[Slide 4 – National Center on Intensive Intervention]: So, welcome to all of you for this mid-summer webinar about the new; what we just call the Mathematics Course that is provided by the National Center on Intensive Intervention. So, as Teri said this course is available on the intensive intervention dot org website. If you want to go to the course right now, you can follow that link on; that’s available on the top left-hand side of this slide. I have also found that Googling NCII Math Course will take you directly to the course that we’re going to talk about.

So, as Teri said we developed this course with several stakeholders in mind. And are faculty and instructors at the university level who provide instruction to pre-service educators and maybe

sometimes in-service educators about improving intensive intervention practices. And so, this course is all about intensive intervention in mathematics. And so, today I'm going to provide an overview of the course.

[Slide 5 – Overview of Course]: To kind of tell you like, what's in it. And I'm going to give you some ideas about how you can use some of the information in this course in your own course work. And then as Teri said, I'll talk until just about; just for about twenty-five more minutes. And then we'll answer questions and have a discussion about other things that you want to know about the Mathematics Course.

[Slide 6 – Modules]: So, there are eight modules in this course. So, the course is the Mathematics Course and then within there, we have eight modules. And here are each of the eight modules. I am going to talk about each of these in some detail. But just as a general overview for your knowledge, module one is an introduction to intensive intervention and it's all related to mathematics. Module Two gets into the assessment components of mathematics. So, if you wanted any information about screening and progress monitoring in math, it's all in Module Two.

Modules Three and Four are all about how we deliver good math instruction. And module five also gets into the delivery of math instruction. And then, Module Six and Seven are a little bit different. They are just helping teachers to improve their knowledge related to whole-number content which is Module Six and rational number content which is Module Seven. So, if you're doing that in your course work, you may not want to pull a lot of information from Module Six and seven. Or you could have that as either pre-cursor to something that you're going to teach in class or a review when students are having difficulty.

And then module eight is about fidelity and adaptation with an intensive intervention. And then putting the whole thing together. So, over these next slides I'm going to talk briefly about the content that's within each of these modules.

[Slide 7 – Within Each Module]: So, that you have an idea of what you might want to pull for your class. Now within each one of the eight modules there is a very consistent framework. So, there's always an introduction. And that introduction is more for people who are doing the module on their own. So, you may not pull from that introduction video or you might want to watch it to kind of understand you know, what's going on in the module.

And then each module has three parts. And these are really stand-alone parts. And I'll talk about each of the parts in all eight modules. And then there's always a closing. And again, that's more for people who are doing the module on their own. You may not be as interested in accessing that closing information. But it does provide a good synopsis of what we have just learned in the module.

And then every module has a coaching guide. So, this is for those people who are doing this type of intensive intervention in schools. What are some of the things that they should be thinking about? And then as you can see, you can always go home to see all of the other materials that are available in the course.

[Slide 8 – Using Each Module ... You do the work]: So, in each module; we've kind of designed this in two different ways. The first one is that you, the faculty member do the work. Alright so, you'll see at the top of each module the complete slide deck. So, you can download this and use it. You are also welcome to edit it. You can see that it's in Power Point.

So, if you want to use this content and teach this content as you are the teacher, that is one of the ways that we designed this course for you. And then there's always a workbook that accompanies the Power Point. And this workbook has all of the templates for all of the activities that go along with the presentation.

So, if you want to download these materials and use them as you are the teacher, all of that has been provided for you. And so, for each of the eight modules we have the complete presentation and the complete workbook.

[Slide 9 – Using Each Module ... Let us do the work]: But another way to think about using this; using this material is to kind of letting us do some of this work. And so, this might be really helpful if you're doing some sort of split classroom environment. If you want students to do; if you're doing some sort of online teaching and you want students to do work online or in between your different types of class sessions. So, this is just an example here and I'll show you these a little bit later.

But what we have done is we have created a video of the entire part of every module. So, if you as a teacher want to know how we kind of intend for this to be delivered, you can watch that video or you can have your students watch it on their own. And then you debrief with them the next time that you see them. You'll also notice that in kind of letting us do the work that if you want your students to do specific activities, we have provided an example. Not an example but the Word document or PDF for every example.

And then we also have a number of video examples that we've embedded in here. And so, we; you could assign your students to watch a specific video example or set of examples as an assignment for your class. Or for some type of different group activity.

[Slide 10 – Module 1: Developing a Scope and Sequence]: So, what I thought would be helpful here is to go through each of the eight modules. So, I'll just briefly describe the content that in each module so that you'll have an idea of like where you want to go and start accessing some of this material. And I put in little colorful arrows for things that I thought were important or things that I might use in my own Math Methods class that I teach.

So, let's start with Module One. Module One is titled Developing a Scope and Sequence. And you'll see that when you access the webpage for module one that there is always a description of the three big components of the module. And so, here are the three big components. And each of those bullet points are there. So, for example, the necessity for providing intensive intervention. That's part one of the module.

The foundational mathematics skills necessary for competence in math. That's part two of this module. And then how to sequence math content would be part three of this module. So, right there you have a really good outline of what is going to be in module one.

[Slide 11 – Module 1: Developing a Scope and Sequence]: So, for this module; there's always an introduction. I already said that this might not be that helpful for you. But this might be nice for any student that are participating in this course on their own or online.

[Slide 12 – Module 1: Developing a Scope and Sequence]: But we think the content that will be really helpful are these different parts of the module. So, part one is when we talk about so what is intensive intervention in math? This is where we introduce the data-based individualization framework that the NCII has worked very hard to share with teachers all across the United States. I put a little picture of the framework on the bottom right hand side of this slide.

And so, you can use this video to either introduce the framework or again, if you want to download the presentation. You could use the slides and introduce the framework on your own. And there are some examples of activities here about examining NAEP data. It's really to understand the necessity for intensive intervention in math.

[Slide 13 – Module 1: Developing a Scope and Sequence]: Part two of module one gets into thinking about the content that would be really important to include in using an intensive intervention. One of the things before we start teaching intensive intervention is, we have to think about well, what are we going to teach? So, this part does a deep dive into the math standards across grades K through eight. And we ask the people that are participating in the module to think about the operation standards or problem-solving standards and how we might order those to put together a really strong math pathway for students.

And so, I think that the two activities; activity two and activity three, these are really good activities to; that you could do in class or you could have the students do them outside of class. To think about what would be the content to teach for students that are showing persistent and low math performance?

[Slide 14 – Module 1: Developing a Scope and Sequence]: Part Three of Module One is in thinking about well, what math content would be really important for us to teach in intensive intervention? So, this takes that math pathway that we worked on in part two and then applies it in specific settings. So, if you have some students in your course work that are doing practical placements and spending time in the field. Activity six would be a really good activity to do. It's figuring out well, what are the intermittent needs for students related to the mathematical content?

So, they're looking at the standards and then using those standards to design a really strong instructional program for the student. And as you see on this slide, there's a video example there. We've put every video example by itself so that you could pull those video examples. They are on You Tube. And you can embed them within your own course presentations and your own course content to use.

[Slide 15 – Module 1: Developing a Scope and Sequence]: Then at the end of every module, you will see that there is a coaching guide. It's downloadable and I won't really talk a lot about this on this webinar. But it is there for you to use. This is going to be really helpful if your

teacher; if your students are actually going out into the schools and implementing components of intensive intervention. The coaching guide is really helpful for them.

[Slide 16 – Module 2: Mathematics Progress Monitoring]: So, that was Module One. Module two shifts gears and really thinking about the assessments that are necessary to use with an intensive intervention. Because as all of you know, we don't want to be doing an intensive intervention without assessing whether it works. And so, we put the assessment module upfront to really make teachers aware that assessment is an absolutely essential part of any type of intensive intervention. So, if you'll go to the next slide, I'll talk about the three parts of module two.

[Slide 17 – Module 2: Mathematics Progress Monitoring]: So, the first part here talks about different types of assessments. So, here we talk about summative assessments, formative assessments and diagnostic assessments and how each of those are used within an intensive intervention. We really focus on the use of formative assessments. But we also talk about the role of diagnostic assessments within any intensive intervention framework.

And one of the activities that I really like is activity number three. We ask our teachers to go into school and do an assessment survey. So, what are the diagnostics available in your school? What are the formative assessments? And what summative assessments do your students take? And I think that's always a good first step for people realizing oh, I already have these resources available, but I might want to invest in other resources to help complete our assessment picture for intensive intervention.

[Slide 18 – Module 2: Mathematics Progress Monitoring]: Part Two of this module is a really big; there's a lot going on here. And so, this is where we talk about administering and scoring progress monitoring measures in math. I can't really talk today it seems. And we talk about early numeracy measures. So, we go over number identification, quantity discrimination and missing numbers.

We also talk about measures used across grades one through eight. We talk about computation measures and concepts and applications measures. So, you can see that we ask students to score different measures. And they actually can take different measures if they want to. And if you'll go to the next slide.

[Slide 19 – Module 2: Mathematics Progress Monitoring]: One of the things that are really nice here in part two is that we have a bunch of video examples of a tutor administering these different measures to the students. These are the early numeracy examples. And then we also have students taking these measures so that you could have your students watch the students taking the measure and actually score along side of them. So, if you don't have a way of having a person understand how to score a number identification measure you actually can print out the activity where the scoring guide is there and then they can watch the video and in real time score a student's progress on number identification.

So, there's just lots of really good activities in this example. So, that you could pull them and really help your students understand progress monitoring in mathematics.

[Slide 20 – Module 2: Mathematics Progress Monitoring]: And then here, this is all Part Three of Module Two. It's all about well what do we do with those progress monitoring scores. So, here we talk about setting goals for students. Then we talk about tracking progress. We talk progress in three ways. Using benchmarks, by calculating slopes or calculating an intra-individual framework.

So, there are slides about each of those methods. And there are activities to help students practice each of those methods. And then we tie it all together at the end of this module with activity nine and activity ten. This kind of goes into the instructional decision-making piece that we briefly introduced in Module One. And then we'll get into it heavily in Modules Three, Four and Five.

So, I like those activities to help students think. Okay, we have this assessment data. Now what type of instructional decisions do we make based on this assessment data?

[Slide 21 – Module 3: Selecting and Evaluating Evidence-Based Practices]: So, as we head into Module Three; Modules Three, Four and Five and also Six and Seven. They really deal with instruction. And so, we set up the assessment part in module two and then we head into the instructional parts across the next five modules. Module Three is about the importance of using evidence-based practices. So, let's see what else is in Module Three.

[Slide 22 – Module 3: Selecting and Evaluating Evidence-Based Practices]: So, in Part One of module three we talk about different forms of evidence-based practices. So, if you've ever wanted to use the term evidence-based practices and your students say well what do you really mean? Well, we talk about the differences between an evidence-based intervention, an evidence-based strategy, a promising practice and then something that has no evidence. And we ask; one of the activities here that I like is activity number two.

We have people go into their schools and look at the practices that are in place and then rate the evidence that supports those practices. Or it may be doesn't support those practices. I'm sure some of the students in your courses would pretty surprised to find that there are lots of practices that are going on in classrooms that have little to no evidence.

[Slide 23 – Module 3: Selecting and Evaluating Evidence-Based Practices]: With part two, we talk about well where do we find Evidence-Based Practices? So, this is getting into; we talk about the tools chart from the NCII. We also talk about other websites like those from the What Works Clearinghouse or Evidence for ESA that might be helpful for students to find Evidence-Based Practices. So, activity number three sets up students for an example of where they can go and look at different websites to find different Evidence-Based Practices. Part three please?

[Slide 24 – Module 3: Selecting and Evaluating Evidence-Based Practices]: And then, part three is taking all of this knowledge. Taking the assessment knowledge and taking the evidence-based practices knowledge and then starting to design what we call the instructional platform for students. So, the instructional platform is the jumping off point for the designing of a really strong intensive intervention package. And so, we take the DBI framework produced by the NCII and we start to say okay how do we; what do we put into this instructional platform?

[Slide 25 – Module 4: Instructional Delivery]: So, then the next; the instructional platform is really talked a lot about in modules four and five. Module Four is really about the delivery of instruction. So, in this module we're going to talk all about explicit instruction. The use of multiple representations and the necessity for using strong formal math language. So, let me tell you a little bit about the parts of module four.

[Slide 26 – Module 4: Instructional Delivery]: In Part One of Module Four, we get into all about explicit instruction. If you ever want your students to review explicit instruction or to fully understand what explicit instruction is all about, this is the module for you. Part One of Module Four. We use the explicit instruction framework that you see in the Explicit Instruction Course that's available from NCII.

You will also see this explicit instruction framework in the upcoming Reading Course from the NCII. So, we've really tried to have a consistent story of explicit instruction across these different courses that NCII is putting together. So, this is all about explicit instruction. There's a lot of video examples in here. And if your friend or if you like Devin Kearns you can see here on the side that he makes an appearance in several videos to talk about how explicit instruction is similar in reading to mathematics. And so, we try to make those connections for the students who are watching the videos.

[Slide 27 – Module 4: Instructional Delivery]: So, you'll see with explicit instruction that we have a lot of different video examples that we put together. Here at the top we can see that the tutor is talking about how to state the goal for the lesson. How to model. And then we have some things that are more elementary focused like multiplication and then later we will see some videos about addition and subtraction.

We also have some videos that are more middle school focused. So, adding fractions and using Algebra tiles to solve equations. So, we've tried to provide different examples of what explicit instruction looks like across grades K through eight. And again, I would take some of these videos and embed them within my own class PowerPoints to say okay, let's see what this looks like. And maybe you want to critique it or maybe you want to focus on the math language in the video. Or how do they use multiple representation?

These videos are here for you. You can find the link here to those You Tube videos. And I hope that you will utilize them. Because we've spent some time working on the development of these videos.

[Slide 28 – Module 4: Instructional Delivery]: Part two of module four is all about multiple representation. So, this is about the concrete, the pictorial or representational and the abstract. There's a nice activity about what concrete materials are available for use in your school. So, that would be a good thing to do if you had people in a practicum placement.

There's also a nice activity; activity six is about identifying virtual representations that are available. So, if you have a technology aspect to your course, this might be a nice activity to pull in. To see well, what virtual representations can students use in their math teaching.

[Slide 29 – Module 4: Instructional Delivery]: And then Part Three. Oh, here's some videos of the concrete representational abstract.

[Slide 30 – Module 4: Instructional Delivery]: And then, Part Three is about attending to formal math language. And so, there is an article that I wrote with some colleagues that are both in Teaching Exceptional Children. One is called “Instead of That Say This” and it’s about paying attention to math language. And so, we have an activity; activity eight goes along with those articles.

So, I can see having the students read those articles before class. And then having them do the activity in class. Or you know, having them do the activity outside of class as they read those articles.

[Slide 31 – Module 5: Instructional Strategies]: So, Module Five are about strategies that we see as necessary to embed within the instructional platform. Because these strategies have an evidence-based that they will increase student’s math knowledge if we include them.

[Slide 32 – Module 5: Instructional Strategies]: Our first strategy is about building fact fluency. That is something that many young children with math difficulty have difficulty with. And so, we talk all about the importance of fact fluency. And we go over a lot of different fact fluency building activities. All of these have an evidence-base which is why they made their way into this part one.

You can see that we have students do different types of flash cards routines. We talk about incremental rehearsal. They maybe do taped problems or cover, copy and compare. One of the activities down there; the discussion board. Is where students actually make their own fluency activity. And I’ve had students doing that in my own Math Methods class. And it’s really fun to see what fluency activities the students create for use in their future classroom.

[Slide 33 – Module 5: Instructional Strategies]: Part Two or Module Five is I think the longest of the video parts. I think it’s running over an hour. If you want to watch this video of me talking about problem solving instruction. And if you ever wanted a review on word problem schemas, here it is. So, you might want to have your students watch parts of this video or all of it.

But schema instruction is something that’s really important but also kind of difficult to wrap your head around sometimes. Or, this might be a video for students to watch after you’ve talked about good problem-solving strategies. Just to make sure that they really understand differences among the word problem schemas.

Activity four; I didn’t put an arrow down there but, this is a good activity to use because it’s all about why using the key word strategy is a problematic problem-solving strategy. And if we could work to eradicate the key word strategy in math classrooms, that would be great. So, I task you all with that today.

[Slide 34 – Module 5: Instructional Strategies]: And then the next part or part three of module five is very brief. So, after the very long word problem video we have a very brief motivational component video. And this just gives some examples of different motivational strategies that you can pull into your intensive intervention to use. And this might be nice if you have students that have already taken like a behavior or a classroom management course. What are some of the strategies that they can take from that course work and put it into a math intervention?

[Slide 35 – Module 6: Whole-Number Content]: So, Module Six and Module Seven. These are more for teacher knowledge of whole number content and rational number content. And so, we put them in here because one of the things that's really necessary when you're doing intensive intervention in math is that the teacher understands the important contents and procedures that they are going to teach. And we could have done a lot of stuff here.

We could have talked about Geometry and Algebra. We could have talked about measurement. But we really focused on operations because knowing that that's the cornerstone for everything that students are going to do in math. So, Modules Six and Seven as I said really help to increase teacher knowledge about content. So, this might be good for some of the students that you will be teaching in your course work.

[Slide 36 – Module 6: Whole-Number Content]: So, in part one of Module Six is an introduction to the important concepts related to the four operations. So, it's really based in concepts and it's really strongly tied to the word problem schemas. So, this will help students understand different ways to think about addition, subtraction, multiplication and division.

[Slide 37 – Module 6: Whole-Number Content]: Part Two of Module Six is all about the procedures that we can emphasize within whole number computations. We really talk about the use of alternate algorithms. We have some video examples of impartial sums or area models of multiplication or partial quotients. And so, we encourage students in these different activities to solve the same problems in two different ways. And I think that that would be a really good either in class or out of class activity for you to do.

[Slide 38 – Module 6: Whole-Number Content]: And then Part Three of Module Six is kind of like well, what does this look like when tutors are working with students and implementing intensive intervention practices related to whole numbers. So, there's a few good video examples here that you might want to use. Have your students watch beforehand or in class or watch afterwards and do a reflection activity.

[Slide 39 – Module 7: Rational-Number Content] With Module Seven, we do the same thing but related to rational numbers.

[Slide 40 – Module 7: Rational-Number Content]: Part One of Module Seven is about core concepts related to intensive intervention. And we focus almost exclusively on fractions. So, we talk about the three models of fractions and give students examples of what that looks like. Here you can see in this little video snapshot we're talking about the difference between using fraction tiles cuisenaire rods to represent the fraction two thirds.

[Slide 41 – Module 7: Rational-Number Content]: Part Two is related to procedures that should be used to help do anything related to computation. And again, we focused mostly on fractions. Activities four and five get into well what does it actually mean to add and subtract fractions or multiply and divide fractions. So, if you want your students to really get into the conceptual understanding of those operations. These would be some good videos and good activities for you to use in class.

[Slide 42 – Module 7: Rational-Number Content]: And then Part Three of Module Seven is like Part Three of Module Six. It's like what does this look like here? And so, we have an

example from late elementary to middle school tutors and students where we see intensive intervention in play related to fractions.

[Slide 43 – Module 8: DBI for Intensive Mathematics Intervention]: Then we head to Module Eight. Module Eight is talking about fidelity, adapting instruction and then how do we put this all together.

[Slide 44 – Module 8: DBI for Intensive Mathematics Intervention]: So, Part One of Module Eight is how do we measure fidelity of implementation. If we are implementing an evidence-based intervention or an evidence-based strategy. We talk about quantitative fidelity and qualitative fidelity collection. And so, one of the activities there is we actually give you a lesson. Give you or give your students a lesson and then they rate the fidelity of that lesson as it's implemented. So, that's a pretty neat activity.

[Slide 45 – Module 8: DBI for Intensive Mathematics Intervention]: Part Two of this is how do we make adaptations. So, we started with our instructional platform. Which we picked up across Modules Three, Four, Five, Six and Seven. And said, well what if that's not enough? What if their formative assessment data says that students need something a little bit more?

So, here is how do we make adaptations within DBI. This follows the Taxonomy for Adaptations Framework put together by Lynn Fuchs and colleagues. And here we have a nice activity I think; activity number five. Where the teachers reflect upon something that they've taught before. And then how could they adapt it to be a little bit better the next time?

[Slide 46 – Module 8: DBI for Intensive Mathematics Intervention]: Part Three of Module Eight puts it all together. And I actually think; never thought about this until a few weeks ago when we put this together. I kind of think that you should watch Part Three of Module Eight first. Because I do a full review of everything that in every module. And then you could go and find the parts of different modules that you think you're really interested in implementing.

So, perhaps we should encourage everybody to look at Part Three of Module Eight first. But it wraps it all up and it kind of gives the people good recommendations for how to implement this in their classroom.

[Slide 47 – Modules]: So, those are our eight modules. Again, Module One is the set up for data-based individualization for intensive intervention. Module Two is about assessment. Module Three through Seven are about instructional practices. And then Module Eight puts it all together.

[Slide 48 – Other Resources]: So, there are a few other resources that are on the Math Course webpage. And so, I'd like to briefly talk about those before we take some questions.

[Slide 49 – Course Overview]: So, you'll see over on the righthand side of the webpage for the Math Course there are four kind of important documents that I think you might be interested in. One is the course overview. Here's an example of what it looks like. But if you're kind of like okay, what's in each course? I don't remember what Sarah said for everything.

You can download this. It's a Word document and or it's a PDF. I can't exactly remember. But it goes into what exactly is in every part. So, you can kind of like cross check and find the information that you would like to use from all eight of the modules.

[Slide 50 – Preparation Standards]: Probably a lot of you for your course work you have to say which; maybe CEC Professional Standards you are addressing. So, we've already gone through and done that work for you. So, here you can see for module one, part one that you can look over on the righthand side. And these are all of the CEC Standards that we believe that we are addressing within this part of module one. We have that for all eight modules.

[Slide 51 – Readings]: We also put together a suggested reading list. Here are some of the suggested readings for module one. We've linked them, almost all of them with the DOIs. The asterisk one is one that we actually talk about in the module. But the others would be really good for pre-reading to help increase student's knowledge related to intensive intervention.

[Slide 52 – Lessons and Videos]: And then the last thing that we have done is that we have put in some different math strategies to help support the intensification of an intervention. And these link to some of the other amazing resources that are available at the NCII. We have lots of videos on how to use manipulatives to teach different math concepts. So, those related to the numbers system and basic facts. And then there's two units on place value and two units on fractions.

So, we have linked all of those from the Math Course. So, that if you want students to do a deeper dive into understanding computation of fractions or a deeper dive into how to teach counting. Those resources are available. Because I will say that even though we think the Math Course pretty comprehensive. We did want to keep it to around twenty to thirty hours of content.

If we had our way, we probably would have developed two hundred hours of content. But then nobody would want to access it because it would be way too much to access. So, this gives us a good foundation for intensive intervention in mathematics. But I will say that it doesn't include every single thing that you will ever need to know about intensive intervention in mathematics.

[Slide 53 – Questions]: So, now is our time for questions. And I'll go ahead and turn it over to Teri who can moderate this part of our webinar.

Teri Marx: Yep so, as mentioned at the start of the webinar. And first of all, I just want to say thank you to Sarah Powell for that presentation and to kind of preview the course content with all of you. But we do want to hear from you if you have specific questions that you're interested in having either us talk through a little bit more about some of the NCII resources and or some of the content that Sarah actually walked through before.

So, we do have that raise your hand feature if you would like to verbally express your question. Otherwise, you can submit a question and we will take those live right now. And Nick, you have your phone on your screen just so that you know.

Nick Croninger: Oops, thanks for the heads up.

Teri Marx: And Sarah, I will just say that Mary Little was definitely excited.

Sarah Powell: Oh, I saw.

Teri Marx: Yeah

Sarah Powell: I'm excited that Mary Little was here. It looks like we have a question from Ann

Teri Marx: Yeah, go ahead Ann.

Nick Croninger: Ann, you're currently self-muted if you want to just unmute yourself.

Attendee One: There

Nick Croninger: There we go.

Attendee One: Now can you hear me?

Nick Croninger: Yep

Attendee One: Wonderful. I'm at Kansas State University.

Sarah Powell: Oh great.

Attendee One: In our Special ED Masters program we do not have a separate class in mathematics. I'm wondering if others do? Our students come from an Undergraduate Elementary ED program or Secondary program. The elementary one does have a separate Math Course.

Sarah Powell: Yeah

Attendee One: A Key Academics course that I teach. I devote about four weeks to reading. Three weeks to math. Three weeks to written language and then we do content.

Sarah Powell: Well, that's a busy class isn't it?

Attendee One: Yeah, you know.

Sarah Powell: So, Ann you're not alone. At the institution, I teach at the University of Texas at Austin. We do have a separate Math Methods Course. But we had to really wrestle to get that away from General Education. But I've worked at other institutions where they; maybe they teach a class; maybe pre-service teachers take a class in General Education Math. And I've also heard instances like you.

You know, you teach a class in intensive intervention and you get a little bit of math and a little bit of reading.

Attendee One: Yeah, right.

Sarah Powell: And a little bit of writing and like a day of science you know if you're so lucky. So, I don't think that you are alone. And in many ways, that's one of the reasons that we developed this course work. It's so, for both pre-service teachers who maybe are not receiving as much math instruction related to intensive intervention as we would like.

Attendee One: Right

Sarah Powell: And for in-service teachers. Because I work with a lot of in-service teachers that say I never took a Math Methods Course just for Special ED. And so, we're hoping that in-service teachers will access this. And we're going to have a webinar for them in August about how to use this material on your own kind of independently. So, you're not alone and I really appreciate that you are you know bringing math to the table as much as reading.

But students definitely need or at least I say one and probably more like two courses to really understand how to intensify math instruction for students with learning difficulties.

Attendee One: Well one thing that I thought about trying to work more directly with our math methods faculty.

Sarah Powell: Yeah

Attendee One: To see if they're incorporating; if they know about this. If they are incorporating some of this or you know where we might kind of.

Sarah Powell: That would be great if you could share those resources. We would be beyond grateful. And I'm always happy to talk more with you or with faculty about some of the resources that we have available and how they could use them.

Attendee One: Well and last year, I used the intensive interventions piece from NCII or from your website.

Sarah Powell: Okay

Attendee One: You know that; I'm trying to look at pieces that maybe I've already done not necessarily specifically to math. But just an overview of this.

Sarah Powell: Yeah and you know you might be really interested in some of the videos related to the explicit instruction course.

Attendee One: Right

Sarah Powell: That are on the NCII website right now. That's very generalized. There are some math examples in there and some reading examples.

Attendee One: That's the one I did.

Sarah Powell: Yeah

Attendee One: The explicit instruction.

Sarah Powell: That might be helpful with your course work as well.

Attendee One: Yeah, okay. So good.

Teri Marx: This is Teri with NCII. The other resource that I'm going to put into the chat box for everybody is the CEEDAR Center's Innovation Configuration for mathematics. So, if you are interested in doing a syllabi you can look at it to see how well your pre-service students are actually engaging with various concepts within mathematics across their program. The Innovation Configuration is a helpful way to do that. So, that's a resource that's available from the CEEDAR Center and I'm going to go ahead and put that into the chat box now for everybody to look at. But that would be a good one to do across General and Special ED.

Attendee One: Okay

Sarah Powell: That's great. Are there any other questions?

Nick Croninger: Okay, I'm seeing questions from Jerry.

Sarah Powell: Alright, Jerry how are you?

Attendee Two: I'm doing good.

Sarah Powell: Great

Attendee Two: I enjoyed your introduction. I notice that the University of Maine has a masters certificate in math intervention where they cover alternatives in assessments and data processing.

Sarah Powell: Oh cool.

Attendee Two: And yeah in collecting the data. Which I've always done everything in the past manually.

Sarah Powell: Yeah, okay.

Attendee Two: And I was wondering if there was anything similar? Do I have to go all the way to Maine to get that? Or does Texas have anything similar to that or do you know? Or do you know of any resources for data collection?

Sarah Powell: Yeah so, when; if you're using different progress monitoring systems many times, they have like a data platform that you can use. So, if you're giving like NWEA's Maps for like a screener you know that gives you all of the information online. You know if you're using something like AIMS Web they also have a data platform.

So, as a side. This is not with NCII but I'm currently working on project with the Texas Education Agency where we're developing a data platform that's going to be very generalized for teachers to use. So, it doesn't really matter which progress monitoring system or measures you are using. But you could use that data platform to accrue and analyze all of the data for the students that are you know in your MTSS framework.

Attendee Two: That's really nice.

Sarah Powell: Yeah and I was going to say that Teri will post this. But on the NCII website; and they're sometimes a little buried and hard to find. But if you; Teri you're going to know what I'm talking about. It was developed by Devin Kearns. The NCII has an Excel spreadsheet that where you can enter student data and it does the graphing and stuff for you. It's a totally free resource.

Attendee Two: Oh, that's nice.

Sarah Powell: Teri, I'm hoping that you're going to be able to post that. Because, I think that would be also helpful for Jerry as well.

Attendee Two: Yes

Teri Marx: So, I did include the link. I will make a caveat that we can't link directly to the file because it's hosted on the website.

Sarah Powell: Oh, okay.

Teri Marx: But I did link to the page and on that page. You would scroll down to the bottom where it says facilitating on-going meetings. And it's the Excel tool that's on that particular page.

Sarah Powell: Okay

Teri Marx: But that's the particular tool that you're referring to.

Sarah Powell: Okay, great.

Attendee Two: Okay

Teri Marx: And Donna has a question. So, Donna if you want to go ahead.

Sarah Powell: Hey Donna.

Attendee Three: Hi, thanks so much. I was raising my hand, but I don't thin that it was working. You know I wanted to say how much I love these videos. Thank you, Sarah, they are wonderful.

Sarah Powell: Oh, you're welcome.

Attendee Three: Yeah and I'm teaching at the University of North Carolina at Charlotte.

Sarah Powell: Oh great.

Attendee Three: And I teach in the Education Department. So, I do teach math for students with exceptional needs. And I teach face to face pre-service teachers. And then online for

masters level people who are lateral entry or resident models where they're in school and getting their degree at the same time.

Sarah Powell: Oh okay.

Attendee Three: So

Sarah Powell: Great

Attendee Three: Right now, in fact I'm teaching an online course that I'm teaching through the summer for both undergrads and masters.

Sarah Powell: Oh wow.

Attendee Three: So, I used that first module like to test it out.

Sarah Powell: Okay

Attendee Three: I kind of feel like I'm cheating. I mean thank you for reinforcing that we can use it.

Sarah Powell: Yeah

Attendee Three: I mean yeah.

Sarah Powell: Yeah, I mean that was our whole thing. It was just to get those resources out there. It's not cheating. I mean just think that for every person that is you know thinking about intensive intervention in math. We're helping more students. And so, it doesn't really matter where that information comes from. Just as long as our pre-service and in-service teachers are gaining from that information.

Attendee Three: Thank you.

Sarah Powell: But we've been doing; we did last year a study with some teachers in Rhode Island. Whereas they were doing this across the school year. You know so, you could think about that as they would participate in Module One and then they went and did some module one stuff in schools. And then they participated in Module Two and they did that in schools. And that's kind of the same thing that you can do in your classrooms.

Right? And also, if you have your students watch the videos beforehand; or at least one video or a set of videos. Then that gives you more classroom time to lead really good classroom discussions, to do really engaging classroom activities. And also, the videos allow students to go back and access the material again.

I know that that's one of the things that my students will often say. Well, I want to go back and review that word problems thing again. That wasn't enough to just here it in class. And so, this really allows for on demand learning. You know from pre-service to the in-service teacher perspective. So, you're not cheating. It's okay.

Attendee Three: Oh, okay I appreciate that. And there is; and I've talked to other people who teach math in Special Education programs at maybe four or five different universities. You know there is so much content to cover because you know that a lot of our pre-service teachers need; they need the math content.

Sarah Powell: Oh yeah, for sure.

Attendee Three: They need so much. But one thing that I wondered. In terms of looking at intensive interventions for English learners. Do any of mathematics videos; because I haven't done every single module yet.

Sarah Powell: Yep

Attendee Three: But I know that you know sometimes just that additional language support or sometimes language acquisition supports for students.

Sarah Powell: Yeah

Attendee Three: Are important. And I didn't know if you addressed English language or dual language learners at all?

Sarah Powell: We did not specifically address dual language learners. You will see the language learners in some of our videos. And so; but one of the modules that might be really helpful is the attention to math language which is in module four part three.

Attendee Three: Okay

Sarah Powell: Which I can't believe that I remember that. But we were just going for a general overview here. I think if I were to have my way, I would like to add some more content to this; to these different modules. Especially as we've been using them in schools with real school teachers. And so, while you will see some English learners in our videos, we don't have a lot of content explicitly addressing their needs.

Attendee Three: Okay

Sarah Powell: And so, that would be something that I would like to ask; you know another Expert to do some videos about. Because we have a lot of students in our research studies as well that are dual language learners. But that's not really my specific area of expertise.

Attendee Three: Okay

Teri Marx: Sarah, this is Teri. I'm going to flip my hat here at the American Institutes for Research to another project that I work on.

Sarah Powell: Okay

Teri Marx: And we actually developed a module and it's very brief. It's not quite as dynamic as the ones that are on the NCII website. But what I'll do is I'll share the link to that. It's a module that focuses on effective language development in Mathematics.

Attendee Three: Oh

Teri Marx: And it does provide some information for that.

Sarah Powell: Oh, great.

Attendee Three: Great

Teri Marx: On our work with ELs. So, I'll put that in. And then we do have a couple of other questions. Mary asks are there progress monitoring measures for more advanced math skills?

Sarah Powell: Hey Mary, that is a great question. When we designed this course, we focused on grades K-8. And so, we used some of the concepts and application measures from middle school or computation measures from middle school. And in the module on assessment, I do briefly mention that there are progress monitoring measures in Algebraic readiness. Like the ARPM from Leanne Ketterlin Geller and her research team. You know and I also briefly mention the Algebra measures from Ann Fagan and her research team.

But we felt that that was probably getting a little into high school and we had the cut off for grade eight in terms of intensive intervention there. So, again that's one of those things where I think we could do a module on. You know what does this look like in high school for high school learners? And we would want to pull in some experts related to secondary education like yourself to help us out with that information.

Teri Marx: Okay, thanks Sarah. And then we have; looking at a couple other questions. Are there other diagnostic assessments that you had said either NCII could recommend or Sarah if you could recommend? And that was a question from Shawna.

Sarah Powell: Oh, hey Shawna it's nice to see you here. I know some of these people and that is what makes this fun. So, for diagnostic assessments we do talk about these in module two. But I typically recommend for the very early learners using something like the TEMA, The Test of Early Mathematics Ability. We used to use the EMDA that is out of press now. So, probably the TEMA is your go to friend for any students from ages like three to six.

The one that we use most often is the Key Math. This is really good to use across grades. You know K-12. The Key Math assesses student knowledge in ten different areas. And so, it's a really good diagnostic to give you an idea of student strengths and weaknesses in these different areas of mathematics.

And then if you are moving into middle school and high school, I would suggest something like the DOMA. That's the Diagnostic Online Math Assessment. And this starts to test student's knowledge on things that are related to pre-algebra and algebra. So, it I think measures student knowledge in like thirteen or fourteen domains. And again, it gives you a good strengths and weaknesses profile in those domains that might be a little bit beyond the Key Math.

If you have students that are in their teenage years and still struggling with mathematics. And there are others out there. Those are just the ones that my research team tends to rely on the most. And I know a lot of the school that I work with also use them as well.

Teri Marx: I just provided a link to a page that's listed on NCIIs website with example diagnostic tools. There's a table there that provides diagnostic assessments across literacy; mathematics, reading and behavior.

Sarah Powell: Okay

Teri Marx: And so, that's a good place to look. It doesn't always have the depth of every single you know assessment that's available. And in mathematics, we also talk about how you can use your progress monitoring data and look at that more diagnostically to help. As well as clinical interviews, checklists and those sorts of things.

Sarah Powell: Okay, that's great.

Teri Marx: I'm trying to see; I don't see any other hands raised and I think I got all of the questions that came in. So, is there anyone else? We've got six more minutes of Sarah Powell's time.

Sarah Powell: I think Ann has a question. Yeah

Teri Marx: Oh, let's go ahead. Ann, go ahead then.

Attendee One: Oh, no I'm not muted. I just wanted to thank you for all of these resources. Like you say, you kind of feel like your stealing them off of all of your hard work. We appreciate that.

Sarah Powell: Good Teaching is stealing Ann. So, I never see it as that. No

Attendee One: Well and yeah, we're moving to online programs and I still teach the Academic Interventions course one semester face to face.

Sarah Powell: Okay

Attendee One: And then I'll teach it online. And so, as I'm developing that online course this would be very helpful.

Sarah Powell: Okay, that's so great to hear. And let us; let me know how your progress goes or if you ever have questions or want to chat about some additional resources.

Attendee One: Okay, thank you so much.

Sarah Powell: Your welcome.

Teri Marx: Alright, are there any last questions from anyone? Alright, I'm not seeing any come in so, I think we can go ahead and wrap this up.

Sarah Powell: Alright

Teri Marx: Thank you Dr. Sarah Powell from the University of Texas at Austin. Thank you so much for joining us today and walking us through this content. I know that we here at the Center are excited to expand the resources that we have for faculty.

[Slide 54 – National Center on Intensive Intervention]: So, at any time if you have questions about this particular content you can go ahead and either reach out to Sarah Powell directly and or contact us here at NCII at NCII at AIR dot org. and we can funnel those questions to whoever can get you those answers hopefully. Fingers crossed on that one.

So, thank you all for attending and let us know if you have ideas for additional resources surrounding course content that we put out that would be helpful for you as you are designing your courses. We would love to hear that from your perspective. So, thanks again everyone for participating. Thanks Sarah and we'll go ahead and sign off for the day.

Sarah Powell: Alright, thank you Teri.