

# The Taxonomy of Intervention Intensity: A case Study for Building Intervention Intensity in Math

## Webinar Transcript

**[Slide 1 - Intervention Intensity: A Case Study for Building Intervention Intensity in Math]:** Jill Pentimonti: Good afternoon everyone and welcome to our webinar, The Taxonomy of Intervention Intensity; A Case Study for Building Intervention Intensity in Math. Thank you so much for joining us today. My name is Jill Pentimonti from the National Center on Intensive Intervention and I'm going to get us started today. So, the next slide please.

**[Slide 2 – Webinar Format & Questions]:** Great and thank you. Before we begin, I wanted to alert you to a few logistical details about this webinar. So, feel free to submit questions into the questions pod throughout the webinar. For technical issues or questions, our webinar team members will try to assist you as soon as possible. And then for any content related questions, there will be time for questions and answers at the end of the presentation. So, please feel free to submit your questions there and we'll share them with the presenters. Next slide please.

**[Slide 3 – New Website!]:** I also wanted to mention before we begin that NCII is excited to announce that we've just launched a revised version of the NCII website to help users more easily find resources and information to support intensive intervention implementation. So, to find the archive of this webinar and all past webinars, you can use the resource library found under the search button. And here you can still search by webinars and other categories to find resources that best meet your needs or use the keywords search to locate your resources.

As we transition to the new site though, please don't hesitate to reach out to us at NCII at the e-mail NCII at AIR.org. Which is down on the slide there too. Feel free to ask us questions about using it. So, the next slide.

**[Slide 3 – New Website!]:** And that's just the search function there. Great

**[Slide 4 – Today's Webinar]:** So, to start we wanted to provide a bit of a roadmap for what we'll be discussing today. So, first we'll provide an overview of data-based individualization and its link to the taxonomy of intervention intensity. We'll explain the taxonomy's dimensions. We'll present a mathematics case study that illustrates how to implement DBI and the taxonomy. And we wanted to highlight that today's focus is in mathematics intervention but upcoming webinars will focus on reading intervention and behavior intervention. So, this is the first of a series of three webinars on the taxonomy. Next slide please.

**[Slide 5 – Presenters]:** And before; finally, before I turn this over I wanted to introduce today's presenters that we are so lucky to have with us today. First, we have Doctor Lynn Fuchs who is the Dunn Family Chair in Psychoeducational Assessment at the Department of Special Education

at Vanderbilt University. We also have Doctor Amelia Malone who is a Research Associate in the Department of Special Education at Vanderbilt University as well. Next slide please.

**[Slide 6 – Data-Based Individualization and the Taxonomy of Intervention Intensity: How They are Linked]:** I also wanted to mention too before we begin that Doctor’s Fuchs and Malone are both the authors of a recent Teaching Exceptional Children article on the taxonomy of intervention intensity. And we will provide more information on how to locate that article at the end of this webinar. So, without further ado I’m going to turn things over to Doctor Fuchs.

**Speaker One:** Thank you Jill. So, like Jill says, we’re going to be talking about the taxonomy of intervention intensity today and we’re going to talk about how that taxonomy is used within data-based individualization. So, we’ll talk about how DBI or data-based individualization and the taxonomy are linked. Next slide.

**[Slide 7 – What’s Data-Based Individualization (DBI)?]:** First I’ll explain what data-based individualization is. Next slide.

**[Slide 8 – Data-Based Individualization (DBI): A Validated Process for Intensifying Intervention Two Phases with Nine Steps – Phase A: Setting Up the Intensive Intervention]:** So, data-based individualization is a process. It’s a validated process for intensifying interventions that has two phases with a total of nine steps. In the first phase, which we call setting up the intensive intervention. We have four steps.

So, the teacher selects a validated best-match Tier Two program as the platform for the intensive intervention. So, this is a strong Tier Two intervention that is a good bet for addressing the needs of the student who is receiving intensive intervention but we know it’s not a perfect match. Step two, is that the teacher makes some initial adjustments to this intervention platform to make it a better fit for the student’s needs. But still we know that it’s not going to be necessarily a smooth rate of progress with this program because, we know this student in the past has been unresponsive to other validated interventions.

So, in step three, we select a validated progress monitoring system by which we can monitor carefully the student’s responsiveness to this intervention platform that we’ve selected. In step four, we begin implementing the intervention platform and we begin collecting progress monitoring data. Next slide

**[Slide 9 – Data-Based Individualization (DBI): A Validated Process for Intensifying Intervention Two Phases with Nine Steps – Phase B: Individualizing the Intervention]:** In the second phase of the data-based individualization process, the first thing that the teacher does is after the program has been implemented for some period of time and data has been collected with the progress monitoring system the teacher analyzes those progress monitoring data to determine whether the intervention platform needs to be adjusted to boost the student’s progress. If so; if the student’s progress is inadequate then the teacher collects some diagnostic data to think clearly about the student’s present set of strengths and weaknesses and uses that information in step seven to design an adjustment to the intervention platform in order to address the student’s needs. And then in step eight, the teacher implements that adjusted intervention platform and continues collecting the progress monitoring data.

And in step nine, what the teacher is doing is recycling through steps five through eight on a regular basis to teach, have a period of implementation, look at the data, analyze whether the student's progress is adequate. If so, the program continues as is. If not, the teacher makes an adjustment even as progress monitoring data continues to be collected while the adjusted program is being implemented. And so, it's an ongoing basis by which a program that meets the student's needs is created. Next slide.

**[Slide 10 – What's the Taxonomy of Intensive Intervention?]:** So, what's the taxonomy of intensive intervention? Next slide.

**[Slide 11 – The Taxonomy of Intensive Intervention]:** So, it's a system for describing an intervention in terms of seven dimensions along which intensity can vary. This can help special educators and interventionists identify the best matched intervention platform in the DBI set up phase. And, it can help them formulate adjustments to boost student progress in the implementation phase. Next slide.

**[Slide 12 – Seven Dimensions of Intervention Intensity]:** So, what are the seven dimensions of intervention intensity? Next slide.

**[Slide 13 – Dimension 1: Strength]:** The first dimension is what we call strength. And this; as it pertains to when we are selecting the intervention platform for the particular student. And what we're doing when we look at strength is going to resources like the NCII interventions tools chart to determine how well this intervention works for students who have intensive needs. And to figure that out, we look to see whether the intervention on the tools chart provides an effect size specifically for students who require intensive intervention.

And if you look at the NCII's tools chart you will see that some interventions disaggregate the effect size for the most low performing students in their research samples. And what you're looking for when you think about strengths, is effect sizes that are in the moderate range for intensive very low performing students. And those effect sizes might be typically between point four and point seven. Sometimes they're higher and sometimes they're a little lower. The lower that they are, the less that we can expect that this intervention will be effective for the student. The higher the effect size, probably the less ongoing adjustments that you're going to need. Next slide.

**[Slide 14 – Dimension 2: Dosage]:** The second dimension is what we call dosage. And this has to do with the number of opportunities that the student has within that intervention to respond and receive corrective feedback during the interventions lessons. And this refers to the number; it's reflected in group size. It's reflected in the number of sessions per week for that intervention and it's reflected in the duration of those lessons. So, lessons that are delivered for longer and more frequently and in smaller group size are going to provide more opportunities for students; any given student in that intervention to respond and to receive corrective feedback.

But, it's also determined by how the intervention is structured. And you can get a feel for that by sampling lessons from the beginning, a few lessons from the middle and few lessons from the end. To see how many times during these lessons that students are; that each individual student has to respond and get feedback. Next slide.

**[Slide 15 – Dimension 3: Alignment]:** Alignment is the next dimension of the taxonomy. And alignment reflects the extent to which the program addresses the students' full set of academic needs. So, all of the areas in which; in Math for example where the student has a deficit. But, we're also looking for programs that are not addressing the skills that the student has already mastered. So, for example, if we're looking at a Math program for a first grader and the student has calculation and word problem deficits. You can take over temporarily then I'll try to see what's going on here.

Speaker Two: Okay, it's sounds good. Can everyone hear me? The alignment dimension as Lynn was saying; of course, we would do our best to find some things that best align with all of the student's needs but, it may not necessarily incorporate every single skill that needs to be addressed. But more importantly, if you're assessing alignment we really don't want the intervention to address skills that the student has already mastered. And we want to make sure that it incorporates a focus on grade appropriate curriculum standards.

**[Slide 16 – Dimension 4: Attention to Transfer]:** The fourth dimension of the taxonomy is attention to transfer.

Speaker One: I'm here.

Speaker Two: Okay

Speaker One: I have it back now.

Speaker Two: Okay

Speaker One: So, I'll take over from here if you want.

Speaker Two: Okay

Speaker One: Sorry about that everyone. So, the fourth dimension is attention to transfer. And this dimension refers to the extent to which an intervention is designed to help students transfer the skills that they are learning during intervention to other formats and contexts. And it also refers to the extent to which instruction is being geared to help the student recognize a broad array of problems to which they can apply the skill that they're learning. Next slide.

**[Slide 17 – Dimension 5: Comprehensiveness]:** Dimension five is called comprehensiveness and it refers to the number of explicit instruction principles that the intervention incorporates. So, we're talking about things like modeling, using an efficient strategy, providing explanations in simple language. We're talking about things like providing many practice opportunities and providing instructive corrective feedback. We're talking about providing cumulative review and a behavior management system that will help the child succeed.

So, you can get insight into if an interventions comprehensiveness in terms of explicit instructional principles by sampling again a few lessons from the beginning, a few lessons from the middle and a few lessons from the end of the intervention. And then looking; and reading those lessons to see how explicitly the instruction is designed. Next slide.

**[Slide 18 – Dimension 6: Behavioral Support]:** The sixth dimension is behavioral support. And that is the extent to which interventions incorporate procedures to promote self-regulation and executive function to help student persevere through challenging tasks and work hard. And the extent to which those interventions include behavioral supports to minimize student’s non-productive behavior. Next slide.

**[Slide 19 – Dimension 7: Individualization]:** And then the seventh dimension is individualization. And of course, we’ve talked about that. We’ve explained the nine steps that are involved in data-based individualization. Next slide.

**[Slide 20 – The Special Education/Interventionist Uses the Taxonomy in Both Phases of the DBI Process: The Set-Up Phase and the Implementation Phase]:** So, the special educator or the interventionist uses the taxonomy in both phases of the data-based individualization process. In the set-up phase and in the implementation phase. Next slide.

**[Slide 21 – Data-Based Individualization (DBI): A Validated Process for Intensifying Intervention Two Phases with Nine Steps – Phase A Setting Up the Intensive Intervention]:** And here we see the slide that I showed you earlier. Here, there are two steps; steps one and two that are now highlighted in red. And it’s highlighted to indicate to you that these are the steps where the taxonomy will be very helpful to you within the DBI process. So, step one; selecting a validated best match tier two intervention to serve as the intervention platform. That’s an important step where the taxonomy can help you systematically think through an intervention and decide whether it’s a good match for your student.

And then also helping you in step two making the adjustments to the intervention platform. Again, to help you address the student’s needs. Then you continue on with a validated progress monitoring system and you begin. You select that and you begin implementing the intervention and collecting progress monitoring data. There, you’re not relying on the taxonomy. Next slide.

**[Slide 22 – Data-Based Individualization (DBI): A Validated Process for Intensifying Intervention Two Phases with Nine Steps]:** In the implementation phase, we have one step that is highlighted. And that is when a student; when the data indicates that a student requires a change because their progress is not adequate. In step seven, we have to design an adjustment. And there again, the taxonomy helps us to think systematically about what are the dimensions along with which I can modify this program to intensify it to make it meet the student’s needs more adequately. Next slide.

**[Slide 23 – Mathematics Case Study]:** So, now Amelia is going to share with you a case study in Mathematics that illustrates how a teacher used the taxonomy within the DBI process to formulate an effective program for a child named Jackson. Amelia

Speaker Two: Hi. So, as Jill indicated, this is the first of three webinars. And so, for this first one we are focusing on Math for the case study. I just want to point out that you know this example is not exhaustive. This does not include all of the things that could happen or will happen. But, we’re really just using it to indicate to all of you how you would use this taxonomy.

**[Slide 24 – Purpose of Mathematics Cast Study]:** To boost your student’s performance. Okay, so here we’re going to illustrate how we use DBI together with the taxonomy just as Lynn

indicated. There are particular areas within that process in which you are specifically applying the Taxonomy dimensions to try to individualize the intervention.

**[Slide 25 – Jackson]:** To set your student’s needs. So, I’m going to show you how that will work.

**[Slide 26 – Student Profile: Jackson]:** Okay, so here is Jackson. Jackson is a fifth-grade student. He has experienced persistent failure in math and at the end of fourth grade, the evaluation team diagnoses him with a mathematics learning disability and they are recommending intensive Math intervention.

**[Slide 27 – Student Profile: Jackson]:** So, here are some things that Jackson is struggling with. He struggles with whole number multiplication and division especially multi-digit multiplication and division. He’s really struggling with fraction and decimal topics which are kind of the pinnacle of sixth grade curriculum. He is also struggling with proportional reasoning and word problems.

He is also exhibiting a lot of behavioral difficulties. He is demonstrating escape behaviors when he is confronted with very difficult tasks. Things like getting out of his seat when he is unable to complete a task. He is refusing to work and engaging in off task conversations and things like that.

**[Slide 28 – Set-Up Phase]:** So again, we’re setting up this student to try and give you an idea of what an interventionist or a special educator would be thinking as they went through this process. So first we’re going to start with the set-up phase. And just a quick note as you’re going to see throughout and I’ll remind you that slides with orange titles correspond to what Lynn just indicated in the red areas within the DBI process in which the interventionists is actually applying the taxonomy.

**[Slide 29 – Set-Up Phase, Step 1: Select and Rate an Intensive Intervention Platform]:** So, if you could just kind of keep that in mind as I go through. So, in the set-up phase which is step one. The interventionist is going to select an intensive intervention platform and she’s going to rate it. And so, Jackson’s interventionist; we’re going to call her Ms. Williams. She uses the taxonomy with that NCII tools chart which you can find online. To grade some available programs; some Tier Two programs in terms of Jackson’s needs.

So, she goes on the website. She identifies some research-validated Tier Two interventions called Super Solvers as a potential intensive intervention platform to meet Jackson’s specific needs at this time. Okay, so she hasn’t done anything with it. She is in the set-up phase. She is going to go through and she is going to rate this intensive intervention on those first six dimensions that Lynn just identified. Okay, she does not rate anything on the individualization during the set-up phase because that’s the time that she actually makes alternatives to key specific interventions that fit his needs at this specific time.

**[Slide 30 – Set-Up Phase, Step 1: Select an Intensive Intervention Platform (Super Solvers)]:** Okay, so we’re going to go through the set-up phase. So quickly, let’s talk about Super Solvers as a program and what it looks like and how it actually aligns with what Jackson is needing at this time. So, she selects Super Solvers. It is a research-validated Tier Two

intervention. It is; it was designed in the randomized control trials as a thirteen-week intervention. It includes thirty-nine lessons that are thirty-five minutes each.

The topics within the curriculum, they include whole-number multiplication, fraction magnitude understanding, proportional reasoning, word problem solving and fraction calculations. The program also an executive functioning component. The lessons specifically focus on teaching students these meta-cognitive strategies to help them self-regulate their behavior, set academic goals throughout their lessons. Throughout the administration of the lessons and develop a positive mindset to persevere through challenging tasks.

**[Slide 31 – Set-Up Phase, Step 1: Select an Intensive Intervention Platform (Super Solvers)]:** So, so far, she's like okay, this intervention is aligned with Jackson's needs. We're going to talk about where it doesn't exactly align but she thinks that it could potentially be a good fit. Okay, so she's going to move on. So, just an overview of what the program actually includes. It's devised of a number of different components or parts.

The first thing that each lesson begins with is something called problem quest. This section is actually operations and word-problem solving with proportions, magnitude comparisons, division of fractions specifically with word problems. The next activity is called multi-minute which uses whole-number multiplication fluency practice. And then we go to the next activity which addresses fraction addition, subtraction, multiplication and division. And then we get to kind of the bulk of the lesson which include explicit instruction on understanding fraction magnitudes.

The hallmark of the program is benchmarking to one and benchmarking to one half in order to assess magnitude and relative magnitude of fractions. And then the lessons move onto a fluency activity in which students practice fraction comparisons quickly and are timed in the classroom environment and then students have the opportunity to show what they know during power practice in which they do individual work.

**[Slide 32 – Set-Up Phase, Step 1: Select an Intensive Intervention Platform (Super Solvers)]:** Okay, so she's still looking at the program. She's assessing all of the components included within the program and she notices that this curriculum includes two progress monitoring tools. They are designed specifically to be administered before the intervention. Every two weeks during the intervention. And then after an intervention has been completed.

The two progress monitoring tools that are included are what we call Super Challenge and this assess the student's fraction magnitude understanding and includes problems where students have to compare fractions, order fractions from least to greatest and place fractions on a number line. The second progress monitoring tool is called conquer calculations and this tests student proficiency with fraction calculations.

**[Slide 33 – Set-Up Phase, Step 1: Select an Intensive Intervention Platform (Super Solvers)]:** Okay, so she has those on board. And so, she's going to; when she goes through the intervention, specifically on each of these dimensions of the taxonomy. Again, the first six dimensions of the taxonomy. And she's going to rate each of these components with the intervention. She is; and granted, this is a subjective process.

However, you are considering the needs of your students and the characteristics of the intervention in comparison to your rating. So just keep in mind that these ratings could be different for different students because different students need different things. Okay, but as she goes through each of these dimensions she's going to rate each component. With a zero if it doesn't address the standard. A one if it addresses it minimally. A two if it addresses the standard moderately and with at three if she feels that it addresses the standard well.

So, here's an example of kind of setting up the process of assessing an intervention. You would have a worksheet like this in which you have each of the dimensions and each of the components within the dimensions in which you are rating how well the program aligns with your student's needs. So overall, she determines that Super Solvers gets a rating of two point seven. But, we're going to go through each of these dimensions and determine what she's thinking where and why she rates them the way that she rates them.

**[Slide 34 – Set-Up Phase, Step 1: Rate the Intensive Intervention Platform]:** And so again, she is still setting things up. She is going to go through and look; and consider each of the dimensions in conjunction with the program that is a research-validated Tier Two intervention. Okay and so the first thing that she is going to assess is strength. So, within the randomized controlled trials that were completed on this particular curriculum. She identifies that the program is strong for students who have Mathematics difficulty like Jackson. The effect sizes range from point seven four to one point two indicating that those who receive this intervention outperform those who did not. So, she rates the strength in the program incredibly strong, she rates it as a three.

Alright, the next thing that she's going to look at is the dosage. Here really is just the description of which the dosage was tested on. So, as I indicated, this curriculum has thirty-nine lessons, each of them is thirty-five minutes. The delivery format for the study in which Lynn just talked about.

**[Slide 35 – Set-Up Phase, Step 1: Rate the Intensive Intervention Platform]:** Alright, let's go on. Okay, so then she considers the alignment. Okay, so how well this program addresses Jackson's needs. So first, does the intensive intervention address Jackson's skill deficits? It does for the most part which is why she rates it as a two point eight. There are some things that it does not address. Most notably, Super Solvers does not include an instructional component on multi-digit multiplication and division. It does include a component with single-digit multiplication but it doesn't go that extra step. So, she knows that there are some things that the program does not address. However, she feels that it is pretty well aligned with what he needs.

The next thing that she is going to consider is whether or not it does not address extraneous skills. Or it does not address things that he does not need. Every single thing that is addressed in Super Solvers is something addressed in struggling Math. So, she is rates that very high. And then finally, that the program is on grade appropriate standards. Each particular focus of this curriculum program is appropriate for fifth grade so she rates that as high. So overall, for alignment she gives an average of two point seven.

So, then she assesses whether the program specifically attends to transfer features. So first, does the intensive intervention help students to transfer the skills that they've learned to other formats



and contexts? So, in order to find out this information of course she's going to have to actually look at the specific lessons and read through them. And then determine whether there are some transfer features within those specific lessons.

We do know very well that students who struggle as much as Jackson does are going to struggle with transferring these skills to other formats and contexts. However, the program does include specific parts within the curriculum to help students extend their knowledge. To help students learn how to explain their thinking that she feels will help him transfer these features to other things. To other Math skills and so she rates it's pretty high.

Second, she looks at whether the intensive intervention platform helps students realize the connections between mastered and related skills. So again, to assess this, she would have to look at the actual lessons and read through them. And she does see specific parts within each lesson that would allow Jackson to do that. So, she rates it pretty high. But again, these features are very hard for students who are struggling so it's very difficult to get an accurate score on that.

**[Slide 36 – Set-Up Phase, Step 1: Rate the Intensive Intervention Platform]:** Okay, the next thing that she's going to assess is the comprehensiveness of the intervention. So, does the intervention platform provide directions in simple and direct language? Again, she's looking through the lessons, she rates them and yes, they do. Most notably, this intervention includes a number of help cards for students who try to streamline their thinking of how to approach these difficult problems.

Does the intensive intervention model efficient solution strategies? Again, yes it does and specifically with those help cards. Does the intensive intervention ensure that students have adequate background knowledge and skills? This is an interesting component of comprehensiveness because the students are coming with a lot of difficulties, right? And specifically, they do not have as much background knowledge as they need.

So, although the program does a very good job of laying that groundwork foundation, defining all of the relevant vocabulary and ensuring that students have adequate background knowledge. She feels that Jackson might struggle in that area and so she rates it a little bit lower. The next thing that she's going to look at is whether the intensive intervention platform gradually fades support for students' and for students' correct execution of strategies. Again, referring to those help card strategies. The program includes explicit instruction on how the Interventionist of special educator would use those help cards to help students solve problems and then gradually fade that as well.

And then, does the intensive intervention provide adequate student practice? There are opportunities for the students to practice each day and there is review each and every day. So, she views that that is highly rated. Okay, and then the last thing in the comprehensiveness dimension is whether the intensive intervention platform incorporates systematic cumulative review? And as I just indicated, the curriculum itself does plan for cumulative review each and every day.

**[Slide 37 – Set-Up Phase, Step 1: Rate the Intensive Intervention Platform]:** Okay, so the next thing that she's going to rate is whether the program includes behavioral support systems?

So, does the intensive intervention platform incorporate a self-regulation and executive function component? And it does on a very explicit comment component. We do it with comic books that student's read the comics and the characters teach them how to set goals and what to do academically to meet those goals. And so, she views that as very high.

Then, does that intensive intervention platform incorporate behavioral principles to minimize nonproductive behavior? This particular curriculum includes a behavior program in which [Speaker Pause].

Speaker One: Amelia

Jill Pentimonti: Did we lose Amelia? Nick, can you see the audio at this end?

Jill Pentimonti Two: I'm checking on it now.

Jill Pentimonti: Great, thank you. Sorry everyone.

Speaker One: I'll take over until Amelia gets back on.

Jill Pentimonti: Great

Speaker One: This is Lynn.

Jill Pentimonti: Thanks Lynn.

Speaker One: Okay, so the two types of behavioral support that the program is being rated on; the first is you know as Amelia already said are self-regulation and executive function. And Amelia already explained that the program does a nice job at that. With respect to controlling nonproductive behavior the program does have a structure for doing that but for children with pretty severe behavior issues it probably is going to require some adjusting.

And then the last dimension of the taxonomy, individualization. It includes; it focuses on the progress monitoring system and the data-based individualization process. And they are asking whether the progress monitoring tools are technically adequate and aligned with the student's needs? And actually, this particular program comes with its own progress monitoring system. So here, we know that the answer is yes. Okay, next slide.

Speaker Two: Okay, I'm back.

**[Slide 38 – Set-Up Phase, Step 2: Make Initial Adjustments to the Intervention Platform]:**

So, we have finished the next phase; we have finished the set-up, the first step of the set-up phase and now we're going to move into the second step of the set-up phase. So, Ms. Williams is going to consider everything that she has rated across all of the dimensions; across the first six dimensions excuse me. And she's going to think about whether she needs to make some initial adjustments to the intervention platform. Okay, so the thing that she is going to consider here is what are the shortcomings of the Super Solvers intensive intervention platform specifically for addressing Jackson's needs? There are three areas that she feels that could not be adequate enough for Jackson.

The first is within the taxonomy's dimension of alignment. So specifically, the curriculum does not cover decimal concepts which is something that he is struggling with. The division of whole numbers and multi-digit multiplication. In terms of the comprehensiveness, she feels that she must fill in some gaps for background knowledge simply because Jackson is so far behind. Even through the program does a good job at providing that foundation, she still thinks that she's going to have to fill in some gaps. And then, she thinks that she's going to have to amp up the programs guidance for fading support and that she might need to modify this a little bit to ensure that Jackson can correctly execute and remember the strategies that are taught throughout the program.

The third area that she feels is not; that may need to be bolstered a little bit is the behavioral support. So, the behavioral support system that's in place although it's adequate for many students. She feels that it may need to be strengthened in order to adequately support Jackson and minimize some of his nonproductive behaviors. Next slide.

**[Slide 39 – Set-Up Phase, Step 2: Make Initial Adjustments to the Intervention Platform]:**

So at this point, Ms. Williams avoids major substantive changes until she can gauge his response to this intensive intervention platform specifically using progress monitoring data that she's going to collect. But, she is going to do one; I'm sorry, one thing. One thing to intensify the intervention at the forefront. She is going to increase the dosage to one to one tutoring versus two to one which is how this Tier Two program was tested specifically because Jackson has some very severe academic and behavior deficits.

So, she chooses to opt; she opts to delay a focus on decimal concepts, division of whole numbers and multi-digit multiplication until he shows some improvement on the foundational concepts taught in Super Solvers. So just a note here, when you are in the set-up phase of picking an intensive intervention platform for students who have a range of difficulty you really don't want to make a number of substantive changes. Because then, it would be very difficult to assess what affected the change or what is preventing Jackson to advance his skills. You kind of want to be conservative at this point. Next slide.

**[Slide 40 – Set-Up Phase, Step 3: Select a Progress-Monitoring System]:** Okay, so then we're going to move on to step three. We're going to select a progress monitoring system. But, lucky for her Super Solvers comes with a progress monitoring system which we've already talked about. It includes two types of tests and the system has adequate reliability and validity. So, she has access to Super Challenge which is a fraction magnitude curriculum based measurement and then Conquer Calculations which assess student's fraction calculations abilities.

These progress monitoring tools are designed to be administered before the intervention and then every two weeks thereafter. And just to note that whenever the data indicates that Jackson is not on track to meet his goals, she is going to consider an adjustment to the program. Alright, so she's going to specifically use this progress monitoring data to help her to apply the Taxonomy and individualize the intervention. Next slide.

**[Slide 41 – Set-Up Phase, Step 4: Begin Implementing Intervention and Collecting Progress-Monitoring Data]:** Okay, so just a reminder now that we're back to a grey title. That when we have an orange title, we are referring to where the Taxonomy applies and when we

have a grey title, that is when we are considering data. Okay, so we're not actually applying the Taxonomy within those steps but we are thinking about kind of where it's going to take us in the next steps.

Okay, so in step four she's going to implementing the intensive intervention and she's going to begin collecting data. So, on the first day of the intervention and before any lessons. So, nothing has happened so far. She is going to administer Super Challenge One and Conquer Calculations One. Okay, so here Jackson scores zero points on Super Challenge and one point on Conquer Calculations. So, at this point of the webinar, we're going to kind of go through a question and answer component so that you can see sort of what the thought process would look like within this process. So, the next slide.

**[Slide 42 – Set-Up Phase, Step 4: Begin Implementing Intervention and Collecting Progress-Monitoring Data]:** Okay, so in this phase, should Ms. Williams modify the intensive intervention? If yes, what dimension? The answer should be no. There you go. Alright, she should not change anything so next slide please?

**[Slide 43 – Trick Question]:** The reason for that is; first off, it's a trick question. She hasn't collected enough data to modify the intensive intervention platform. She hasn't collected any data while actually implementing the intervention. She just collected essentially pre-intervention data. Okay and she thinks that her two initial changes to the intensive intervention platform should be sufficient to get the implementation started. Okay, so she needs to implement the intervention for a minimum of three weeks before she can make a data-based decision to modify instruction.

Alright, so we're going to continue on with this question and answer kind of format. And you're going to see the thought process going from applying the Taxonomy to collecting data. Okay, the next slide.

**[Slide 44 – Implementation Phase]:** Alright, and so we're in the implementation phase and that's what I was referring to. So next slide.

**[Slide 45 – Implementation Phase, Steps 5 – 9: Use the Taxonomy to Make Adjustments to the Intervention During Implementation]:** Okay so, in steps five through nine we're going to use the taxonomy to make adjustments to the intervention during implementation and this is where DBI comes in. So, she's going to collect progress monitoring data frequently, she's going to apply validated decision rules on a regular basis. At a minimum it will be every three weeks. And she's going to determine whether the intervention is producing the targeted response for Jackson. So, whenever the data indicates that Jackson is not on track to meet his goals, she's going to make an adjustment to the program to better address his needs. Next slide.

**[Slide 44 – Implementation Phase]:** Next slide.

**[Slide 46 – Implementation Phase, Steps 5 – 9: Use the Taxonomy to Make Adjustments to the Intervention During Implementation]:** Okay so again, a reminder. The implementation phase alternates between grey titles and assessing data. Okay, this is where she's going to evaluate whether Jackson's intervention requires an adjustment. Then she's going to apply the

Taxonomy and those are the orange title slides. She's going to design adjustments to the intensive intervention platform. Okay, specifically along those dimensions. Next slide.

**[Slide 47 – Determine When to Make an Adjustment to Intervention]:** Okay, so here are some guidelines for determining when to make an adjustment to the intervention. First off, you need to wait at least three weeks to make an adjustment. You simply cannot collect enough data to make a valid change before three weeks ends. Okay, so she's going to start off; she's going to deliver lessons one through nine. She's going to administer Super Challenge Two on lesson nine.

Jackson scores one point okay, so really no progress. His progress is inadequate. He is becoming frustrated with the difficulty of the material, he is struggling to remember all of the concepts taught. He is totally overwhelmed, he's shutting down and refusing to answer subsequent questions. And she is spending most of her time reteaching content and reviewing vocabulary. Next slide.

**[Slide 48 – Determine When to Make an Adjustment to Intervention]:** Okay, so should she modify the intensive intervention platform? Okay, do think about that. If she should, what dimension should she consider? Okay, the next slide. The answer would be yes.

**[Slide 49 – Formulate an Adjustment to the Intervention Platform When the Rate of Progress is Inadequate]:** So this next slide shows us here's why she should intensify the program. So, based on the observations just described she decides to focus on the Taxonomy's behavioral support dimension. So again, we're on an orange title slide. Meaning that she is specifically applying the Taxonomy. So, she decides to increase the behavioral check interval to six times during the lesson which was previously four. That allows her more opportunities to respond to his behavior.

And she's going to track the number of praise statements that she gives to him during the lesson to ensure that there is a four to one ratio between behavior specific praise statements and reprimands. And in order to increase Jackson's ability to hopefully remember content, she's going to tie those praise statements to correctly defining fraction vocabulary words to hopefully incentivize him to learn these terms. Just take note though that she is not modifying content at this time. She has only implemented three week's worth of content. This is content that Jackson is struggling with. And so, she doesn't want to make too many changes at once.

**[Slide 50 – Implement Adjustment 1 and Progress Monitor to Determine When to Make Next Adjustment to Intervention]:** So next slide.

**[Slide 51 – Implement Adjustment 1 and Progress Monitor to Determine When to Make Next Adjustment to Intervention]:** So then, she's going to implement. No, go back.

**[Slide 50 – Implement Adjustment 1 and Progress Monitor to Determine When to Make Next Adjustment to Intervention]:** Alright so, she's going to implement adjustment one. She's going to continue to progress monitor and determine when to make the next adjustment. So, she continues on. She delivers lessons ten through fifteen. She administers the next Super Challenge and he scores two points.

Again, progress is inadequate, he's overwhelmed, he's struggling with certain things like differentiating between number of parts, he's struggling with the size of parts and he is struggling with single-digit multiplication which is slowing down the lesson. So, the next slide.

**[Slide 51 – Implement Adjustment 1 and Progress Monitor to Determine When to Make Next Adjustment to Intervention]:** Should she modify the intensive intervention platform? If she should, what dimension? Next. The answer is, yes, she should. Next slide.

**[Slide 52 – Formulate an Adjustment to the Intervention Platform When the Rate of Progress is Inadequate]:** And here is what she is considering. So, she should intensify Jackson's program. And she is specifically going to focus on the alignment dimension. Okay, so he is struggling with the concept of number parts and the size of the parts with fractions. So, she's going to add five minutes of conceptual practice with some manipulatives to help him differentiate between those two. And she is going to reinforce practice with a flashcard activity in order to boost his performance on multiplication, she's going to add five minutes of multiplication strategy instruction. And she's going to include additional instruction on skip counting and adding on. Next slide.

**[Slide 53 – Formulate an Adjustment to the Intervention Platform When the Rate of Progress is Inadequate]:** So here, she is applying the taxonomy. So, here are some of the things that she's doing. She is including more manipulatives, she's redefining terms in order to boost Jackson's understanding. Next slide.

**[Slide 54 – Formulate an Adjustment to the Intervention Platform When the Rate of Progress is Inadequate]:** This is an example of reviewing and reteaching. Here we are doing the flashcard activity that I just talked about in which she has to assess the difference between the numerator and the denominator. Next slide.

**[Slide 55 – Formulate an Adjustment to the Intervention Platform When the Rate of Progress is Inadequate]:** So, he keeps getting extra practice. And then here is an example of a skip-count mat. Which he can look at to help him summarize multiplication. Next slide.

**[Slide 56 – Implement Adjustment 2 and Determine When to Make an Adjustment to Intervention]:** So, she's going to implement that adjustment and again determine when to make the next adjustment. So, she's going to deliver the next set of lessons and re-administer Super Challenge. And then the first Conquer Calculations which is addition, subtraction, multiplication and division. He scores three points on the Conquer Calculations assessment and six points in Super Challenge. So, he is actually making adequate progress. So, go to the next slide.

**[Slide 57]:** If you look at his chart, he is beginning to close the gap between his goal line and where he actually is. So, she is; she determines that he is making adequate progress. Next slide.

**[Slide 58 – Implement Adjustment 2 and Determine When to Make an Adjustment to Intervention]:** So, at this point should she modify the intensive intervention? If she should, what dimension? We will go ahead and have you click the next slide. The answer here would be no.

**[Slide 59 – Implement Adjustment 2 and Determine When to Make an Adjustment to Intervention]:** Because he is actually beginning to make progress. So, he made need further

adjustments after he has mastered something that's taught. But at this time, she does not need to make another adjustment. The next slide.

**[Slide 60 – Steps 5 – 9 Recap: Assessing Data and Formulating Adjustments (Applying the Taxonomy)]:** Okay, so just to recap on steps five through nine. So here, we are assessing data and we're formulating adjustments. When you're formulating adjustments, that's when you're actually specifically applying the Taxonomy. So, you're seeing where your student is struggling the most and making the adjustment along that six-dimension continuum.

So, it's kind of like walking up stairs. You're kind of switching back and forth between assessing data and formulating a response. Okay, so they're going to use; Interventionists are going to use DBI during the implementation phase to determine when and how do individualize the intervention platform. And that in and of itself is increasing intensity or moving up the stairs in intensity.

So, applying DBI in combination with the taxonomy again I like climbing a flight of stairs. It's a process okay? You may have to step back from time to time and you may move forward consistently. It's just a process of ebbs and flows and modifications. Okay, next slide.

**[Slide 61]:** And here is an example of her going through that process and Jackson continuing to make progress. Next slide.

**[Slide 62 – Taxonomy and NCII Resources]:** Okay, back to Jill.

Jill Pentimonti: Great, thank you Amelia. What I wanted to mention and I did right at the beginning of the webinar. Is that a description of this is in a recent edition of Teaching Exceptional Children article. And you'll see the link to that or the citation for that. The taxonomy of intervention intensity. And Amelia and Lynn, correct me if I'm wrong. But, the worksheet that you referenced in this as you were going through the case study is also in that article? Is that right?

Speaker One: Yes, it is.

Jill Pentimonti: Great, because we had a few questions on where to find it. And I wanted to point out that that article will lead you to that as well. Some other resources that we wanted to point out were just a series of modules and webinars on the NCII website that have to do with intensifying interventions. They might be helpful and also might be a nice complement to what we talked about today. Next slide.

**[Slide 63 – The NCII Tools Charts]:** Great, and then this is just a visual of the NCII Tools Chart that referenced today. Specifically, if you go to the study results tab which is that second tab over. It's not highlighted orange but it's just right of the highlighted orange tab. That's where you can find information on the effect sizes that Lynn was mentioning. And that's what's helpful when you're thinking about the strength of a study.

And so, some of the numbers that we saw in the worksheet that Amelia was showing us like the point eight three for one of the subtests. You can find that effect size. And that referred to the effect size that was within that tools chart. So, the tools charts are a really nice resource for

finding information about those interventions that you might want to use when you're applying the Taxonomy. Next slide.

**[Slide 64 – Questions]:** Great and so we have just a few minutes left and so feel free to put any more questions into the chat box too. But, I was sort of following along and answering a few. And one of them Amelia and Lynn I thought that I would bring up too was just sort of thinking about prioritizing which students you do this with? And I know that you sort of referenced that at the beginning. But, just a little bit more conversation around that and thinking about when you'd want to apply this and with what students?

Speaker One: So, I'll take a shot at that.

Jill Pentimonti: Okay

Speaker One: So, I think that you know we; in many schools, well not all schools but many schools. Many schools have a Tier Two intervention program. And they use that level of the RTI system to decide whether students are profiting from the Tier Two intervention and can therefore return with success to the General Education program? Or instead require movement to a more intensive level of service because they're not responding to a standard intervention program? In other words, something like Super Solvers implemented as designed without any changes.

They need; students who require more intensive intervention require a more individualized programming. And so, the DBI process with the taxonomy is appropriate; is a strong process for intensifying and individualizing a student's program. And so, we're talking about a small sub-set of students in a school. Usually five, maybe as high as ten but, usually five percent of the student body.

And many of the students are students who have a disability label and have been placed in Special Education. They are not necessarily all in Special Education but, many of them are. Some students are intensive intervention for Reading but not Math, some for Math but not Reading and some for both.

Jill Pentimonti: Great, thank you Lynn. So, one other thing that I wanted to point out is you know, feel free to put more questions in the chat box. Unfortunately, we have had to mute with over one hundred participants. We've had to mute all of you. But, again feel free to pop those in. And if we don't get to them, now because at the top of the hour we will also check those out and answer those as well. But we also have in the chat box a link to some of the modules and webinars that we've mentioned here today. So, feel free to take a look at those. And unless there are any other questions or anything else from Amelia and Lynn I want to say thank you for joining us today.

Speaker One: Yes, thank you everybody.

**[End of Transcript]**