

>> Good afternoon and welcome to the National Center on Student Progress Monitoring's webinar on data-based decision making. We will be getting started in just a few moments. Before we hear from our presenter, we would like to review a couple technical details about today's event and offer a few suggestions and guidelines. We trust that you have had success logging into the weapon are, but if you encounter any technical difficulties at any point during today's session, we ask that you contact live meeting technical support staff at 1-866-493-2825. Will pause that phone number in the queue and a bundle for your convenience. Please feel free to use the question and answer window throughout this session. That the question regarding technical assistance issues. The key running tab is at the top of your screen. When to open attack, in order to type a question, place your cursor in a smaller box at the top. Type your question and click asked. Please note that your [indiscernible] is protected and no names will appear in the question box. If you prefer your question be answered privately, please specify in the text box. Dr. Lynn Fuchs and Dr. Doug Fuchs will stop a few times in the sessions. They may not have all the time to -- we will try to put a Q&A session together. Unfortunately, the software only allows you to type in one question, as your previous question has already been answered. Unfortunately, there is no way to fix this and we apologize for any in -- inconvenience this may cause. We are pleased to have this captioned. You might have noticed that a special box pops up on your screen when you first entered the session. That is where you will be able to access the real time to transcript. You are prompted to enter your name and organization so the captioner will have that information. We encourage you to resize the captioning window to a size that fits your needs. You may move it to a convenient location by clicking at the box and the dragging it with your mouse. If you do not prefer to view the captioning, feel free to close out the window, and it will disappear from your view. A quick note now on the audio. We will be reporting this event so it can be available on line later for those who missed it today. In order to produce the best quality recording, we have new did all of the four months to minimize that chronos. If you have a comment or question for all presenters, please use the question and answer tab at the top of your screen. Before we begin -- at this point, ready to begin today is whether are and we will begin recording.

>> Good afternoon. My name is Sarah Short and I am pleased to welcome you to the National Center on Student Progress Monitoring's final webinar. The National Center on Student Progress Monitoring is funded by the U.S. Department of Education's Office of Special Education Programs. The center's mission is to provide technical assistance to states and districts and disseminate information about practices proven to work in different academic content areas grades K through five. We are pleased you could join us today. Today we will be holding our final weapon are purged all of our materials are being handled -- transferred to a [indiscernible] three please view them at their web site at www.RTIforSuccess.org we are fortunate to have Dr. Lynn Fuchs is a professor in the Department of Special Education at Vanderbilt in addition [inaudible] to enhance all comes for students with disabilities. She is also the co-director of the Vanderbilt reading clinic which provides breeding [indiscernible] and design [indiscernible]. Douglas Fuchs is the [indiscernible] for John F. Kennedy Center reading clinic as well -- as well as one of the senior consultants. He has been a principal [indiscernible] for cooperative agreements, most of which have come from the office of special education programs in the U.S. Department of education. This research has focused on the development of a effective and practical referral interventions, appear assisted learning strategies in reading and math, curriculum based reading methods and methods of free integrating students with high instance disabilities into mainstream settings. At this point, it is my pleasure to turn things over to our presenters.

>> Hi, and when to start. This is Lynn Fuchs. I just want to -- so, today we are going to be talking about responsiveness to intervention, progress monitoring, and how it specializes in fits within RTI and it within the RTI system. So, those are going to be the three pieces. It is a wonderful presentation. I am going to start out and do the first half, and then Doug will take over into the second half. As Sarah said, we will be pausing periodically and asking for people to raise any question that you might have. We are glad that you are able to join us today, and look forward to interacting with you over the next 90 minutes. So, the first part of the presentation is a brief overview of RTI. I am sure that many of you are familiar with RTI, but there are various models for conducting RTI. And we are going to give you the framework that -- that we operate with so that we will all be sharing a common vocabulary instead of assumptions.

>>> So, within RTI, assessment and intervention are integrated within a multilevel prevention system with the purpose of identifying and reducing risk for academic failure. So, here is a typical RTI procedure. We have premed levels of prevention. The first prevention will be referred to as primary prevention, and it really represents the core, the universal instruction of the program. In primary prevention, all children receive that Universal core instruction program. All children are screened. Usually come early in the fall to identify the subset of students who look like they are potentially at risk for academic failure.

>>> And then what Doug and I recommend is that once students fail the screening criteria, instead of immediately entering them into some kind of secondary prevention program that will monitor the progress of those students who failed the screen for a relatively brief time, for five or six or eight weeks. The purpose of that short-term progress monitoring is to confirm or disconfirm risk in to identify students who really do require secondary prevention.

>>> And the reason why we recommend short-term progress monitoring to follow the onetime screen is because we know from our research in from the research of others that if we just used 01 times green, especially in the early primary grades, what will happen is that a large number of false positives will be identified for tutoring or for secondary prevention. And false positives are a student who looked like they are at risk but actually would do just fine and the primary prevention program without any special attention. So, we recommend short-term progress monitoring for the subset of students who fail the initial screen so that we don't waste a lot of School resources providing secondary prevention to students who would do well without it. So, once we identify the students who do, in fact, require secondary prevention, that secondary level of prevention is implemented. And the way Doug and I think about it is that is the most efficient -- it is to use a standard Research validated tutoring protocol. Now, with secondary prevention, there are some RTI models where a student goes through the standard research validated to bring protocol, and if at the end of that -- the end of the use of the tutoring protocol it still looks like the student isn't doing well, then another tier within secondary prevention is implemented. But it is of the same scope and addressing the same skills and of the same level of intensity as a secondary prevention program would be. So, it is more intensive than primary prevention but not as intensive as tertiary prevention. Well, the secondary -- Well but secondary prevention program is implemented, students are monitored throughout the session and students are retested at the end of the tutoring session. Then the index gross and performance using the data that we have been collecting with the Project -- process monitoring. And using the and Global performance and the rate of [indiscernible] three children, we decide instead of students -- the students who have been responsive return to the primary prevention program, but would

continue to monitor their progress because we know that there is some recidivism. Some students respond to secondary prevention and go back to primary prevention but then run into trouble again, so we continue to monitor their progress of even the students to do respond to secondary prevention.

>>> But for the student to do not respond to the standard tutoring program that is used in secondary prevention, though students received a multi disciplinary teams evaluation and are identified for in the village programs in [indiscernible]. What discriminates or unreasonable secondary prevention relies on a standard tutoring protocol that we know from research works for the vast majority of students. But when students show that they do not respond to that standard tutoring program to which the majority of students do respond, then we know that they require an individualized program, as is the case in special education. So, with tertiary prevention, but we are looking at is a reformed type of special education where student goals are set ambitiously, where ongoing progress monitoring is used in the formative and recursive way to formulate individualized programs that are effective for the individual student. And we are on -- ongoing progress monitoring is also used to know when students have met their benchmark that permits return to secondary or primary prevention. That makes special education of flexible service. And Doug is one to be elaborating a fair amount on using progress monitoring in a form a tiff and recursive way to formulate individualized programs.

>>> So, there we have primary, secondary, and tertiary prevention. As I said before, in some RTI models, we have three tiers with one tier aligning with primary prevention, another tier of money was secondary prevention and another tier representing a tertiary prevention. But it is also possible to have a RTI model with five tiers. You might have one here of primary prevention. We might have three different versions of secondary prevention that a student goes through before they would enter tertiary prevention, but tertiary prevention is different from secondary prevention and that it is more intensive and it is more individualized.

>>> So if we look at our health care analogy and half -- and how that aligns with what we are talking about with RTI, that makes sense because health care is the system the pre -- the prevention system from which the RTI model was borrowed. So, if we think of high blood pressure, high blood pressure can lead to heart attacks or strokes. Just like academic failure can produce serious long-term negative consequences. And if we think about the annual checkup when we all go to our primary care physician, that is where primary prevention occurs, there is screening to see whether it looks like we might have high blood pressure that is just like the annual fall screening for low reading or math scores. If spring suggests that we might have high blood pressure, the doctor doesn't immediately treat us because the doctor knows that a single high blood pressure reading can be misleading. It can be a false positive for high blood pressure. So, instead of intervening immediately, what the doctor does is she monitors our blood pressure for six or eight weeks because the doctor wants to verify whether in fact there really is high blood pressure.

>>> That is just like short-term progress monitoring to confirm or disconfirm a students risk for academic failure. Now, when high blood pressure is verify through the short-term progress monitoring, then secondary prevention begins. What the doctor typically does is prescribe a relatively inexpensive diabetic, which we know from research is effective for the vast majority of individuals. But the doctor does not presume that the diabetic is going to be effective, so the monitoring, a high blood pressure monitoring continuous that is just like with the implementation of [indiscernible] using a standard treatment

protocol. Progress monitoring continues so we can differentiate the responders from the non responders. Now, back to the health-care system. When patients fail to respond to the secondary prevention diuretic to treat high blood pressure, and -- then a tertiary prevention occurs. What happens? Well, then the doctor begins to experiment with more expensive medications and with ongoing monitoring to determine the right drug, the right dosage of that drug, or what combination of drugs will be affected if for the individual. That is just like tertiary prevention in the education prevention system where we used -- in tertiary prevention, we used individualized specialized program to formulate an individual's educational preference.

>>> So what we are going to do -- what I am one to do is pause right now to see what kind of questions people have and I will try to answer them. If you have a question, you can type them in.

>> I have one question appear that is asking whether I can identify some high-quality tutoring protocols. I think that there are a variety. I think that I should not really do that on this call. I will tell you though that the AIR new National RTI Center is convening a panel in the next few months to determine a procedure for reviewing to bring programs so that there will be in a technical review committee that will review tutoring programs and write them according to standards of evidence so that there will be a specific toll available to people. That is very similar to the progress monitoring tools chart on various tutoring programs in different academic areas.

>> Am I still on the call?

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>> Maybe it is just you and me.

>> So I don't think that there are any research studies that actually compete different models of RTI. Do you think that, Doug?

>> I agree with you.

>> Can I speak at all to the use of screening measures for behavioral issues?

Well, I think that is beyond the scope of this talk, and I don't think that Doug or I would be the best person to talk about that, but there are experts in that area. If a student passes the given criterion test but leader struggles on other assessments, how do we address this? Well, I think that there has to be a procedure whereby students can re-enter the RTI system as possibly being at risk. A standard treatment protocol, the question is, please describe what up to standard treatment protocol is. A standard treatment protocol is a highly explicit way of conducting touring that has been evaluated with randomized controlled [indiscernible]. Usually a standard protocol is a pretty complete program with all directions to the Tudor and how to conduct the tutoring in with all of the materials that a tutor would need to implement the standard protocol. Sometimes it is not unusual for the standard protocols to be even scripted, not that Tudor's actually read the script, but they can study the Scripps to understand exactly how the tutoring is supposed to go. How can RTI be implemented at the secondary level? Especially with high school, I think that is beyond the scope of this presentation, and adult in that there is a lot of information to answer that question for you.

>> But again, the National Technical Assistance Center on RTI is going to be looking at them.

>> Yeah.

>> If a student has a history of struggling with reading, do you still wait for six to eight weeks?

>> I think that is a judgment call. At the screening is being conducted at the beginning of a new academic year, it may be that The School thinks that watching to see how the student will respond to this new primary prevention program, after all the school is entering a new classroom, it might be appropriate, but if the deficits are large, it may be appropriate to enter this into secondary

prevention. I think that as students advance in grades, the issues about false positives become less severe.

>> We need to move on.

>> Yeah. I think I and when to move on and we can come back to some of these other questions because we want to make sure we get to the progress when entering part of the presentation -- progress monitoring of the presentation. With progress monitoring -- progress on entering is essential but within RTI. We use data to screen students that are at risk for academic failure to determine when students are responding to the instruction very fast to the instruction they are receiving. When students fail to respond to standard forms of instruction, we use progress' monitoring to build individualized instructional programs, and that last piece is really the primary focus of this webinar. With progress on entering, teachers [inaudible]. Curriculum based measurement is the scientific leave a valid -- validated form of progress monitoring. That is the form of progress on a trend that dog and I are going to be talking about. There are many studies conducted by many independent researchers showing that [indiscernible] produces accurate, meaningful information. Not only about students academic levels of performance, but also about the rate at which they are improving in the curriculum.

>>> CPM, we know from research is sensitive to student improvement. We know that CPM corresponds well with high state tests, and we also know that when teachers use that that students achieve better. So, before we really get into using CBM within the context of RTI, I want to take a few minutes and explain exactly what CBM is because there is often confusion about that. CBM gets confused with other forms of classroom based assessment. And the most common form of classroom based assessment is called mandatory -- mastery measurement. I will take a minute to explain what mastery measurement is so we know how CBM is different. If I am a teacher who is using mastery measurement, but I am doing is I am tracking a student's mastery of short-term instructional objectives. To implement mastering measurement, what the teacher needs to do is determine the sequence of skills in her instructional hierarchy, and then for each skill in the hierarchy, the teacher needs to develop a criterion referenced test. So, if we look at the fourth grade math computations curriculum, we will keep things simple for the moment. These skills might constitute my curriculum, and I am going to teach multi digit addition with regrouping first, move on when mastery -- and so on. So, I am on multi digit assistance with regrouping. Here is my multi digit addition mastery test for you so, the student -- every item on this test requires regrouping and addition, and when a student scores at least eight out of ten problems correct on three consecutive assessments, I am one to consider that mastery. And when mastery occurs, I'll move on to the next skill in the sequence, which is multi digits subtraction with regrouping. This might be my multi digit subtraction with regrouping criterion referenced test. I am just waiting -- yeah coming here it is. Again, Every School on this test requires subtraction and requires regrouping. When the student shows eight out of ten correct on three consecutive tests, then it is time to move on to the next skill in the hierarchy, which is multi -- which is multiplication tests. No, I was part of the research group at the University of Minnesota working under the direction of [indiscernible] when we began to conduct research program to develop a form of progress on a train that would be technically strong and would be useful for teachers to inform their instructional planning. And we began at that time with the mastery measurement framework, but we quickly ran into some problems. Here are some of the problems that we ran into.

>>> The first one -- The first problem is that a hierarchy of skills that we specify although it might be logical, it is not empirical because there are no academic domains where there is a research base hierarchy of skills that we know

students actually move through in order to acquire overall confidence for get and this is problematic and a mastery measurement system because, for example, we wait, keep the student on multi digit subtraction with regrouping until mastery is shown before we can move on to the next skill in the hierarchy, which is multiplication. That is the first potential problem. It is problematic because we don't really know that it is necessary to master subtraction before we can address addition. I mean, after all, we can address addition using multiplication using repeated addition. The second problem with mastery measurement is that performance on single cells -- single skilled assessments can be completing. For example, there can be some students who can do multi digit addition with regrouping but only one in know that every problem on the test requires multi digit addition with regrouping. And by contrast, when they get to the high-stakes test at the end of the year when the problems are all mixed up and various, the student cannot do -- cannot find the problems that require multi digit addition with regrouping and don't know when they are supposed to group and not regroup. The third problem is that assessment does not automatically reflected maintenance of skills.

>>> So, we move from addition to subtraction. While we are working on subtraction, we have no way of figuring out whether the student is maintaining mastery of the addition, and we all know that we have students -- especially in special education -- who did not detain Neyra mastery when we move on to the next skill. We really require an assessment. That is automatically assessor's manic -- mastery of previously achieved skills. All of these problems come together to mean that the number of objectives mastered within a mastery measurement system does not relate well to performance on a high-stakes test. So, when we were working in the 1970's in Minnesota in developing a technically strong progress monitoring system, we eventually arrived at what came to be known as curriculum based measurement. So, if we look at the same massive computation and curriculum, we have the same ten skills. We no longer have to order them. We just need to know that piece ten skills are what constitute the annual curriculum in computation in fourth grade. And then we can design our fourth great test so that every alternate form of the fourth grade computation test samples the same times -- same kind of problems but the problems are not the same and they are in a different order on the page. So, every alternate forms assesses a student -- students continents on the entire annual curriculum.

>>> And so here we have a graph of a students' scores. Every store, every dock on that Graf is an alternate form, but every test is sampling the exact same curriculum in the same proportion of problems. It is the equivalent of difficulty. The test represents what we want this to an end to be able to do by the end of the year, and what we hope to see over the course of the academic year is gradually improving for sprayed we can compare the scores in March against the students' scores in October because the difficulty in nature of the test has not changed.

>>> And what is true for math computations is also true for other domains of performance, for example, we can look at math concepts and application. This is the first page of three page CBM test, and across the three pages come every alternate form is sampling the same kinds of problems in the same proportion. The problems are not exactly the same, but they represent the same problem types. And across the three pages of the test, we are doing is sampling the problems that constitute annual curriculum. What we want is for the student to be competent honest test by the end of the year. So, by sampling performance on a yearlong curriculum on every CBM, we avoid the need to specify a skills hierarchy. A teacher can work on the skills and what -- In whatever ordered she prefers. If the student gets caught up on the track in with regrouping, she can

move on to more -- multiplication. It will not affect the way we conduct the assessment of progress CBM also has a single skilled test so that on any test the student has to come to the next problem and figure out what kind of problem this is, what do I have to do. It is not like single skill assessment which tips the student off to what kind of problem this is and how to solve it.

>>> Also, on CBM, we have automatic assessments of maintenance as well as generalization of skills. And CBM promised standardize procedures for sampling the curriculum for which we have known reliability and validity, and all of this comes together so that CBM scores relate well to performance on high-stakes tests. So, what I just showed you is a form of CBM where we systematically sample items from the annual curriculum. There is a second form of CBM where what we do is identify a global behavior that simultaneously requires the many skills that are taught in the annual curriculum. And I am one to talk a little bit about that in reading before I move on but I need to clarify I that regardless of whether you are using the courage of their sample approach to CBM or the global indicator approach to speech -- CBM, they both represent the general outcome measurement, which is CBM. And in math we can have curriculum sampling approaches to CBM and we can have global indicators, and the same is true. In reading there are curricular sampling approaches to CBM in there are also Global indicators. I am going to illustrate a global indicator approach to CBM in reading.

>>> So, if we think about the second grade reading curriculum, we have all lot of different skills that constitute that curriculum. We have different kinds of Phonics. We have different kinds of comprehends and skills. We have fluency. We have other things like vocabulary. And if I am conducting second grade at CBM in reading using a global indicator approach, and every week the student is going to read aloud from a different second grade passage for one minute. Each week's passage is of the same difficulty. As the student reads, the teacher Marx errors. The teacher, the number of words read correctly and brass the score. And there we have a sample of a CBM passage at second grade. Now, when we do CBM using a global indicator approach in reading, it is important that we remember that we are not really interested in making kids read faster.

>>> Instead, we are interested in is students becoming better readers. And we know that students are becoming better readers when their CBM scores are going up because their CBM score is an overall indicator of reading competence. That is students who score are high on.

>> -- high on CBM are better decoders. They're better at site a vocabulary, and they are better site, printers. And scored -- scores on reading CBM Corps Lehigh the with performance on high-stakes tests. So, let's look at some sample Global indicators measures for CBM in reading prayed for example, at kindergarten we have letter sounds fluency. It is a simple, attacking a strong measure for progress monitoring at kindergarten. It is simple to use. We have an array of the 26 letters in the alphabet in random order. Some are capitalized, and what the student does is just say the letter that goes with each sound. The score is the number of correct letter sounds in a minute test.

>>> First grade Doug and I like word identification fluency. It is simple to use. It is a reliable and valid measure, and it is easy for teachers to administer. We have with word ID fluency is a random sample of 50 words drawn from the 100 most frequent words. The student reads the words as many as they can in one minute. And then the weekly score is craft. In this court is a good indicator of overall confidence across the entire first grade year. At greatest two and three, we represent reading fluency. The number of words read correctly in one minute on passages that represent the difficulty that we expect at the

end of the year. And at creeds for 26, we represent maze fluency. In every point, we have three possible words that could restore meaning to the passage at that blank. The student reads for 2.5 minutes while choosing words to replace the blanks.

>>> Lynn, do you want to tell people where they can get these probes?

>> I think we will just deal with that later.

>> Okay.

>> So, we use CBM within RTI at primary, secondary, and tertiary prevention.

They are just -- just to review preprimary prevention, all students are it screened for possible risk. That is a onetime screening event. For students with possible risk, we conduct CBM 45 to eight weeks, short-term progress monitoring. If the students slope or rate of improvement over those five to eight weeks, then the student has showed Bowl performance on the screen and "rate of improvement, then the student most to secondary prevention. In secondary prevention, we use CBM to assess response to a standard research validated tutoring protocol. If the slope of performance is not adequate and the students and school or at the end of string -- touring is not adequate, then a student moves to tertiary prevention. With tertiary prevention, we need use the [indiscernible] an individualized instruction will program because the student has shown in secondary prevention that they are not responsive to all validated standard form of construction. And we also use CBM in tertiary prevention to formulate decisions about when students can return to primary or secondary prevention for at least parts of their instructional program.

>> Okay. Lynn, do you want to take some questions before I start?

>> Well, hold on a second. Can you repeat the information you stated about the National Committee?

>> So, the American Institute for Research has two relevant sources for you. One is certain progress.org , which is the Web site of the National Center on student progress mentoring. That is studentprogress.org. And the newest web site is RTI4success.org. That is the [indiscernible] on technical assistance. Both of those centers and websites are sponsored by the U.S. Department of Education Office of Special Education programs.

>> So the National Student progress monitoring center is now subsumed under this new [indiscernible] funded National Technical Assistance Center on RTI.

>> Sarah, how do you -- what do you think we should do about the questions because a lot of the questions are all the questions that are still on the RTI model? Do you have a suggestion?

>> For how to take them?

>> Yeah.

>> If there is a lot, we can always post them afterwards or you can wait -- are you concerned about time?

>> Well, I think that Doug's part of the presentation is important.

>> I would suggest the time -- maybe we could post them later on website that might answer some of those questions.

>> Is that okay with you, Doug?

>> Yeah, however you want to do it.

>> Let's do that and we can return to the questions.

>> Okay. So, it is a pleasure to be talking with all of you. Actually, this is my first webinar and are enjoying a greatly because I can talk with all of you with my feet up on my desk and not have to bring about -- worry about getting to summer in the Midwest and back again on a small plane that is three hours late. Lynn and I are specifically ordered liberty chose to talk about -- deliberately chose to talk about special education as part of RTI. We have been doing a lot of writing and thinking about RTI for the last -- I don't know -- five or so years. And talking with a lot of people and attending a lot of conferences and so forth and so on, it's becoming clear to us that for probably multiple

reasons, a lot of people who are talking about RTI and some up whom are talking very eloquently and persuasively about the plans of RTI, a lot of people tend to systematically exclude special education from their RTI remarks. Part of the reason I think for one reason why that tends to be done is because I think a lot of folks are trying to focus all of the attention or give primary emphasis to RTI as a means of reforming general education. And I think that there is so often times an unspoken assumption that if there were too much focus on or any focus on special education, the important reform making that needs to be done in general education would somehow be diminished.

>>> I think also there are some who exclude special education from RTI for Marx because there is a different assumption. And that is that if General Education we're really successful in implementing RTI, there would be a dramatically diminished need for special education. In other words, I think that there are a number of important players in the RTI national discussion who believe that most if not all children with so-called high incidence of disability are not really disabled but rather are instructional casualty's parade and a general education can be dramatically [indiscernible] there will be this, you know, dramatic decrease or in the month increased in number of kids that end up in special education's. I have read that a number of people think that if we think of the - - If we think of the prevalence of special needs kids K through 12 in the United States at about -- roughly speaking -- 12% of the general population and of that 12 percent say nine or 10% are high incidence disabilities, that is did with warnings -- learning disabilities, [indiscernible]. A strong general education thanks to RTI could reduce that nine or 10 percent of high his disability instances by eight plus percent. And Lynn and I are strongly supportive of RTI, and we are supportive of RTI partly because we see it as potentially strengthening general education. At the same time, we feel like those estimates are highly inflated. We look at those estimates with a fair amount of skepticism, and I am sure that with some -- many of the school folks, practitioners, from nine people on this call, my hunch is that a majority but agree with that. So, that begs the question, if we are not essentially eliminating kids with high instance disabilities, it begs the question, what are we going to do with these kids? If we cannot accommodate them in general education is the Mike level of prevention, what happens after we exhaust general education levels of prevention? And self by that way of thinking, we believe that it is only rational and professionally -- professionally responsible to include special education in the RTI primer. Lynn talked earlier about the medical analogy to explain the primary, secondary and tertiary prevention and what we are trying to prevent in the medical analogy is heart attack and stroke. I think that there are some people who talk about RTI exclusively in terms of general education. I think a lot of these people what they think are we trying to -- we are trying to prevent by means of RTI is special ed placement. That is not accurate. We would suggest that is not the way to think about it. The prevention in response of this to intervention is to prevent dropout, unemployment, incarceration, and so forth and so on. I mean, big, huge, dramatic events in the lives of people who do not achieved some success in school. Is not to prevent special education. And so what we should be thinking about and what Lynn and I urge practitioners and administrators to think about is a conceptually strong and integrated general education and special education within the framework of RTI.

>>> And so in our -- In Lynn in my model primary and secondary prevention is [indiscernible] -- sorry, tertiary prevention is special education responsibility. General Ed in special ed must work this as true partners so children who are chronically unresponsive across the first two levels of prevention get something unique and meaningful and hopefully helpful in tertiary

prevention. What we are proposing for special education is different than how long -- or how special education is defined in many places across the United States today. What we are proposing is that General educators spend a large portion of their time as instructors. As instructors whose primary responsibility is to work with The School buildings most difficult to teach children.

>>> Now, there is good news and bad news with respect to this. The good news is that as Lynn was alluding to, we have the instructional -- we have the instructional technology for special educators to be truly expert and structures the math instructors at tertiary prevention. It exists and it has existed for ten years. The bad news is that over time for various reasons, which we cannot get into here, fewer and fewer special educators are trained to use this assessment and instructional technology. So, what we are proposing is in Part a rediscovery of the assessment and instructional technology that it should be implemented by special educators in a tertiary prevention.

>>> Okay. So RTI is special ed reform decree of special educators so it -- should set ambitious goals. They should be able to -- everyone should be able to understand the difference between a secondary and tertiary prevention. In other words, we should be able to articulate and persuasive argument for how or why special education is truly special within the RTI for more. It is reserved for students who fail to respond to standard forms of instruction and tool by virtue of that fact require more individualized instruction. And instruction at the level of special education might be implemented more frequently. It might be implemented with the instructional sessions -- they may have greater duration. The group's size may be much smaller and much more homogeneous. And data are collected on these children frequently traded we cannot -- weekly. When [indiscernible] first developed curriculum based measurement in the mid-1970s at the University of Minnesota, what many people know is that curriculum based measurement was first conceptualized as or it was developed for kids -- for teachers in resource rooms. And researchers -- resort, resource teachers were using CBM Weekly to keep close tabs on students' progress. And as a means of determining whether their instruction was objective or not effective, and if it wasn't affected, the new role to put the that they had to do something differently.

>>> And another important facet of special education within RTI is that there needs to be developed flexible and meaningful entry and exit criteria so there is much greater and much for -- much more frequent coming and going in special education. As we all know, in many places special education, unfortunately, is the eternal assignment for to many kids in their education careers predict so, there needs to be some really good innovative thought with respect to, how to become up with good entry and exit criteria for kids with special needs?

>>> I wanted to spend the next 15 minutes or so fairly quickly going through an example of how we, Lynn and I, are proposing to use progress monitoring at the tertiary prevention level. So, consider a fictitious the third grade student with a learning disability and of IEP [indiscernible]. CBM is to be collected weekly in the special and setting. The person needs to be done before the student -- for this student is a baseline needs to determine and an end goal needs to be set and the needs to be a connection between the baseline -- The average baseline performance, you know, where the kid is before any kind of intervention occurs, and where we need to have the kid at the end of the year. That line that connects the two is referred to as the goal line. That is the line -- that illustrates the rate of progress that the special ed teacher and

the student is trying to adhere to there, the almost 45-degree angle which represents coal line or in line.

>>> So, in our model, we think of special education involving 30 minute math tutoring sessions -- I'm sorry -- daily in may be small group of two kids or maybe one on one. And to begin the instruction in special ed or in tertiary prevention, we think it is prudent for the special ed teachers to use of validated instructional program to begin with. After eight weeks of instruction, five days a week, 30 minute sessions, student progress is evaluated against that students goal line. And the special educated determines whether the program needs to be revised, whether it needs to be modified to Excel write the students rate of improvement.

>>> And if so, the special educator knows enough about instruction so as to include some empirically validated evidence based modification. To make the instruction more powerful so here you see the goal line in blue. At least it appears blue on my screen. And then use the roughly -- Well, eight data points beyond the baseline, so the eight data points begin in October and go through mid [indiscernible]. Each of those data points represents a weekly assessment. Will we see is that if -- and you see that balkline that runs through those eight data points. That is align not -- Well, it is a wine that sits through those data. If you follow it all the way to the end, it is the tea. That is the trend. It if the students trend is relatively flat and there is a dramatic difference between the trend in the child's school, so things are not going well for the student and for the teacher.

>>> And so what happens is that is the key, that is the important tip for the teacher and for the student, the signal, that something needs to be changed. So, the teacher makes a change, continues to collect data coming evaluates the effectiveness of the change instructional program and continues to do that over time. And so that is what we mean by -- off when Lynn and I say that instruction at the tertiary prevention is recursive, a reoccurs, it is constantly being if I waited, re-evaluated, modified if necessary. If at the end of the year through various iterations and modifications the child manages to meet an ambitious goal, the instruction that the child there will have been formidably developed. That is developed over time. We didn't know at the start. We did not know a priority what was going to be affected. We found out what was affected for this particular child through some degree of trial and error. So, that is what we mean by four of construction, former active development of instruction. It is a uniquely different way of approaching instruction. Lynn and I would argue that this is in large part which should make special education and tertiary prevention different and special from secondary and primary. We are not suggesting that it is better than secondary and primary. Primary and secondary have their very important place in the framework. So does tertiary prevention. And this is the uniqueness that special educators should be able to bring to the table.

>>> So, here we have a whole year worth of data, and it kind of illustrates the point that I just made. We will move on. So, I remember I said before that there is this technology -- I used technology in quotes, meaning a well-developed, well articulated system. Empirically based system of assessment and instruction. Curriculum based measurements has decision -- decision what, Lynn box decision rules. Decision rules on how to use [indiscernible]. These decision rules are evidence based. They were developed over time. So if practical nurse are using CBM in the using the rules that have emerged from 30 years of research, the likelihood of using CBM effectively is greatly enhanced. And so there is a couple different ways of understanding data produced by curriculum based

measurement assessments. One is what we call the four-point method. So coming here you see -- you look at the last four data points usually in and eight Datapoint said coming in to look at those. If all four data points are above the goal line, you raise the goal because it is suggesting that the goal is not in keeping with, it is too low in comparison to the last four data points. Similarly, if the last four data points in a set of eight are below the goal line, the conclusion is not to lower the goal parade we never aware the goal. Instead, it is to make teaching change.

>>> A second way of using the CBM data -- of using it in terms of trying to determine whether something should be done, something should be modified, is to look not at the last four data points, but to look at the trend line, the wind that best fits through the child actual data, and here you see the last -- if we draw up trendline through data, we have a trendline that exceeds the Golan, raised the goal. Here we have a trend line that is lower than the goal line. We make a teaching change.

>>> Okay. So, all talk briefly about fictitious -- Roberto. Roberta L. developed and [indiscernible] deficit in first and second rate despite what most would consider a strong primary and secondary prevention efforts. In November of third grade, he entered tertiary prevention, which in our free-market is special education. His special interests T-shirt -- teacher misses hey said his IEP goal at competent 73 performance at the end of third grade. So, his deficit is so large coming into the fall of second grade so to suggest that he would be at grade level at the end of this grade is unrealistic. But Mrs. Hayes and perhaps others agree that the IEP goal should be doing well as a second grader at the end of third grade would-be -- but represent a slew of buying of his base mass knowledge so he could build on that and hopefully continue to improve on that in the next grade. Some people parenthetically I think incorrectly understand, you know, the edict of putting kids in the general Ed curriculum to mean that all kids with special needs must be taught at grade level, and, of course, that is ridiculous. Mrs. Hayes uses curriculum based measurement to monitor for Robert L.'s response to [indiscernible] as Lynn suggested earlier [indiscernible] and is the same equivalent of difficulty. Every CBM test that he was administered come each Leakey is administered a test. Each test is never the same as the previous test or subsequent test, but they are -- but each test assesses the same subject matter and is of the equivalent difficulty. So when you see progress or use a lot of progress or you see less -- you see a lowering rate of progress, you cannot blame them on test items that are harder come easier because we have already established that the items from across the weeks part of the equivalent difficulty, so the change has something to do with the child and something to do with the instruction. So here is an example of second-rate competition test. You can see -- Well, you cannot see. I am telling you that you have got 20 items, and these 20 items shall addition and subtraction and -- involving two digit and single-digit numbers. So, this type of test, we have multiple, multiple copies of this kind of test, but the numerals are always different. And here in applications, the same is true again. The actual numbers are different from test to test, but the type of test and the difficulty of the test remains the same.

>>> So, when Mrs. Hayes assumed responsibility for Robert L.'s math, she decided to use an evidence based protocol called pirate mast. This is an actual curriculum that we have developed and validated here at Vanderbilt for elementary aged kids, times kids, to mediate his competition and we're problem deficit. Robert Dole and Mrs. Hayes Net 30 minutes per session three times a week, one on one. After three weeks, Mrs. Hayes calculated baseline, a median of the first three computation test scores was five. The median of the first

concept and application scores he was three. And she decided that her end of year goal for the student would require a weekly increase of one-half digit per computation and six tenths points for concepts and applications for use of the end of your goal 25 weeks later with 18 digits correct for computation, 18 points correct on concept and applications. She grew these goals on to the graph and connected baseline with end of year goal come and she ended up with that.

>>> It weeks later, she drew lines the best fit for his actual CBM scores, compared then -- I'm sorry -- drew a line the best bit through his actual scores, and that was the trend line. He compared the line to the bowl. It showed that for use of pirate mouth with its focus on counting up [indiscernible] was producing strong growth. His actual rate of improvement was [indiscernible] of the goal line. On that case, she increased the [indiscernible] and continued with weekly progress monitoring. Wrong way. By contrast, the borough was proving unresponsive to the word problem instructions three he was doing well on competition but was not doing well on were problems. His actual rate of improvement was dramatically less than the goal line. And so Mrs. Hayes, his teacher, considered his performance during trading, reviewed his performance on non CBM storage problems, determined that he was having difficulty specifically when irrelevant information was included in the word problems, so should revise pirate math by adding instructional time on ear relevant information, so this was her modification of the standard treatment protocol and this revision that she makes is signified on his CBM concepts and applications Graf with a solid vertical line, which UC the month -- which you see I believe in December. Those vertical lines represent teaching changes. It is not uncommon to look at a graph across the entire year and see many teaching changes. In D.C. that after she made the modification of her initial instruction, she gets a trend line now that exceeds the goal line.

>>> As she implemented this revision, she continued to monitor his response using weekly the CBM concepts and application test sprayed his learning has shown in the new trend line improved and was no steeper than the goal line, so Mrs. Hayes increased his goal. So, teachers use CBM in this formative and productive and curse of way to design individualized programs for of stomach individual students and improve student outcomes. We know that this is true, not for every student. The kind of special ed instruction we are talking about here, database [indiscernible] is not went to work for every single child, but 30 years of research strongly indicates that if the assessment -- if the curriculum based measurement is done well and if the teacher understands instruction, is capable of making modifications, meaningful modifications, and is capable of understanding what the data are saying, 30 research -- 30 years of research tells us that many kids were not responsive in secondary prevention will be responsive in a tertiary prevention. When they show progress in tertiary prevention, they should be returned to primary or secondary prevention.

>>> Okay. Again, the goal that everyone should understand and buy into, all school based practitioners is to return students to primary or secondary prevention parade is not to keep them in special education but to return them as quickly as possible and responsibly. We have actually we -- we and many others have been working hard to come up with appropriate benchmarks to help school based folks understand when kids can exit special-education. For example, at kindergarten, this is the area of reading using letters sound fluency probes, a slope that is a rate of progress greater than one letter sound per week in combination with an end of year will of greater than 48 letter sounds per minute, those two things when taken together, indicate that it is a good bet to return the child to the primary or secondary the combination of bespoke greater than 1.8 words greater per week and an end of your performance level greater

than 50 words per minute suggest that the child is ready to return to the primary and secondary prevention and so forth. Please note these figures may change pending RTI research. Here, we have similar benchmarks or exit criteria suggested exit criteria for competition and concepts and applications. Here are online resources for you to pursue. The National [indiscernible] has indicated earlier is being subsumed under the larger and more recent National Center on response to intervention. The National Center on response intervention is -- the lead organization for this center is American institutes of research or AIR in Washington. You see the web site there. It is a good website. It is a very good website. It will continue to grow stronger with more and one pages, and we encourage you to visit it. In sum, CBM is a search validated form of monitoring. I would go so far as saying it is the most research the elevated form of progress monitoring. It is a signature feature of the objectives tertiary prevention four in the by junk -- individualism instruction for children who led an unresponsive to standardized treatment. It is essential for documents in response at all three levels of the RTI for more. And finally, RTI and CBM together provide I think a wonderful opportunity for special ed and General Ed to reach conceptualized special education along evidence based lines so that it does to become special. And I think that is it.

>> Thank you very much. I don't know if you help a minute -- We have a few minutes it if you want to look over a few more of the questions.

>> Sure.

>> We could take questions for another five minutes.

>> Sure, Lynn and I can do this together.

>> Word you want to start, Doug?

>> How about this one. Can you comment on it John McCain's joys of Sara Pailin?

>> No. How UC CBM implemented in special education? -- let me back up. Please describe what a standard treatment protocol is. Standard treatment protocol --

>> I think we answer that one.

>> Okay. Okay. Maybe so. What about a probe? You want to talk about that quickly?

>> I don't know where you are.

>> I am sorry.

>> Can you let people know what the word probe means?

>> It is just a word that is synonymous with test.

>> Okay.

>> Monitoring Systems because there are many tests implemented over the course of an academic year. People frequently use the word probe, but it is just a synonym for test.

>> How you determine what mastery is on CBM?

>> We just talked about that.

>> There are benchmarks both for level and slope. If you go to this in progress -- studentprogress.org Web site, you can go to navigate to Summer Institute and then select the RTI Institute, and there are benchmarks for screening decisions for deciding whether students are responding to short-term progress monitoring, to primary prevention, there are also benchmarks for deciding sponsors versus nine responders to spit secondary prevention, and then S Doug showing you for exiting tertiary prevention.

>> Can you provide a reference to the research indicating why we switched to [indiscernible] post third grade. It made fluency appropriate and middle school and high school.

>> The person who has done that work is Chris [indiscernible]. It is Espin. She has done some persuasive studies that show that means of fluency works a little bit better than passive reading fluency want to get beyond the third grade instructional level.

>> Okay. That also answered -- interest Tom's question, did you recommend clemency for intermediate grade level reading CBM. Do you see it preferable?

>> Yes. For students whose instructional level is that high, with the answer would be yes.

>> Or which conduct diagnostic assessment? Primary, secondary, or tertiary?

>> I think it depends on the resources that are available. I think that diagnostic assessment could really be implemented at all three levels. I think that in primary prevention there are fewer opportunities to individualize the way diagnostic assessment may be helpful, but if you have a nicely differentiated instructional program in primary prevention, then I think that diagnostic assessment can be helpful there. I think that secondary prevention where we are implementing a standard protocol that has been validated, the idea is that we are not changing around that validated protocol because once we start changing it around is no longer validated. So, I don't know that diagnostic assessment and secondary prevention is an important tool.

>> I would say more so at tertiary.

>> I agree.

>> On and asks, what are the little boxes on the bottom of the graph?

>> You want to talk about that?

>> You can.

>> On some of those grass at the bottom there are little boxes. Those are mastery profiles. Every test samples a variety of skills. We can on any given test get a profile of mastery or non mastery on the various skills that are embedded in the annual curriculum. So, the little boxes, darker boxes indicate higher levels, better bubbles of mastery than boxes that are less filled in.

>> All Les asks, goal setting is so important. [indiscernible] injured individual coming in slope of improvement. What are the pros and cons of each method?

>> Well, I think -- I Emily please hearing that you know that. I think that, you know, if you have a student who looks what they may be capable of keeping pace with typically developing rates of improvement or meeting any of your benchmarks, and those are preferable to an individual referenced goal setting process, but often times when we talk about tertiary prevention, we have students who are really struggling, and end of your benchmarks are pretty much out of the question in terms of the normal tests figures. And the next and we look at, which is a little less stringent is weekly rates of improvement, which takes into account their own initial starting point, so if they are starting very well, it may not be realistic for them to reach the end of your benchmark, but there might be able to keep pace with the typical rate of improvement. That would be the next most ambitious. And then the least ambitious would be the individual we roughens. What we do, as you know, is multiplied the present rate of improvement by a figure of 1.5 to set a standard of improvement that at least substantially beats the students present rate of growth.

>> [indiscernible] asks, when -- where can we get [indiscernible] probes to be used with ongoing progress monitoring?

>> You can get them from Vanderbilt by the milling [indiscernible] Marie. It is flora.murry@vanderbilt.edu. There is a fee for handling those.

>> Mary asks, will your power point be made available or is it already available?

>> Sarah, do you know?

>> Yes. I was went to say it is posted on our website. Studentprogress.org. I was also went to Latino -- I can say this now -- if you want to print a copy of the slides from the presentation, you can print at the small printer icon I believe on the bottom right-hand side of the spring. That will allow you to print the slides from PDF right now.

>> If you know a student that is not responding to an intervention by the way, is it better to make modifications right then and there or collect more data?

>> We would save all the decision rules that have been developed over time.

Sometimes an intervention in the first day or two instructional modification may

not seem to be working, but it may be because the child is still learning to understand the modification, so I would say rely on the decision rules.

>> I would agree with that.

>> Spot asks, you should make spelling probes that should comment -- probes that helps students spell. I should have read it before I said it. You should make spelling probes that help students spell [indiscernible].

>> Let's get a more meaningful thing here.

>> Do the weekly math test that cover the [indiscernible]?

>> They do. Both concepts and applications in the math computations, we feature in the presentation, they have time limits. They have time limits because skills that are on there are considered tool skills that students would want to be fluent in so that they can use them for math problem-solving.

>> Get the asks, one question that keeps rising is, who delivers the specialized instructions? For example, if the student with the reading disability is at the tertiary level of instruction kits provided by the reading specialists or the special education teacher? You know, there is not one to be any one answer to this. It is went to the context determined I think Lynn and I would like to see special educators assume greater responsibility for tertiary, but that doesn't mean that, you know, someplace that has really good reading specialists and they have already thought this through and the reading -- sold the reading specialists might do some of the tertiary Period special educators might to some of the tertiary Period here is an important part. We did not recover this in the formal presentation. I would encourage you folks to spend about this. Is special educators -- is special educators are going to be doing or we're part of the had a listing in tertiary prevention, it is one to becoming the Mike become their difficult for them to be meaningful participant in primary and secondary prevention. Lynn and I often hear people talk rather politely about how the special educators should be on the present. They should be working hard across all prevention levels, [indiscernible] teaching and providing individual instructions. It is not one to happen. I mean, speculate, we say that we feel like that is a vision that is not going to happen. Instead, school folks at the building level, as district level, have to bite the bullet and determine where each professional in the building district is going to be most of the time. And they will be held responsible for doing good work at these niches in the framework. It is just unrealistic, I think, to expect any professional to be doing, you know, so much as two inverted they render that person ineffective.

>> We think that it is unrealistic for general education teachers to be identified as the people who are doing the small group tutoring because they have their hands full doing a good job of implementing by Universal Corps curriculum, and it is unrealistic to think that they can at the same time be doing implementing and validating secondary prevention.

>> Okay. I think -- You know, I didn't go through this systematically because I was having some difficulty, but I think we responded to most.

>> Thank you very much for taking those questions. I am sure that was very appreciated by the audience. We would like to thank our presenters, Lynn and Doug for sharing your presentation. If you would like to print a copy of the power point sides from the presentation, do so by clicking on the small printer icon on the bottom right-hand side of your screen. We have also posted is already on our website www.studentprogress.org.

Theentirewebnormwillbearchivedonthe[indi scernible]website.

>>Wewouldappreciateyourfeedback.

>>[eventconcluded]

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