

Data Utilization within a CBM Screening and Progress Monitoring System Transcript
Dr. Erica Lembke
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Good afternoon. Welcome to our April webinar. We'll be getting started in a few minutes. We would like to review a few tech details. We trust that you have had success logging in. If you encounter difficulties we ask that you contact the live meeting technical support staff at 18664932825. That's 18664932825. We will post that number in the Q and A window. Feel free to use the Q and A window to type a question. The tab is located at the top of the screen. Once you open the tab place your cursor in the box, type the question and click ask. If you prefer that your question be answered privately please specify if the box. Because Dr. Erica Lembke may not have time to answer all of the questions we will work with her on a Q and A document. It will be posted on our site shortly after the webinar. We're pleased to have our event captioned in live time. You may have noticed that a special box popped up. That's where you can access the realtime captioning. You were prompted to enter your name and organization. We encourage you to resize the window to a more convenient size. If you do not want the captioning feel free to close the window. We will be recording this event so it's available online later. To produce the best quality we have muted all of the phone lines to minimize the noise. If you have a comment please use the question and answer tab at the top of the screen.

We would like to invite you to participate in our online chat in response to intervention this Thursday from 3:00 to 4:35 eastern. Dr. Erica Lembke has more on this later on in her presentation. At this point we're ready to begin and will begin the recording. You will first hear a pause, then I will introduce Dr. Erica Lembke.

Good afternoon, I'm happy to welcome you this afternoon. The center is a technical assistance center funded by the office of special education programs. We are pleased you could join us today. We're fortunate to have Dr. Erica Lembke with us today from the university of Missouri. She is also one of our center trainers. She has ten years of experience as a teacher and research in the field of special education. She has published articles and conducted workshops at the state and national levels. Now it's my pleasure to turn things over to Dr. Erica Lembke.

Thank you, very much. I want to make sure that you can hear me okay.

You sound good.

Great. Wanted to make sure. I'm so pleased to be here today. It is really the most important part of everything that you are doing. I often say this. It's fun today for me to be able to spend this amount of time talking about just data utilization, specifically. I'm pleased in looking through the list to see lots of familiar names. It's fun to be able to connect some of the names with places that I have been. Again, pleased to be here with you today.

Wanted to give you an overview, a sense of where we're headed. I will have certain points in the presentation where I will be taking questions. Those questions that are left unanswered we will create a transcript of the questions and answers and post them on the national center website. I wanted to alert you to the handouts and slides that are available for the presentation today. The

slides can be printed in PDF format, from the website, [student progress.org](http://studentprogress.org). I also have a small packet of handouts that accompany the slides today. You may print those out, now. They will be there if you would like to wait. And there's a document, a third PDF document, called graphing handbook. It's significant in size, close to 100 pages. It's not necessary to print that out today, unless you would like it for your information. It will be there for a reference. I will be referring to it a couple of times today. Three documents that are associated with this webinar today.

Just to give you a sense of where we're headed in the next little over an hour. We'll talk about basic steps in data base decision making. Perhaps an overview for many of you. To look at implementation of screening and progress monitoring. We'll go into specific data decision making rules. As you think about particular students, classes, school data that you can looking at, thinking about what types of rules you can use to inform your instruction to inform the decisions that you are made. Third, we will talk about particular problem solving steps. To look at data that we have an individual level up to a school wide level. We will talk about implementation. Many times the question is, that's fine, I have all of this data, what do I do now? I will try to give you some guiding thoughts, some places to go to look first with respect to intervention. Unfortunately, we won't have time for me to go into specific detail about reading and math interventions. I will give you some further places to go for more information. You see at the bottom of this slide that I have taken, particularly some of the data decision making slides from a presentation that I did was Lynn and Doug [Indiscernible] and some colleagues. You can find that full presentation at [student progress.org](http://studentprogress.org).

First of all, when thinking about the basic steps in data base decision making these are the keys that you need to attend to as you are moving through. In going through the key steps there's other webinars on these basic steps. Choosing measures, things like that. We'll be focusing today on number 8. The final and most important step in this decision-making process. Your first step, deciding on which measures to use dependent on the area. For the students that need follow-up, determining a progress monitoring level. We say that this progress monitoring level should be the student's instructional level. Of course, we always want to aim high. We recognize that a lot of the students may need to be monitored at a level outside of their grade level. It should be as close as possible, while challenging to their instructional level. We set goals for students and monitor the students, we would recommend and research would suggest that for the students that are most at risk, tier 3, on IEPs, we may need to monitor as much as twice a week. But at least once a week. For tier 2, monitoring every other week hopefully, once a month as a minimum. For the students that are at tier 1, screening the students three to four times a year. Graphing that data and continue monitoring. But number 8, making the instructional changing using decision making rules. That's the focus today, that final one.

When you think about all of those steps, the basics of how to get started with database decision making, think of where you fall with your respect to your knowledge and actions in your schools. If you are at an administration or specialist in your school think about the teams in our schools and where you fall at. You could even go through to make it an action item. You go through and check off the ones that you successful with now in our school, team, in your district and think about where you might need to focus next. Where does your energy need to be focused next? If we think of this as a continuum, hopefully this is being done sort of in tandem, which ones can you check off? And where are the areas you feel you need other work or knowledge at this time?

Our focus today, data utilization. The question we're trying to answer, how do I use the data to implement changes based on decision making rules? How do I help, use the data to help me design effective individualized instructional programs? We're going to talk about the difference between individualized instructional programs and standard treatment protocol. How do we use the rules to determine what needs to be done next for a student or a group or a grade level? That's going to be the focus today. We'll move down and talk about each of the groups things that we white need to consider. Drive we might -- we might need to consider.

Collecting data is great. But if you don't use it you have lost a big piece of what you are doing. I have talked to schools that are collecting lots of data, but if you have not using that data, not looking at it, not implementing decision making rules, not use it to inform instruction, you have lost the heart of what we are trying to do. In the past research on curriculum-based measurement those are tools to inform teacher instruction. That's the long and short of it. You hear lots of things about how certain programs are hurting our kids. You know. It's not the data that hurts our kids. It's the way that we use or don't use that data. Just collecting data is not enough. We have to think about it. Consider it. Use it to support what we're doing. Use it enhance or change what we're doing. We need to select a decision making rule and stick with that rule. Things get hectic in schools, I was an elementary special Ed teacher for several years. It's hard to follow through sometimes. Having some type of decision making rule and staying consistent is really important. I'm going to talk about just a couple of kinds of decision making rules in particular.

The rules that I'm going to talk about today are the trend line rule, the four-point rule, in particular. And looking at slope and rate. I will not talk as much about the third one, but I will give you resources on that. The trend line rule, you may be familiar with these rules. It may be a bit of review. These are just suggestions for rules. The important thing is that your team in your school, whether it's your problem solving team, your RTI team, it's important that your team decides on decision making rules and then sticks with them. The rules may vary by student, by group of students. It may be that you can't just set a blanket set of rules and then attend to those for every student. The trend line rule is the most accurate. But a little more difficult to obtain. We're going through it today. I'm going to give you some options for how to obtain trend lines, paper pencil for how to use set trend line, using Excel. I hope that by the end you will feel it's not as difficult as you once thought. The four--point rule is fairly easy to implement. It's easy for teachers to look at the data. Looking at slopes and rates is accurate. But not, the values are not always available. As districts get further into the process of using curriculum-based measurement data. As there are more web-based programs to look at slope and rate values some of that information will be becoming more readily available. But currently not quite as much as we would like to know, I guess, about that.

The first rule we'll talk about is the trend line rule. When we talk about establishing a trend line rule we're thinking about if four weeks of instruction have happened. We've collected eight data points we're going to look at the trend of current performance and look at the goal line. We're talking about line of best fit, a slope sideline. This is not our goal or aim line. So just to, excuse me, just to differentiate, when we talk about trend line we're talking about a line that would best fit the data. I apologize. When we compare that trend line to the goal line, if the trend line is steeper we want to raise the goal. That is the best case scenario. The student is doing better than

we thought he or she was. We're going to raise the goal. If the trend is less steep that's a time to take a teaching change. We'll look how to calculate by hand or computer.

We'll look at how to calculate a trend line by hand. If you have printed out the handouts from the presentation, from the website, the PDF handout document. First we'll look at page 2. The handouts, the pages in them, mirror the slides that I will show you now. The first step in calculating your slope, looking at putting in a line of best fit is to map a trend line. On page 2 you can see the data points there's some fluctuation. This is what we feel is the line of best fit. This is a line we map in that indicates where we feel like most of that data falls.

So these are the basic steps in calculating a trend line. Step one, you divide the data points into three equal sections. I'm going to go quickly here. Then we'll go through step-by-step. I will give you a couple of minutes to try this out. If it's something that you are not as familiar with. Step one, divide the data points into three equal sections. You can see we've done that here. In this case there were eight data points. We had to do 3, 2, 3. We had to group them approximately. Step two, in the first and third sections we find two median. The median data point and the median instructional week. We mark those with a X. You can see the two Xs here. And connect - - sorry, connect the two Xs to draw in your trend line. It's a straightforward way to calculate. This is the Tukey method.

So the first step again, dividing it into three equal sections. If we had nine points it would be 3, 3, 3. Remember we want to have at least four weeks of instruction. And at least eight data points. To establish a reliable trend line we need at least eight points. What do I do if there's only five? You need to wait until you have eight. For some of you, you will be collecting data twice a week. Eight points might come in four weeks. In this case up here on this slide, again, we're looking at, we're up to page 4, if you look at this slide for this particular student we were collecting data one point per week. It took eight weeks to get enough data to collect the slope, or the trend. The first step is to divide that data into three equal parts.

The next step, page 5 in the handouts. If there's a tricky part this is probably it. In the first section, so right here, and the third section you will find two medians. Mind the median data point. And the median instructional week. So let's look at that for just a minute. Go to the first section. First I want to find the median data point. I want to figure out which one would be the median value, if you will. Now this one, right here, in the middle, this is the median instructional week. I have weeks 1, 2, 3. 2 is the median. I need to find the median value. This one is higher than the other two. It's not the median value. These two, this one and this one, are almost the same. So I just go, if I say it's this median value and keep in mind you will have the specific values, I don't have the values listed, you will know the student's score. Remember the median is the middle point when you align the scores, lowest to highest, what is your median value? I go across at my median value, up from my median week. Then I will get rid of this for a minute. Then I put an X where the two meet. And put an X where the meet.

Let's look at the third section. I have weeks 6, 7, 8. The median week is 7. I go up from 7. Here are the three points, 1, 2, 3. I have to determine again which one is my median. It's probably about this one. I go over from this, up from my median week and I put an X where the two meet. And you can see that the X is there. Again, median, finding two medians, median week and

value in each of the sections. Once you have done that you connect the dots. You can extend it if you will. You can extend it on out. You can extend that on out to see what it will be like. This is the trend line, or the line of the best fit, improvement that you have established for a student.

On this slide and graph, this is page 6, there is not a goal line established. But let's consider if I had a goal line, let me put a goal line in red. Let's say is that the student started, the baseline data was prior to week 1. You can see the student was doing well. Things were above the goal line. But right now this trend line is much less steep than that goal line. At this point this student is not on track to meet a long range goal. If the goal line looks something more, sorry this is not very straight, we might feel better about it. It appears that trend so far is above the goal line. If we extend that trend line out we may find that over time the student is not going to meet the goal. We compare that trend line to that goal line to make decisions about the data.

I'm going to give all you a couple of minutes. Take a couple of minutes. First dividing, step one, divide into three equal sections. This is page 7 in the handouts. You can use the larger one to draw on. Go ahead and divide the data into three equal sections. If you have done that, similar to the other graphs we had, it should look something like this. And this. We've got 3, 2, 3. Now step two, in the first and third sections find your median week and what you think is the median data point. You can eye ball it, guess the values, and then establish a median. Put an X at the median week and the median value for the first and third sections. In the first section we go up from week 2. It looks like the median one is the one from week 2. I would put an X here. Then look at my third section. My median week is 7. This one we've made it easy for you. It appears that the value that falls on week 7 is the median value. We would put an X there. If we flip to the next slide, which is page 8 in your handouts, you will see that we've mapped what I have crudely drawn in the one before. We've mapped that trend line.

At this point I will take any questions that you have regarding establishing slope by hand. I have a few questions in already. One of the questions, on the first section, this perhaps was back when I was beginning going through the slides, I put an X on the median week not the median value. If I'm off a little bit it's probably due to my clumsy hand. Each time keep in mind that you will have the exact values, you want to first find the median week then the median value. It has to be the intersection of those two.

Um, there was a question about if you are using some type of program, commercially available, that already has values calculated and expected slopes you may be using those rates to determine whether students are track to meet their goal. That's true and fine. The only thing to be cautious about, if you don't have let's say weekly growth rates for progress monitoring, you need to be attending to graph data to make sure that the students are on track on a weekly basis. The commercially available programs have benchmarks set. In most cases some of the programs also have weekly growth rates to attend to. But this is, it's particularly important as we look at weekly progress monitoring data to look at trend lines to make sure they're on track. We don't want to wait and find out a student had a deficit area. You should use those, if you are using a particular program. You use their suggested rates, but keep in mind that in some cases those programs don't have weekly rates. Just need to really attend to that.

Other questions -- there was a question about early on, prior to establishing trend lines setting long range goals. Particularly for students below grade level. When we set progress monitoring goals for students below grade level, we want to first consider if they would be able to meet a grade level goal. If we feel that is unlikely, we need to set a goal, a progress monitoring goal that is at their instructional level. So this will probably include selecting progress monitoring assessments that are out of grade level, that are below their grade level. And instead at their instructional level. It may be that a fourth grade student we're monitoring at a second grade level, for instance. When it comes time to benchmark again, now we're back to grade level benchmarks. We want to make sure that at least three times a year we have a sense of how that student is performing compared to their peers. We're using that student's instructional level.

Let's see. Another question, what if you are tracking progress monitoring much you are only monitoring every two weeks. Can you use the calculation the same way? Remember we need eight data points. If you are only collecting progress monitoring data every two weeks it will take you 16 weeks to calculate that trend line. You may want to think about using another decision making rule. I will show you another one in a minute. Because you may not want to wait that long. Again, I would always encourage schools, I know it's difficult to think about this at the start, the more data you have the more often the better. If there's any way you can collect some weekly progress monitoring data, once you get into the routine it's, it's easier. It's easier to get into the routine than to think about how difficult it's going to be. I think that you have to consider though of course the resources and the man power that you have. I'm not, not owe bliiveious to the demands that teachers have. But you probably wouldn't want to wait, you know, I wouldn't want to wait that long, 16 weeks to calculate a trend line. You need a different type of decision making rule. Another question as well addresses that same issue. If we're only monitoring tier 2 students every month, won't it take too long? Yes. You need to think about other type of decision making rule for those students.

All right. We're going to move on. And we're going to talk just briefly about calculating an actual rate of slope. Once we have this graph, this is page 9, once we have established the trend line just the way that we were talking about using the three step method. Now we can calculate the line of slope. This goes back to a question from before. If we have the weekly rates that we know about, let's say that the commercial program we're using, how do we know if the students are achieving that weekly growth rate? This allows you to quantify that weekly rate of increase. The basic steps are: You take the first median point, the value where the X falls, subtract that from the third value, and divide by the number of data points minus 1. Why do we subtract one? Rather than looking at the number of weeks, if we look at this there are actually, this is the 8 order week, we're looking at the amount of instruction, or instructional weeks that the student has traversed. We start collecting data in week 1. So when we go back we have 1, 2, 3, 4, 5, 6, 7. We have 7 instructional weeks. That's why we subtract one. We want the period of instruction that they've encountered, if that makes sense. In this case if I looked at where the Xs fall, this is about 34, this X. This is about 50. So 50 minus 34 divided by the number of data points, which was 8, minus 1 is 7. Is 2.3. This is the weekly rate of increase. The student is growing at 2.3. In this case it's correctly read words per minute. This was a word identification fluency probe. If I knew that the goal for this student was a 2 word increase I would feel great. This student is right on track. If the rate of increase was 3 words per minute, then I might say 2.3, this student is falling a bit short. I may need to look again at my decision making rules and make a change.

Again, there's the formula for you. Take just a minute and this is also on page 10, take just a minute to go ahead and map in your trend line for this and take a shot at calculating that weekly rate of increase for this student. I will allow just a minute. First calculate the trend. So divide that data into three equal sections, find the median values and connect them and see if you can calculate the rate of increase. Okay. First we're dividing into three portions. 1, 2, 3. We have three in each section. The median week is 2. It will fall somewhere along this line. Looks like it's about the first or third week. They're about the same. It would fall somewhere in here. In the third section we go up. We have 7, 8, 9. It will fall somewhere along 8. They're all fairly close. It might be just below this. I connect the points with that line. Now I will get rid of this just for a minute. If I go to the next section my third median point, this one, which was about 40, minus my first median point, which was about 20, divided by 8. This time I have nine data points. Gives us a slope of about 2.5. So if you calculate it on your own, you should have gotten close to 2.5. Remember you will have the exact values to establish this.

That's how you would calculate the growth rate. In just a second I will talk to you about a way that you can use Excel to calculate a trend line and to figure out the rate of growth. I will ask a couple of questions that I have right now.

Let's see. One of the questions was, do commercial programs use a least squared method? I don't know for sure on particular programs. I think that most programs use some type of linear growth, so it may be sort of first point minus, or third point minus [Indiscernible] divided by the number of weeks. You see using this method we're taking into account at least $\frac{2}{3}$ of all of the data. We don't really attend to the data in the middle section. When possible we want to try to use as much of the data as we can. You know, it doesn't take into account as much of the data.

Another question was should classroom teachers be doing this? Or the interventioner or specialist? Ideally the person monitoring would be calculating this to improve their instruction. If the monitoring person is the classroom teacher, that's the person that needs to be calculating the trend line. It's most effective that way. It could be that someone needs to assist the teacher in learning these steps and supporting them. It could be a team member goes into support at the beginning and then pulls back. It really helps inform that teacher's only instruction if he or she is calculating and looking at and making decisions about that data.

Um, let's see. Let me answer a couple of other questions. Another question was how do you account for absences? What if the student misses one of the data points? Then you actually, you do need to wait until you have an additional data point collected. If a student's attendance is to variable that you have having trouble calculating trend lines, let's say you are waiting for 8. A student is missing a day a week. You might want to try to hit on a day when that student, midweek, when the students tend to attend more than a Monday or a Friday. Set up your schedule on a data you know the student is typically there. You may need to, again, sort of go back and revisit the decision making rule that you are using and reconsider whether you want to continue using that rule, if you have a student that is in a very erratic pattern of attendance.

Um, there's another question about the three data points rule. I will talk about the four point rule in just a second. And one more question, if you have missing weeks. How do you determine

equal sections of data? Do you use number of weeks or data point it is? You want to go back and use data points. We need eight data points to establish some type of reliable trend line. If you have missing weeks, which is missing data points then you have to think about how many data points do I have? And how can I divide them equally? I hope I answered that question.

I'm going to move on and talk about establishing a trend line using Excel. For those of you familiar with Excel and for those of you that like to keep everything nice in the computer, Excel provides a nice option for graphing data and calculating slope. If you look in your handout packet, page 12, I have step-by-step sort of check list for how to graph data using Excel. Even if it's something that you are unfamiliar with. I have made this check list, short from saying open Excel, I have made it pretty explicit. If you are unfamiliar, you might give it a try. See if it's something that might be more manageable for you than using paper and pencil. You can use page 12 to create a graph in Excel. You can right click or control click for you Mac users on the graph data and clicked a trend line. You can add an equation where M is the rate or slope. The weekly rate or slope that we calculated before. You might say, Erica, why do we go through all of the steps in calculating by hand if you can use a computer? There are a couple of glitches with using Excel and this trend line that sometimes makes it easier for people to just graph by hand. Let me show you.

This is some weekly data for Jim. In the first phase he really wasn't on track to meet his goal. His goal line is the dotted line. I made a change in instruction. You can see that with this vertical line right here. And I started some other type of instruction in phase two. Unfortunately, the way in a I just suggested calculating the trend line, if I right click on all of my data points it will only calculate a single trend line, you can see that right here in red. It will only calculate a single line across all data points. Which is not helpful to me when I'm trying to decide how he did in phase one. How he did in phase two. I really need to know a trend for these points. And then I need to know a trend for these data points. I want to be able to compare my trend to the goal line. Using this method it only gives you that single trend line. You can see it here. It only gives a single trend line across all instructional phases. Not that's not as helpful for me. I want to know, that's the goal of progress monitoring. I want to know within each phase how that student is doing. How is that instructional change working for the student? Now, up until a couple of weeks ago I still didn't know how, I asked a lot of people, I didn't know how to do within a phase. Recently I was working with a student here, he and his colleague created a graphing hand book. They sort of demystified this a bit. The key is to create a scatterplot in Excel. In the interest of time we will not go through the steps. If you refer to pages 76-81 in the graphing hand book that we posted online. Those pages detail how to create that scatterplot and how to calculate slope within phases. I will also say there's a ton of great information in that handbook for graphing in general. Graphing behavioral data. Graphing using simple line graphs. I would encourage you, if that is something that you are interested to. They have screen shots on each page to help guide you in that.

Trend compared to goal. Things are not going so well for this student. Now phase two. Data starts out looking okay. Right now as we stand the student is still not on track. I really need another instructional change right here. Just comparing within each of the phases can be helpful as a teacher examines that data. I would encourage you, if that's something that you are interested

in, I would encourage you to look at the graphing issues in that hand book, it's in a PDF at student.progress.org. Let me take time now. We've had questions posted.

Let me answer some of the questions that you have sent in. Let's see. One of the questions was, do you ever see data that are so variable that they render a trend line meaningless? Significant highs and lows. Some of this is going to be making educational decisions about whether you think that there is a variability in the way that the data is collected. In the treatment, validity. If you feel like something else is influencing that data, other than just, somehow the data collection is not as standardized as it should be. The student is having significant highs and lows with respect to perhaps motivational issues, then it calls the data into suspect. You need to make sure at all points that the data collection and instruction is as standardized as possible. If you feel there are things that are influencing the data, I will tell you, it's not just like oops it looks like something is interfering. It's something that you need to talk about as a team and call into question. In general we see variability in data. We see highs and lows. That's why mapping a trend line can even things out. You can use the moving median as another method. That's a way to even out data to take a better look at it.

Um, there was a question about slope value at different grade levels. And I will show you in just a minute some potential values for that. I hope that as some of these, as RTI becomes more, RTI information becomes more available, as these commercially available programs get more information about their probes. They have not only benchmarks but weekly data, that they will provide some slopes and rates. I encourage you, again, to get on to that interactive chat on May 1, this Thursday, to look more at how school districts might establish their own slopes and rates, their own cut scores for looking at and using data. Most districts currently, I think, most districts I have worked with, have enough data to think about using these progress monitoring data for instructional decision making. When we start about high staking decision making, we need to be very assured that those cut scores that we're using, the values are the best they can be. The best way to do that is some type of statistical analysis. It's not just eye balling, it's not just a discussion among the team. Really have some solid cut scores.

Um, let's see. There was a question about why is the data, when we calculate the slope, why it divided into thirds. There are different methods to calculate the trend line or line of best fit. This method is the Tukey method. That is the method that you use. If you have learned to calculate trend line using a method, I'm sure they work just as well.

Why do you use data points minus 1? You are looking at the number of works traversed. Week 1 you are collecting data that week, but it's the assumption that is the starting point. Week 1 to 2, first data point to the second point, that's when you start to assess the effects of instruction. We don't count up until that first data point, if you will. We only count the instructional weeks traversed, excuse me.

I'm going to move on and talk about another type of rule. This is the four point rule. This might be a rule that might be easier for some of you to use. Again, not quite as accurate. If three weeks have occurred and six data points you look at the four most recent points. If all four are below, make a change. If they're both above and below continue to collect data. So this is what it might look like. You see the goal line, dotted goal line. We need to look at. Have three weeks. Have six

data points. We're well past that. We look at the four most recent data points. Then we look to see if they're all above, below or both. It's clear to see in this case they're all above the goal line. So the instructional decision that I would make as indicated right here, would be raise the goal. This is great case scenario. The student is performing better than we thought he or she would.

On this you can see that the points are all below the goal line. The change that I need to make at this point is, make a teaching change. The student does not appear to be on track. I don't want to lower the goal. I want to be clear about that. We don't want to lower expectations. But I need to make some type of teaching change that will help this student to get back on track. Make progress to up here, somewhere either parallel with the goal line or above the goal line. In this case I make a teaching change.

This is an example of a table of suggested levels and rates. This is what someone was alluding to earlier. How do I find grade leveled slopes and rates? This is from the MBSP. These are materials created by researchers at Vanderbilt university. They have done research to look at their materials and slopes and rates that might confirm or disconfirm risk status at the end of to 6 to 10 weeks. If we look at grade 2. PRF is passage reading flew ancy. That's an indicator that student is at risk for later reading difficulty. These are what you would think of as your cut points, your cut rates. You know. The rates at which you feel like the student is not making progress. This might be an indication that a student already in tier 2, but is not making significant progress, not making this, is still less than 1, that student needs to move perhaps to tier 3 intervention. Or that student needs tier 2 intervention changed. As we move forward into more research on response to intervention. As we think about more about using the data we're getting to make more and more difficult decisions.

I don't know all of the researchers involved in this. They do a lot of work, they're trained as school psychologists. If you want more information about that, I would suggest joining them. I'm sure they'll have some places to go to get more information, research articles, et cetera. That will provide more information for districts about how to begin the process of setting some of these cut scores for level and rate.

So we're going to move on. To using the problem solving model to discuss this data. We'll move on to less mathematical things.

Let me go down and answers a many of the questions as I can. There are questions about goals and goal setting. At this time I'm not going to answer those. We'll put those in a document. I will make sure to answer those or Rebecca and the center staff will make sure to get those answers for you.

Um, and there were some questions again about changing the intervention and making changes in intervention before you have eight points of data. That's the most reliable way to establish a trend line. Eight points of data. If you feel like you would like to make changes before you have, let's say that's eight weeks, you feel that's too long you might consider another rule. From talking to teachers, you need to give the interventions time to work. It will vary by student. If you have a student that has significant challenging behavior that is disrupting the learning of classmates and

that student. You may try more interventions. If you have some type of reading intervention it may need six to eight weeks to play out. I wish I could tell there are rules that districts can follow. You have so many decisions to make about all of the, through this RTI process within database decision making, there's so many decisions that the team has to make. It will vary by district.

Okay. Um, another question, is there a certain criteria to decide if you would use the trend line or the four point rule. If you can use the trend line you should use that. It's much more accurate in depicting how that data is fitting. I would suggest that.

Let me answer a few more questions. There are a lot of questions about goals. I will try to answer those in the transcript. On the slide, this slide, let me get rid of the marks, why I don't use passage reading fluency. This would be akin to oral reading fluency. We know from the research that it is reliable to use up through grade six. In this program, this is MBSP, they have an option to use a maize [Indiscernible]. This data that they report is on the maize [Indiscernible] for 4, 5, and 6. They have materials available up through 6th grade. I'm guessing that data is still in the process. That they just haven't reported that here. We know from the research that we've done that maize can be used effectively clear down to grade 1. Sometimes questioning later whether oral reading fluency might work after grade 6. I'm guessing, in this particular table, the data is just reported stopping at 4. Not because it's not an option after that.

Um. I will just answer one more quick question. With respect to maize, what do you say about people that do not have confidence in the maize? We've done quite a bit of work using maize. I have been involved in research looking at maize in the junior highs. Up into the high school levels. You really have to fill in the gaps for people about CBM tools and their purposes. We're using these types of reading tools as indicators of performance. I think sometime districts fall into the misconception that maize is the comprehension measure. Remember that oral reading fluency and maize are indicators of overall reading proficiency. Because the task mimics fluency, or the task mimics a context type of task it might appear we're measuring those. We know from our research because we connect those maize and oral fluency tasks to lots of different standardized measures of reading. We know those are indicators of a lot more than just fluency or comprehension. With maize, because it can be group administered. Because it's a task that doesn't have to be administered independently. It has a lot of faith validity for teachers. The time it takes, it might get teachers who wouldn't normally progress monitor to do it. So we certainly want to encourage to behavior. I have seen teachers that use oral reading fluency and maize side by side. You have to look at data that supports it will. You always want to let that data guide your decision making. There's a quick comment about maize being less sensitive to growth. It's still sensitive to growth. There's a restricted range of scores. You will not see the same growth in the same amount of time. We're not going to see kids grow three words per week. So when you are looking at graphs, when interpreting graph data you have to take that into account.

We're going to move on and talk about the problem solving models. Now we have this data and some guiding questions to assist you as you go through and think about the data that you have. Examining and discussing that data. This is the general model. Define the problem. Develop

your assessment plan. Analyze the results and set goals. And think about the intervention plan that should go into place.

I have a lot of questions when I go out and talk to districts and schools about when the problem solving team. Keep in mind your team may be called your student assistance team, your care team, I'm not sure. Your team should convene at various points throughout the year. You may call this your RTI team. It's important to know that the team might vary in structure and membership depending on the purpose for the meeting. At the start of the school year to discuss screening data. Including making decisions about whether kids are on track to meet AYP at the school. That may one team. Including the principal, the vice principal, key teacher leaders in the building, social workers, that might be one team that convenes. To discuss class or grade level data. To convene and meet at various screening points. It could be that you are meeting to discuss individual student screening data. Or could be that you are discussing for an individual student progress monitoring data. And so these teams, I like to say teams plural. You would have have different membership for a different student than you might have when discussing school wide screening data. These teams meets a necessary throughout the year. Other times the team is meeting as the data indicate for a particular student that student might be as risk. That we may need to look at further intervention. Or look for a special education referral. This problem solving team is convening. This use this process to discuss the data at hand. An example, looking at screening data. All students in the school are screened. The principal has access to all of the school data. Each teacher gets a graph. The problem solving team convenes to discuss this data. Now I have in your handout packet on page 15, these questions that might guide your discussions about looking at screening data at a school wide level. As you are thinking about your assessment plan, defining the problem, are there particular grade levels that are not achieving at we would expect? What could be the cause? Is the curriculum at fault? More support needed for novice teacher as soon as teachers. Large numbers of students at risk in a particular grade? Classroom management support needed for a particular grade? Then you develop the intervention plan. Resources that need to be allocated? How will the plan be put into place? The decision making rule that you will put into place to assess the effects? Or will you wait? Will you look sooner to see if the resources are helping for that particular class, or grade level. These are ways to look at school wide data. Some questions that you can ask. Or you can ask about particular grade levels that are not achieving as well we would expect. Or are there particular grade levels that attaining superior performance. That's great news. We want to know what is going on in those classrooms. Are there teaching or management skills that could be modeled for others? We're using the guiding questions to look at that data in a way that we have perhaps not done it before. That's a way that the problem solving team can convene to look at data.

Here is another example. This is for looking at specific skills. This is on page 17 of your handouts that you can print out. I have some examples of schooled with data following each set of questions. If you wanted to put these, apply these questions to actual data you could look in the handout packet to follow each set of questions. This format you would use the same questions as on the previous slide. But relate it to particular skills with respect to nonsense word fluency. In the case of nonsense, are there particular skills that need additional instruction? We know those things lead to increases in nonsense word fluency. What decision making rule are you going to put into place? When I say looking at specific skills, I put this big however down at

the bottom, we want to be very cautious not to match instruction just to the task on the probe. It doesn't mean that the only thing I work on for ten minutes each morning is working on nonsense words. There are lots of skills that help to enhance. We want to work on those things. Like decoding, like alphabetic principal. It could be they need decoding. We want to be very careful to not only match particular, I'm sort of in a -- to a task on the probe. The probes, those tasks are meant to be indicators of other types of skills in reading or in math. And so as we look at that skill data we want to keep that in mind.

The next set of suggestions for questions. Looking at individual class data. This is on pages 19-20 in your handout packet. Thinking about particular students that are not achieving as well. Do we need to follow up with an additional screening task? What could be the cause? Are there language issues? Management issues? And then what kind of resources can we put in place to help with that intervention plan?

Looking at individual progress monitoring data. I'm going through these quickly, sorry. The questions are generally, the model is generally pretty similar. The questions just vary according to the type of situation. On page 21 and 22 you have questions to guide your team through looking at individual progress monitoring data. Page 22 you can see we've got weekly data for Jim. Thinking about what does the data indicate? Is the student on track? Is the instruction working? Development of the intervention plan. Just questions to help guide as you move through problem solving, using the problem solving questions to examine particular data. Some questions, or a structure, if you will, to help guide what you are doing as you move flew data looking at data.

Let me stop there. Just answer a couple of questions. I only have about ten minutes left with you. I want to make sure and get through the content. Let's see. Again, I have some questions that are from content earlier. I will make sure to address them in the transcript for you.

Let's see. Here's a question. Do you have suggestions for a problem solving team. We will meet to discuss a student that not met this level of need. We have an agenda. How could we better do this? I think it's really about helping teachers that come to the team understand the type of data needs to be brought forward. So being very specific about the problem statement that the teacher brings forward. This is the presenting problem. And encouraging the teachers to present that statement in measurable and observable terms. No longer can you come to the problem solving team and say I think the kid is not doing that well in reading. You need some measurable criteria. That will be give you some of the data right off of the bat. If there's additional data that you need to support your decisions, having the team go back and perhaps work with a particular teacher to help design some diagnostic assessments to learn more about the student's presenting problem. I think having them bring data to the table up front is critical.

We're going to talk briefly, I have a few minutes left. We'll talk about implementation of evidence-based practice. Just what I just mentioned, having a clear problem statement. So everyone is on the same page. Again, it could be that it's a fluency problem. The child needs help with decoding. Getting at the heart of what that child needs. And looking at evidence-based practices first. These are the things we're looking for. The sample that was used in the study is similar to the sample that you are using. If I want an intervention, a good intervention with

students with autism look to the literature. Not necessarily about students with disabilities literature. We want these interventions to be published in peer review journals. So we can see that experts have analyzed this information. It's hard to find, you know, research-based articles if you are out in an elementary school you may not have access to college or university libraries. I will give you some sources in a minute where you can find these. As you are considering what intervention to implement. You need to decide if you want a standard treatment protocol. It's some type of intervention that has been used on a lot of students. The implementation instructions are included. The only problem, it may not work for all students all of the time. We may find that we apply a standard treatment protocol. We find there are individual students that it doesn't work for. We may need to think about individualized intervention. Again, we know it's affective. It works well for particular students. But it may be more difficult to match in particular to student need. And it may not have the same protocol. Sometimes it can be, maybe implemented with less treatment integrity. Repeated reading is a good way to positively influence student's fluency. But if I don't have a standardized way that I implement I may do it different each day, or differently than the teacher next door. We have to be cautious about that Fidelity of implementation. You need to be thinking about how that is monitored in your schools. Making sure that it is monitored. How can we monitor to make sure that the intervention, that the curriculum is being implemented the way we would hope? I know sometimes teachers feel like that might lead to them, their teaching effectiveness being questioned. Keep in mind we're all trying to work together to help the students. It could be that a teacher doesn't realize that was to be a part of the intervention. It's just supporting each other. It has to do with the particular intervention or protocol, how we know it's researched and implementing it that way.

These are some examples of places where you can find research-based interventions. Google scholar is a great place to find articles on the topic that you are considering, intervention that you are considering. Best evidence.org is another site. The Florida center on reading research. These are just a sample for you. On pages 26, 27, 28 of your packet, I have given you lots of other resources for evidence-based strategies in general. But also in reading and math in particular. I encourage you to look through and see if there's some that might meet your needs.

Then, documenting those changes as you graph data. On page 25 in your handout packet. I have given you an example of a chart. We would actually copy this right on the back of the student graph. So that when parents come to look at data we have the graph, we say and then I made a change, we flip it over, here is what I did. Here is the documentation. You may have different ways you may be documenting this through. Note taking on a computer or something like that. You want to make sure as you are making those instructional changes, that you are documenting that you really got that, and it's all written out. You are using those notes and that data to help inform what you are doing. You want to document that. I'm a former special education teacher. We've been under the gun to help document everything. Now we're moving into a time when everyone needs to document the changes. I think it provides, actually, a lot of, it gives a lot of, I think teachers feel powerful when they have that data to support what they're doing. Look how much the students in this classroom are improving on a weekly basis. It's powerful.

Our time is up. Unfortunately. I will answer just a couple of questions. There was a question about who you would suggest being responsible for the intervention Fidelity checks. The principal or vice principal or assistant principal. It's no secret what the person is looking for. You

know, teachers know exactly what is on the check list. It's not a subjective thing at all. Here are the things that are supposed to be in the curriculum. Here's the things I'm looking for. It could be someone, I would encourage grade level team teachers to observe each other. Teachers to videotape themselves. I think any of those ways might be good.

These are the things we talked about today. Got through a lot, actually, in the time that I was with you. I appreciate all of the questions. I will remind you that I'll be following up on questions that I didn't get to answer on the phone. We really appreciate your attendance and great questions today. And there is a survey at the end. I don't know if Rebecca, if you have some housekeeping things. I really appreciate your attendance and questions today. And good luck to you, thank you.

Thank you so much Dr. Erica Lembke. We hope that you, the audience, have enjoyed today's event. We hope you will join us on Thursday from 3:00 to 4:30. You can presubmit questions starting now for that event. If you have questions you can go ahead and submit them. We'll be sure to get them to the presenters.

You can click on the small printer icon on the bottom right, this will allow you to print to the PDF, the slides from today. We will post the Q and A document with your questions, those will be up on our website later, as soon as we get that document put together. We would appreciate your feedback about today's session. Please take a few minutes to complete the evaluation. We value your feedback. Once again, thank you for participating today.