



Reading Case Study #1

Grade One: Decoding

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Grade One: Decoding

Purpose of Case Study

The purpose of this case study is to highlight the integral role that progress monitoring (PM) plays throughout any Response to Intervention (RTI) process. This example uses a three-level responsiveness-to-intervention (RTI) method for identifying students with learning difficulties. Using a fictional first-grade classroom as the setting for this example, you are provided with a framework of the RTI identification process, along with frequent opportunities to test your comprehension of the information presented. First, an overview of RTI and PM is provided, followed by an introduction to a fictional school district implementing RTI. Then, a fictional school and fictional teacher are described. Finally, the use of PM in RTI is described using data from the fictional teacher's classroom.

Overview of RTI

Public school systems in the United States rely largely on two methods for identification of students with learning disabilities (LD). The first method is the traditional IQ/achievement discrepancy, in which students must demonstrate, through formal psychometric evaluation and professional observation, a significant disparity between cognitive ability and actual academic performance level. The second method allows diagnosticians and educators to use "responsiveness-to-intervention," or RTI, as an alternate method of LD identification.

RTI Model

Increasingly, states and school districts are considering RTI as an identification method for LD. The RTI method looks at student unresponsiveness to otherwise effective instruction. With RTI, special education is considered only if a student's performance reveals a dual discrepancy in terms of level and rate: The student a) performs below the *level* demonstrated by classroom peers, and b) demonstrates a learning *rate* substantially below that of classmates.

RTI takes into account that educational outcomes differ across a population of learners and that low-performing students may ultimately perform less well than their peers. All students do not achieve to the same degree of academic competence. However, simply having a low academic performance level or rate does not necessarily indicate that a student should receive special education services. Only when a student demonstrates a dually discrepant academic profile (i.e., level *and* rate deficits) should special education be considered.

For example, if a low-performing student is learning at a rate similar to the growth rate of other students in the same classroom environment, then he or she is demonstrating the capacity to profit from the educational environment. Additional intervention is unwarranted. On the other hand, if a low-performing student is not manifesting growth in a situation where others are thriving, then consideration of special intervention is warranted. Alternative instructional methods must be tested to address the apparent mismatch between the student's learning requirements and those represented in the conventional instructional program.

RTI identifies low-performing students with LD when their response to educational intervention is dramatically inferior to that of peers. The premise is that students who respond poorly to otherwise effective instruction may have a disability that limits their response to conventional instruction and, thus, require specialized treatment to affect schooling outcomes associated with success in life.

Advantages of RTI

One advantage of RTI is that students are identified as LD only if they fail to respond to instruction deemed effective for the vast majority of students. In effect, RTI eliminates poor instructional quality as an explanation for a student's poor academic performance.

Another advantage of RTI is that students are provided with early intervention. Unlike the more traditional IQ/achievement discrepancy model, an RTI model does not wait years for students to fail before identification and intervention. RTI provides struggling students with prompt opportunities, early in their academic career, to receive quality educational interventions. This timely intervention may help to close the achievement gap between them and their more competent peers at an expedited rate.

Finally, RTI is advantageous because assessment data linked to classroom and curricular objectives are collected frequently and consistently. These data serve to inform the teacher of students' performance and to decide which level of instruction is appropriate for each student. Further, frequent data collection helps the teacher improve instruction, as it provides feedback with which the teacher may self-evaluate the success of his or her lessons and instructional components.

Response to Intervention in Metropolitan Independent School District

In this case study, we will learn about a fictional classroom, school, and district. The classroom belongs to Ms. Apple, the school is Wilson Boulevard Elementary, and the school district is Metropolitan Independent School District. We will examine how the RTI process works in this district, school, and classroom context.

In this case study, we will examine RTI at several levels. We will begin by examining the school district and learn why they chose to implement RTI. We will then discuss how RTI works in this district. Next, we will learn what the school is required to do for RTI to work and how the school does this. Finally, we will learn about Ms. Apple's classroom and her work to implement RTI. We will follow Ms. Apple's students through the RTI process

Metropolitan Independent School District (MISD) is a fictional urban school district in a southwestern state. MISD serves approximately 50,000 students in Grades K through 12.

The Decision to Begin RTI

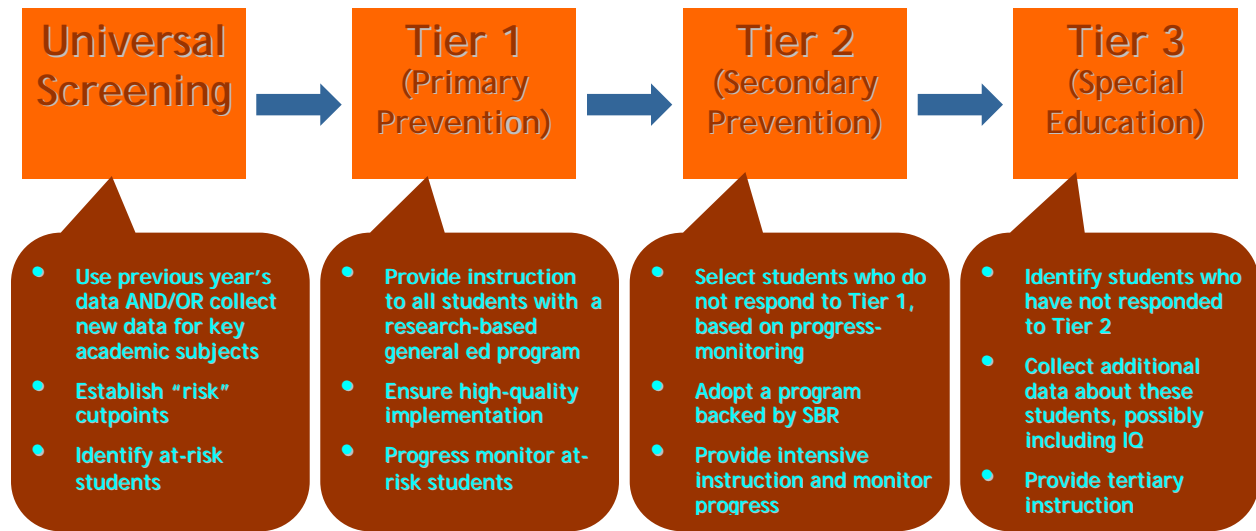
The decision to implement RTI started at the district level two years ago. The Special Education Department at MISD noticed that a disproportionate fraction of its low income and

English Language Learning (ELL) students were being referred for special education services at the end of Grade 1 and beginning of Grade 2. After consulting with principals and teachers at many of their schools, they found that the primary cause of referral was reading difficulty. Upon examination of the assessment results for referred students, the Special Education Department personnel found that referred students had significantly below grade level reading fluency scores.

The Special Education Department determined that many of these students might have been able to succeed in general education if they had received stronger early decoding instruction. The district decided, therefore, to introduce RTI to assure that students receive appropriate instruction in general education and reduce referrals to special education, particularly for the disproportionately represented groups.

RTI Design in MISD

MISD decided to use the well-researched three-tier model of RTI, shown in the figure below. MISD also decided that their RTI model would use a standard protocol approach to intervention, meaning that each tier of the model is associated with a particular instructional intervention strategy, such as small group tutoring¹. In the three-tier model, the bottom tier is called “primary prevention.” This is instruction all students receive regardless of their placement. The next tier, called “secondary prevention” is for students who do not do well in primary prevention, indicating a need for further support. Finally, for those few students who do not respond to secondary prevention, there is tertiary intervention, highly specialized instruction which is conducted in special education in MISD’s model. Here is how MISD designed their standard protocol RTI model.



¹ This is in contrast to an alternative approach called problem solving, in which instructional intervention strategies tend to be more individualized to the needs of each student

Overview of the Three-Tier RTI Model

Universal screening. The first step in RTI implementation is to determine which students might need secondary prevention. In MISD, all students are tested using curriculum-based measurement (CBM), a short, simple test of key grade level skills. The type of CBM used varies by grade level. In Grade 1 classrooms, word identification fluency (that is, reading word lists quickly) is a frequently used CBM because word identification is a critical Grade 1 skill. Other grades use other measures. Second and Third graders, for example, are tested on oral reading fluency, in which they read continuous text for one minute and scored on words read correctly (WRC). Students whose scores fall below specific cutoff points are considered “at risk,” and their progress is monitored using CBM measure for the next 6 to 8 weeks.

Primary prevention. All students participate in the primary prevention program, a research-based general education curriculum. Students identified to be at risk based on initial screening scores participate in the primary prevention program along with students whose screening scores did not indicate risk, but the progress of at-risk students is monitored weekly during the first few weeks of the school year.

Secondary prevention. After 6-8 weeks in the primary prevention program, the progress of at-risk students is examined. If students have not made adequate progress, their instruction is supplemented with secondary prevention instruction. This instruction takes place outside of core instructional time (e.g., not during math or reading primary prevention) and it is the responsibility of general educators.

Secondary prevention occurs for 8 weeks. The progress of students in secondary prevention is tracked using weekly CBM measures. At the end of the 8 week cycle, the CBM data are examined. Students who make adequate progress return to primary prevention. Those who do not may participate in a second round of secondary prevention or they may be referred for placement in tertiary intervention (in this model, special education).

Tertiary intervention. At this point, students may undergo more formal psychometric evaluation to determine the scope and extent of their deficits. Once the deficits are understood, students receive more intensive one-on-one instruction. If a student continues to make inadequate progress, the student receives a more comprehensive and formal evaluation to pinpoint specific strengths and weaknesses, student IEP goals are established, individualized student programs are developed, and student progress is monitored to determine effectiveness of instructional programs and/or decide when a student may move back into secondary or primary prevention.

Details of the MISD RTI Model

Primary prevention. A critical aspect of primary prevention is that instruction is evidence-based. Selecting a primary prevention program was one of the most important decisions MISD had to make. The district knew that they needed a program that had a strong track record of success and that covered all critical literacy skills. They began by identifying the key literacy skills they wanted to make sure the program included. They consulted the National

Reading Panel report and determined that phonological awareness, phonics, fluency, comprehension, and vocabulary were key reading skills. They also knew that they wanted a program that covered writing strategies, handwriting, spelling, and grammar.

As they examined programs, they consulted several sources of information about the effectiveness of language arts programs. They used reports from the U.S. Department of Education's What Works Clearinghouse (<http://whatworks.ed.gov>), the Florida Center for Reading Research (<http://www.fcrr.org/FCRRReports/>), Johns Hopkins University's Best Evidence Encyclopedia (<http://www.bestevidence.org/>), and the Oregon Reading First Center (http://reading.uoregon.edu/curricula/or_rfc_review_2.php) to see if the programs had evidence of success.

The primary language arts program chosen was called *Reading Adventures*.² They chose *Reading Adventures* because the independent websites they consulted stated that it had a prior track record of success. *Reading Adventures* also covered all of the literacy skills the district decided were important. Finally, the program included special resources for assisting ELL students, a large subpopulation in the district.

The district used *Reading Adventures* for a year before they began implementing RTI.

Inadequate progress in primary prevention. Even when teachers do the most effective job possible teaching reading, some students will still not respond to instruction. For this reason, it is important to figure out which students are struggling. To do this, schools begin the year by doing a universal screening of all students using a short assessment of grade-appropriate reading skills, or CBM. The schools then identify students who are at risk for reading difficulty based on their scores, relative to grade level expectations, or benchmarks.

The schools then do PM for the students who are identified to be at risk due to lower-than-benchmark CBM screening scores. For the first 6 to 8 weeks of school, at-risk students are given a weekly PM assessment. If students do not make adequate progress, they begin secondary prevention.

Throughout the rest of this case study, there will be questions for you to think about. They will be inside boxes with dashed outlines. Answers to the questions are located in Appendix B. Here is the first one.

Question 1. Why doesn't MISD start secondary intervention immediately after the universal screening?

Think of your answer to this question before you read on.

² *Reading Adventures* is not a real language arts program, but many programs like this can be found on the What Works Clearinghouse website. It lists beginning reading programs and states how successful they are at improving phonological awareness, phonics, fluency, comprehension, and overall reading, based on experimental research. The Florida Center for Reading Research and Oregon Reading First websites also have extensive information about many language arts programs, but they do not describe the history of research for the programs.

Secondary prevention. The secondary prevention program is part of general education (as opposed to special education). MISD has hired reading specialists for each of their elementary schools. These reading specialists will provide secondary prevention instruction to students. Instruction is provided in groups of 5 students four times a week for 30 to 45 minutes. MISD has mandated that secondary instruction occur outside of “core instructional time” (meaning reading and math), so students work with the reading specialist only at times they are not getting primary prevention reading or math instruction. Throughout secondary prevention, the reading specialists continue to conduct PM assessment with these students. They now do PM more often, usually twice a week.

The choice of an evidence-based secondary prevention program was critical to the success of RTI in MISD. For primary prevention, *Reading Adventures* worked well in the first year of implementation, teachers reported that they noticed a positive difference in student performance, and state test scores rose for Grades 2 and 3. The Special Education Department did notice a slight drop in referrals, but *Reading Adventures* did not solve all of the district’s problems with reading. Many students were still being referred for reading difficulty, and these students continued to be disproportionately ELLs and from low-income households.

When the Special Education Department took a closer look at *Reading Adventures*’ first grade curriculum, they found that the program taught beginning phonics very well but very quickly. The majority of phonics instruction was over by the middle of the year, with some review thereafter. They concluded that although the *Reading Adventures* curriculum worked at an appropriate pace for many first graders, some were being left behind. They needed to do something that would provide these students with more intense phonics instruction early in the year.

The district then examined secondary prevention curricula for Grade 1. They agreed with the Special Education Department that the Grade 1 secondary prevention program had to target phonics because they knew that phonics was a critical reading skill in Grade 1. They also agreed to use the reading CBM word identification fluency (WIF) to monitor progress in first grade. They selected this CBM measure because research indicates that WIF is very strongly related to word identification ability and Grade 1 comprehension ability. It doesn’t measure each of these perfectly, but it is quick and simple, and it gives a good, immediate sense of students’ reading success.

They also selected a program called *Fantastic Phonics*. The selection team’s research found that this program was often cited as an effective program for reading improvement in at-risk students. The program was designed with very detailed instructions for the teachers. The district was concerned the reading specialists would not like the level of detail, but they wanted to make sure the program was something that other people could also implement (paraprofessionals, substitute teachers, etc.). They also knew that RTI requires consistent implementation across teachers, and they felt that a program with very detailed instructions would help accomplish this best.

In the MISD model, students' PM data are examined again after 8 weeks of secondary prevention. Students who showed strong growth in secondary prevention exit secondary prevention and return to receiving primary prevention only. For students who showed weak growth in secondary prevention, there are two options: MISD permitted some students to get a second 8-week cycle of secondary instruction if they showed some—but inadequate—growth in the first round. Those students who made little or no growth in the secondary prevention would qualify for tertiary instruction through special education.

In addition, after the 8 weeks of secondary prevention have elapsed, universal screening is conducted again for all students.

Question 2. Why is the universal screening being conducted again?

Think of your answer to this question before you read on.

Now, students who demonstrate inadequate progress from the beginning of the year to the middle of the year qualify for secondary prevention. Reading specialists begin this instruction with them.

Students who did not respond to secondary prevention instruction are referred to special education. If these students qualify for special education services, they receive tertiary intervention from the special education teacher. Tertiary intervention instruction should be matched very closely to the specific needs of individual students and is conducted one-on-one or in very small groups.

An Introduction to Wilson Boulevard Elementary School

Descriptive Information

Wilson Boulevard Elementary is located in a low income area of Metropolitan Independent School District (MISD), a large urban school district in a southwestern state. Wilson Boulevard has a student population of 950 students in grades K through 5. At Wilson Boulevard, students are 30% African American, 5% Asian American, 50% Hispanic, and 15% White. Of these students, 30% are English Language Learners (ELLs). About 90% of students receive free or reduced price lunch. The population of students at Wilson Boulevard is representative of the larger MISD population.

Previous Experience with RTI

Wilson Boulevard Elementary is in its second year of RTI implementation. The first year was a trial year for all the schools in the district, and Wilson Boulevard had a lot of questions:

- How should students be assessed?
- When should they be assessed?
- Which students should we assess?
- What do we do with the results?
- How do we supplement the primary prevention program?

After a year of implementation, Wilson Boulevard teachers are feeling much more comfortable with RTI and know the answers to most of the above questions. In the following pages, we will see how Ms. Apple answers these questions.

An Introduction to Ms. Apple's Class

About Ms. Apple and Her Students

Ms. Apple has been teaching Grade 1 in Metropolitan Independent School District for 7 years, 4 of them at Wilson Boulevard Elementary. Like all of the other teachers at Wilson Boulevard, Ms. Apple began using RTI last year. Initially, Ms. Apple found the process somewhat confusing, but after working through the challenges with the other Grade 1 teachers at Wilson Boulevard, she feels comfortable with the process. She is anxious to get started this year.

Ms. Apple has 21 students this year, and they reflect the ethnic diversity of the school. All of her students qualify for free and reduced price lunch and about 25% of her students are ELLs. Ms. Apple believes that implementing RTI will help her students get the support they need to read at grade-level, especially her ELL and low income students who often need just a little push to catch up to benchmarks so that they do not continue to fall behind.

Reading Adventures in Ms. Apple's Classroom

Ms. Apple makes extensive use of the Tier 1 *Reading Adventures* program. MISD mandates that all Grade 1 teachers use the program for 90 minutes each day and follow a pacing guide. The pacing guide gives teachers benchmark dates by which they must complete certain lessons. Ms. Apple thinks the pacing guide has benefits and drawbacks. One benefit of the pacing guide is that it keeps her moving and ensures that students are getting a rigorous curriculum. On the other hand, she feels that the pacing guide limits her ability to reteach particularly challenging lessons.

Although she feels a little torn about the pacing guide, she has followed it and used the program for 90 minutes or more each day. *Reading Adventures* is tied to state standards, and Ms. Apple is pleased with the progress many of her students have made over the last two years. The program includes phonological awareness, phonics, reading comprehension, vocabulary, and writing lessons. The program did not come with many tools for monitoring students' progress, however. So Ms. Apple was very pleased when she learned that MISD was introducing curriculum-based measurement (CBM) for all Grade 1 students.

The progress monitoring tool used in Grade 1, word identification fluency (WIF), suits the classroom circumstances very well. The WIF measure is great for her students because, at the beginning of the year, it is clear which students have "cracked the code" and which students are still building phonemic awareness skills. Using progress monitoring in the first few weeks of the year, Ms. Apple can clearly see which students are responding to the first grade curriculum. When students do not appear to be responding to the first grade curriculum, Ms. Apple can use the WIF probes to analyze particular phonic elements with which individual students are struggling so that she can offer some targeted instruction to those students.

Now that we know a little bit about Wilson Boulevard Elementary and Ms. Apple, let's take a look at how Ms. Apple implements RTI in her second year. We'll get to see the process across the entire year.

Getting Started with RTI ... Ms. Apple Begins the Year

Beginning of the Year CBM Screening

MISD requires that all Grade 1 students be screened three times a year using the reading CBM word identification fluency (WIF). Students' results on the WIF measure will be used to determine if Ms. Apple's students are on track to meet grade level benchmarks for reading fluency. Each student will read two separate WIF lists.

Question 3. Why does Ms. Apple administer two WIF lists?

Think of your answer to this question before you read on.

It will be up to Ms. Apple to get all of her students tested at the beginning of the year. The district will allow the newly-hired Reading Specialists to help, but they have to help the whole school. So, Ms. Apple will be doing most of the work on her own.

Question 4. When should Ms. Apple start testing her students?

Think of your answer to this question before you read on.

Follow-up Question. When would you test your students? (Your answer will depend on your grade and the circumstances at your school.)

To conduct the individual testing, Ms. Apple shows each student a sheet containing 50 words from the 500 most frequent words in English. Students have one minute to read as many words as possible. Here is an example of one list:

List 13

and	always	gave
as	going	car
at	until	probably
one	saw	fire
said	end	taken
into	room	problems
could	far	tree
than	form	common
new	become	hot
back	government	using
such	himself	doing
things	sun	main
same	known	thus
find	war	ask
went	learn	comes
between	I'm	street
want	eat	

Ms. Apple wants to be fair to all of her students, so she makes sure she administers the WIF assessment the same way for each student. She does this by reading a script. It looks like this:

Examiner: When I say, 'go,' I want you to read these words as quickly and correctly as you can. Start here (point to the first word) and go down the page (run your finger down the first column). If you don't know a word, skip it and try the next word. Keep reading until I say, 'stop.' Do you have any questions? Trigger the stopwatch for 1 minute.

Ms. Apple has a record sheet for each student. It looks like this:

List 13		
Student's Name: _____	Examiner's Initials: _____	
Student's Teacher: _____	Date: _____	
Score 1 for <i>correct</i> response, 0 for <i>incorrect</i> response.		
and _____	always _____	gave _____
as _____	going _____	car _____
at _____	until _____	probably _____
one _____	saw _____	fire _____
said _____	end _____	taken _____
into _____	room _____	problems _____
could _____	far _____	tree _____
than _____	form _____	common _____
new _____	become _____	hot _____
back _____	government _____	using _____
such _____	himself _____	doing _____
things _____	sun _____	main _____
same _____	known _____	thus _____
find _____	war _____	ask _____
went _____	learn _____	comes _____
between _____	I'm _____	street _____
want _____	eat _____	
		Total score = _____

Notice that there are lines next to each word. Ms. Apple marks a 1 if a student reads a word correctly and a 0 if he does not.

Ms. Apple administers *two* CBM lists to her students. There are two ways she could do this, and both have advantages and disadvantages:

1. Have her students read both lists on the same day.
 - a. Advantage: It takes less time. Ms. Apple also gets a sense of how her students are doing at one point in time.
 - b. Disadvantage: If students are having a bad day, this will decrease their performance on both passages.
2. Have her students read one list the first week of testing and the other the next week.
 - a. Advantage: If students had a bad day and did poorly the first time because of this, the second time should help even this out.
 - b. Disadvantage: It takes more time.

Ms. Apple decides to administer both lists on the same day because she doesn't have a lot of additional help.

Question 5. Ms. Apple has to administer this assessment individually to all her students. How can she do this without sacrificing instructional time?

Question 6. The word list shown above is titled “List 13.” There are twenty lists in total. Why do you think there are so many?

Think of your answers to these questions before you go on.

Scoring Beginning of the Year CBM

After she has completed all of her testing, Ms. Apple scores all of the assessments. She counts every correctly-read word and writes the score in the bottom right-hand corner of the page. This is the student’s score for that list.

List 13		
Student's Name: <u>Hunter K.</u>	Examiner's Initials: <u>J.A.</u>	
Student's Teacher: <u>Ms. Apple</u>	Date: <u>Jan. 15</u>	
Score 1 for <i>correct</i> response, 0 for <i>incorrect</i> response.		
and <u>1</u>	always <u>1</u>	gave <u>1</u>
as <u>1</u>	going <u>0</u>	car <u>1</u>
at <u>1</u>	until <u>1</u>	probably _____
one <u>1</u>	saw <u>1</u>	fire _____
said <u>0</u>	end <u>1</u>	taken _____
into <u>1</u>	room <u>1</u>	problems _____
could <u>1</u>	far <u>1</u>	tree _____
than <u>1</u>	form <u>0</u>	common _____
new <u>1</u>	become <u>0</u>	hot _____
back <u>1</u>	government <u>0</u>	using _____
such <u>1</u>	himself <u>1</u>	doing _____
things <u>1</u>	sun <u>1</u>	main _____
same <u>1</u>	known <u>0</u>	thus _____
find <u>0</u>	war <u>1</u>	ask _____
went <u>1</u>	learn <u>1</u>	comes _____
between <u>1</u>	I'm <u>1</u>	street _____
want <u>1</u>	eat <u>1</u>	
		Total score = <u>29</u>

Once she has scored all the tests, Ms. Apple records them on a record sheet, as you see below.

Student	Screening 1 List 1	Screening 1 List 2	Screening 1 Average	Screening 2 List 1	Screening 2 List 2	Screening 2 Average	Screening 3 List 1	Screening 3 List 2	Screening 3 Average
Alexandra	5	6	6						
Brandon	17	17	17						
Candace	22	24	23						
Daniel	18	17	18						
Eduardo	17	21	19						
Faith	14	17	16						
Guadalupe	22	24	23						
Hunter	20	20	20						
Isaiah	21	21	21						
Jacqueline	23	25	24						
Karina	16	15	16						
Luis	15	15	15						
Micaylah	22	24	23						
Nicholas	20	23	22						
Patricia	21	21	21						
Quinton	11	14	13						
Roberto	18	19	19						
Samuel	14	13	14						
Talisa	14	12	13						
Ulises	10	9	10						
Vanessa	8	9	9						

Notice that there are a lot of blank columns on the sheet. These columns are for Ms. Apple to use later in the year.

Analyzing the Data

Now that Ms. Apple has her data, she can analyze the data to see who may need more assistance than *Reading Adventures* can provide. Metropolitan ISD has given Ms. Apple a cut-off score to determine if students are “at-risk,” based on the recommendations of the National Center on Progress Monitoring³. The “at-risk” cut-off score is 15 correct words read on the WIF test. (See the Appendix for tables containing benchmark scores)

Question 7. Based on the scores above, which students in Ms. Apple’s class are considered at-risk?

Question 8. What do you think should be done next to for the at-risk students?

Think of your answers to these questions before you go on.

Primary Prevention in Ms. Apple’s Classroom

³ Please visit the Center’s website at www.studentprogress.org, click on Resources, and click on Reading to find training materials and more information.

Ms. Apple now knows which students are at-risk. For the next 6 to 8 weeks, she will provide primary prevention instruction to her whole class and track the progress of her at-risk students.

As we described above, Ms. Apple follows a district-provided pacing plan. She covers lessons in *Reading Adventures* according to the sequence and pace determined by the district. This year, it is going better than last year. Most of her students do very well with the lessons, even some of her at-risk students. She credits this to the practice she got using *Reading Adventures* last year. Now that she knows the sequence and the key skills well, she is finding it easier to teach the lessons.

Ms. Apple and her colleagues have also started checking their program fidelity. Fidelity checks were required by MISD as part of the RTI implementation because the Special Education Department explained it was important to be sure that all students got similar instruction: “RTI doesn’t work if we aren’t sure everyone is getting good instruction,” they said. All of the Grade 1 teachers at Wilson Boulevard knew the importance of strong implementation of *Reading Adventures*, but they were initially skeptical about the value of fidelity checks and felt uncomfortable giving critical feedback to each other. They did the checks anyhow, and they found that it was helpful to observe each other because they learned new tips and tricks when they did this. They realized the value in watching each other, and they found the constructive feedback helpful for improving their implementation.

To do the checks, they used a checklist of behaviors they should be doing during each phonics lesson (although *Reading Adventures* has multiple components, fidelity checklists are only available for phonics). They met during their planning periods on the days they observed and discussed their implementation. This led to improvement in everyone’s implementation. Ms. Apple has felt more confident in her instruction due to this.

In addition to providing instruction whole group, Ms. Apple does some instruction in small homogenous reading groups. *Reading Adventures* includes resources for these groups, including a set of lessons designed to reteach tricky phonics skills, lessons that practice basic phonological awareness skills, lessons to support English Language Learners with comprehension, and lessons that cover advanced concepts. Ms. Apple meets with her small groups at least 3 times a week for about 10 minutes per group. These groups give her the opportunity to provide more carefully targeted instruction. The groups are not part of secondary prevention, however, because they are for all students, and they are part of her reading program.

Progress Monitoring

Once a week, Ms. Apple administers CBM passages to her 6 at-risk students, Alexandra, Quinton, Samuel, Talisa, Ulises, and Vanessa. These weekly administrations are called “probes.” She only administers one passage each time. The data Ms. Apple collects will allow her to see whether her students are progressing enough. After 7 weeks of progress monitoring, Ms. Apple can evaluate the effectiveness of her primary prevention instruction. Here are the data:

Student	Screening	PM Week 2	PM Week 3	PM Week 4	PM Week 5	PM Week 6	PM Week 7	PM Week 8
Alexandra	6	7	8	6	7	9	11	12
Quinton	13	12	11	12	10	12	11	10
Samuel	14	15	17	19	18	14	19	23
Talisa	13	14	14	15	16	15	14	14
Ulises	10	9	9	10	10	10	11	13
Vanessa	9	8	9	6	7	7	9	12

Remember that we are determining whether students respond based on their *trend*, that is, how much they are improving, not where they started. To determine the trend, we calculate a slope, the weekly increase in the number of words read correctly.

Ms. Apple follows this procedure:

1. She separates the probes into three roughly equal groups. It is important to have three data points in the first and last groups. The groups are shown in the table below.
2. She takes the median from the third group and subtracts the median for the first group.
3. She divides by the number of probes minus 1 to get the slope.

So, in the case of Vanessa, the probes separate this way: (9, 8, 9) (6, 7) (7, 9, 12). The median of the third group is 9 and the median of the first group is 9. The number of probes minus 1 is 7 (we count the screening as a probe). So: $(9-9)/7 = 0$. This means that the number of words Vanessa could read in a week did not change. The slope of improvement is 0.

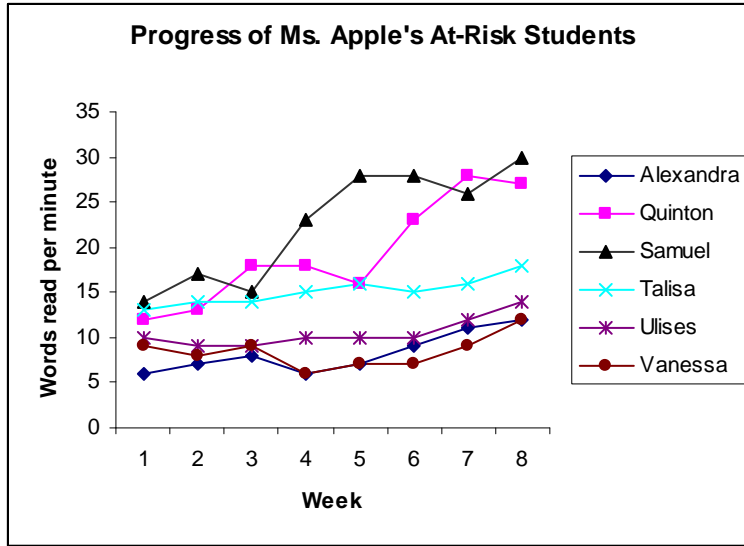
The following table shows the slopes for the at-risk students.

Student	Screening	PM Week 2	PM Week 3	PM Week 4	PM Week 5	PM Week 6	PM Week 7	PM Week 8	Slope	
Alexandra	6	7	8	6	7	9	11	12	0.57	
Quinton	12	13	18	18	16	23	28	27	2.00	
Samuel	14	17	15	23	28	28	26	30	1.86	
Talisa	13	14	14	15	16	15	16	18	0.29	
Ulises	10	9	9	10	10	10	12	14		
Vanessa	9	8	9	6	7	7	9	12	0.00	
	Group 1			Group 2			Group 3			

Question 9. What is Ulises's slope?

Think of your answer to this question before you go on.

Now Ms. Apple has enough information to determine which students are responding to intervention. The figure below should give you a rough sense of which students are responding.



The graph is good, but the slopes allow us to compare student progress to benchmarks. For Grade 1, the expectation is that students in primary prevention will read 1.8 more words each week on WIF lists. (See Appendix) This means that students whose slopes fall below 1.8 have not made adequate progress.

Question 10. Which students have demonstrated adequate progress? What do you think happens with them now?

Question 11. Which students have not? What should be done for them?

Think of your answers to these question before you go on.

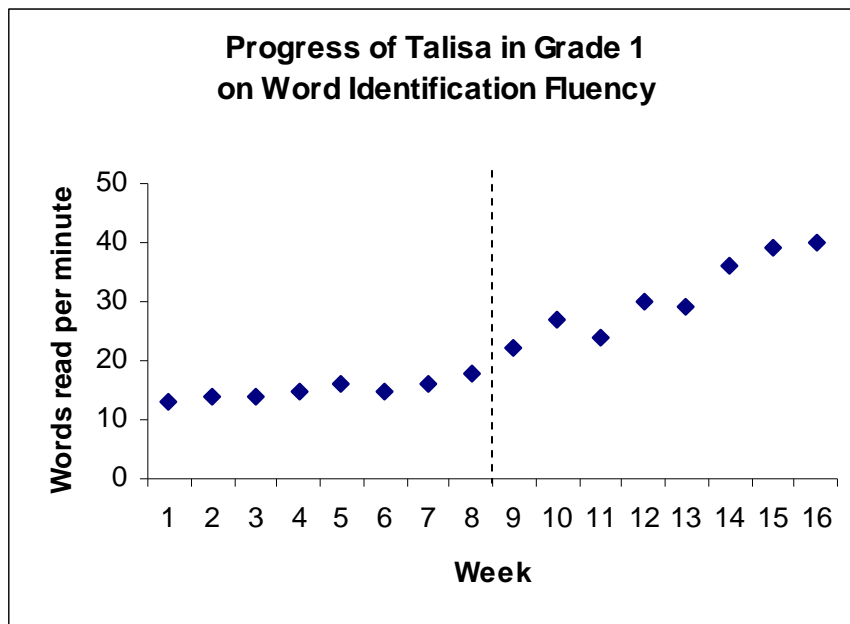
Secondary Prevention

Now that Ms. Apple knows which students are not responding to primary prevention, secondary prevention can begin. For Grade 1, *Fantastic Phonics* is the secondary prevention program. This is appropriate in Grade 1 because phonics is the most critical reading skill at this level. It will be delivered by Ms. Verde, the reading specialist. It is important to note that students will *still receive primary prevention* instruction. *Fantastic Phonics* is purely supplemental. Students will benefit from the double-dose of phonics instruction, plus missing primary prevention would mean that students received no comprehension or vocabulary instruction (because *Fantastic Phonics* is a phonics-only program).

Fantastic Phonics has several entry points, depending on the level of the students, so Ms. Verde will do a little additional assessment to find out whether Ms. Apple's at-risk students need to start at the beginning of the program or whether they can start on Lesson 25. In *Fantastic Phonics*, Lessons 1 through 24 focus on phonological awareness (the ability to attend to and manipulate the sounds in words) and letter recognition. Lessons 25 and beyond do a little phonological awareness, but they focus primarily on phonics skills.

Ms. Verde has two groups of Grade 1 readers from the different Grade 1 classrooms at the school. She has one group that starts on Lesson 1 and another that starts on Lesson 25. On her assessment, Ms. Verde finds that Alexandra and Vanessa need to start at Lesson 1 while Ulises and Talisa are able to start on Lesson 25. Ms. Verde will work with each group of students for 30 to 45 minutes 3 or 4 times per week. Instruction lasts for 8 weeks

Once a week, Ms. Verde measures the progress of all her students using a WIF probe. Many schools in MISD do more probes each week, but Ms. Verde has many students to assist, so she only does one time per week. Although not ideal, she still gets enough good data for this to be valuable. Here are Talisa's data:



The dotted line shows where secondary prevention started.

Question 12. Do you think Talisa responded to secondary prevention?

Question 13. What other data should we use to determine whether Talisa responded?

Think of your answers to these questions before you go on.

Now, here are the data for Talisa and the other students in Ms. Apple’s class who received secondary prevention:

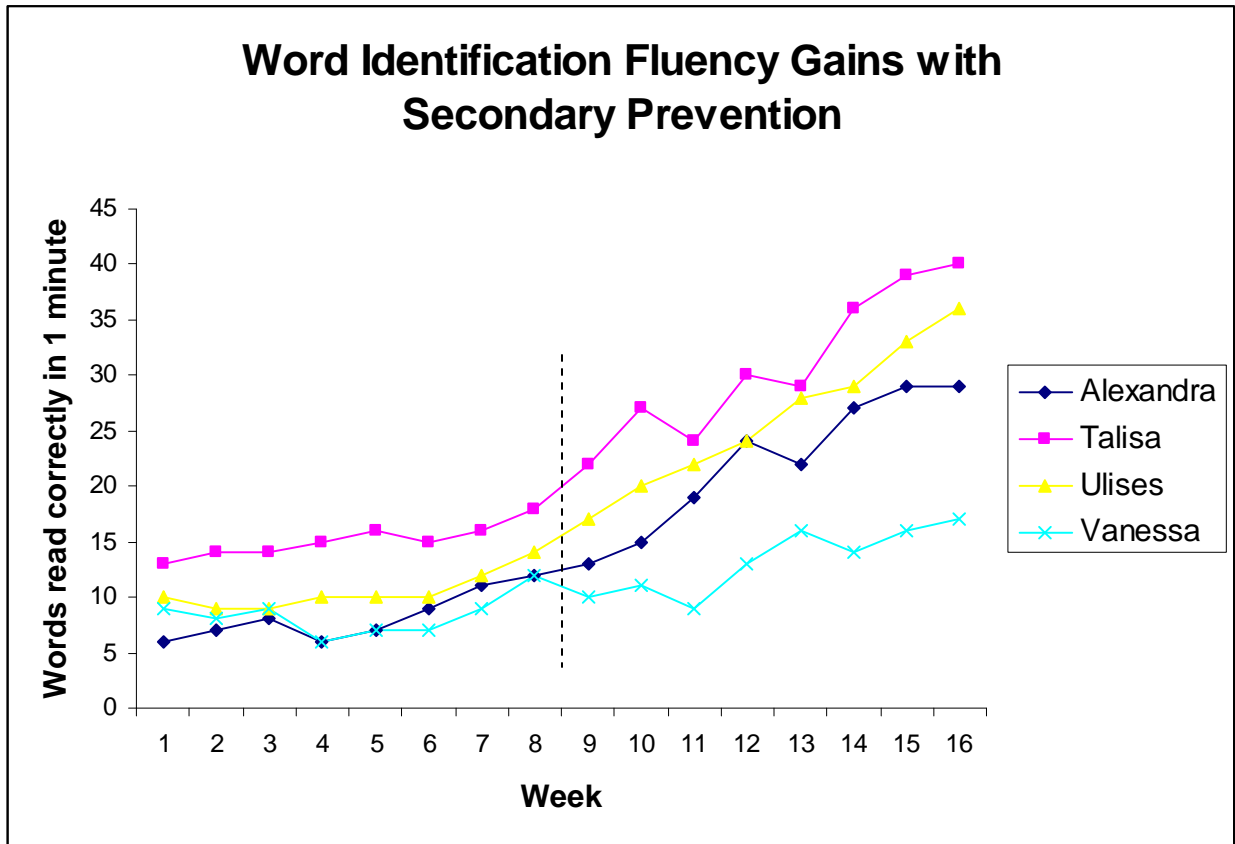
Student	PM Week 9	PM Week 10	PM Week 11	PM Week 12	PM Week 13	PM Week 14	PM Week 15	PM Week 16
Alexandra	13	15	19	24	22	27	29	29
Talisa	22	27	24	30	29	36	39	40
Ulises	17	20	22	24	28	29	33	36
Vanessa	10	11	9	13	16	14	16	17
	Group 1			Group 2		Group 3		

Question 14. What was Talisa’s slope?

Question 15. Which students demonstrated adequate response to secondary prevention?

Think of your answers to these questions before you go on.

The following figure shows the differences in slope before and after intervention (marked by the dotted line).



We can tell that Vanessa’s progress is still very slow. She will need tertiary intervention in order to make adequate gains. We will discuss that below, but before that, the mid-year screening is important to describe.

Mid-Year Screening

Now that Ms. Apple’s students are more than half-way through Grade 1, it is important to do a second screening.

Question 16. Why is a second screening important?

Think of your answer to this question before you go on.

The screening procedure is identical to the screening procedure at the beginning of the year. Students read two passages (Readers: Why is this?), and Ms. Apple averages the scores to get a screening score.

Now, Ms. Apple needs to know the at-risk cut-off score for her students at this point in the year. There are two ways to calculate this. The principal at Wilson Boulevard, Ms. Harding, and the reading specialist, Ms. Verde, helped the first grade team choose between them:

1. They could work forward from the point she tested her students originally, as follows:
 - a. The original risk cut-off was 15 correct words in one minute.
 - b. Students should increase 1.8 correct words per week. It has been 16 weeks since Ms. Apple tested her students. So, $1.8 \times 16 = 28.8$, rounded to 29.
 - c. Add the original cut-off to the growth: $29 + 15 = 44$. Students who are not reading 44 words per minute on the screening should be considered at-risk.
2. They could work backward from the benchmark.
 - a. It is the last week in January, and the final benchmark test will be in late May. By that time, students must reach 60 correct words in one minute.
 - b. The first grade teachers have about 15 weeks until benchmark testing. So, $1.8 \times 15 = 27$.
 - c. Subtract this from the benchmark: $60 - 27 = 33$. Students who are not reading 33 words per minute on the screening should be considered at-risk.

The difference here is pretty large! This isn't a problem, and both approaches are ok. The method Wilson Boulevard chooses will depend on its capacity to serve students:

1. Working forward is very conservative:
 - a. Any student with *the slightest possibility* of not reading at the benchmark will get secondary prevention.
 - b. It also means that some students who don't really need this intervention will get it.
 - c. This works well when the population of students needing secondary prevention is small. This is likely to be a viable option after several years of RTI implementation
2. The second approach establishes the bare minimum acceptable level of performance
 - a. This approach identifies the *students with the greatest need* for secondary prevention.
 - b. This approach will deny support to some students who may need it to reach benchmark.
 - c. This may be acceptable when the population of students needing support is too large to offer it to all. Then, the most at-risk students will get support. But, it doesn't leave any room for error with the students just above the cut-off: They may not meet the benchmark if their growth slows at all.

Wilson Boulevard had to make a tough choice. If they chose the higher benchmark, the number of students they needed to serve was too large. But, they also thought the lower benchmark was too low. So, Ms. Harding suggested they split the difference ($33+44= 77$. $77 / 2 = 38.5$. rounded to 38). Ms. Verde has the resources to serve about 40 students. With the benchmark at 38 (that is, 38 is the minimum acceptable score), there were about 45 students who would need secondary prevention. So, this was a good option.

Below are Ms. Apple's students' scores for the midyear screening (scores for the at-risk students on Screening 1 are highlighted):

Student	Screening 1 List 1	Screening 1 List 2	Screening 1 Average	Screening 2 List 1	Screening 2 List 2	Screening 2 Average	Screening 3 List 1	Screening 3 List 2	Screening 3 Average
Alexandra	5	6	6	31	28	30			
Brandon	17	17	17	32	38	35			
Candace	22	24	23	51	54	53			
Daniel	18	17	18	40	36	38			
Eduardo	17	21	19	39	41	40			
Faith	14	17	16	53	57	55			
Guadalupe	22	24	23	60	64	62			
Hunter	20	20	20	50	52	51			
Isaiah	21	21	21	33	33	33			
Jacqueline	23	25	24	53	46	50			
Karina	16	15	16	40	38	39			
Luis	15	15	15	37	36	37			
Micaylah	22	24	23	37	38	38			
Nicholas	20	23	22	39	38	39			
Patricia	21	21	21	30	29	30			
Quinton	11	14	13	28	28	28			
Roberto	18	19	19	39	42	41			
Samuel	14	13	14	38	45	42			
Talisa	14	12	13	45	41	43			
Ulises	10	9	10	36	37	37			
Vanessa	8	9	9	18	15	17			

Question 17. Which students should now be considered at-risk?

Think of your answer to this question before you go on.

These data are very interesting because there are lots of differences from the beginning of the year. Let's examine each student:

- Alexandra: She was considered at-risk at the first screening, she did not make adequate progress in primary prevention, and she participated in secondary prevention. But, she still hasn't reached the cut-off of 38.
- Brandon: He was just above the cut-off at the first screening, and now he's just below it. He seems like a good candidate for secondary prevention.
- Isaiah: He did not seem to be at-risk at all in the first round. But, his progress has been very slow. His slope for the first 16 weeks was just 0.75. He definitely needs secondary prevention.
- Luis: His situation is similar to Brandon's.
- Patricia: Her situation is similar to Isaiah's.
- Quinton: This is an unfortunate case. We considered him at-risk at the first screening, but he then appeared to make adequate progress for the next eight weeks. It is not clear why, but he has made almost *no* progress for the subsequent eight weeks. He definitely needs secondary prevention, but this is a student to whom Ms. Apple should pay careful attention. The complete lack of progress is a major concern.
- Ulises: Like Alexandra, he was at-risk, did not make adequate progress in primary prevention, and received secondary prevention. He hasn't reached the cut-off either, but he's closer than Alexandra.

- Vanessa: The second screening continues to demonstrate a lack of progress. Providing her with tertiary instruction is definitely a good idea.

We can see that Alexandra and Ulises benefited from secondary prevention, but they're not over the hump yet. We have a secondary prevention success story in Talisa, however. She is now well-above Wilson Boulevard's benchmark! We also did the right thing by keeping Samuel out of secondary prevention. He did just fine in the primary program.

So, what should happen with the at-risk students?

- Serious need for secondary prevention: Isaiah, Patricia, Quinton
- Will probably benefit from secondary intervention: Brandon, Luis
- Need tertiary instruction: Vanessa

Question 18. Should Alexandra and Ulises receive more secondary prevention?

Think of your answer to this question before you go on.

Ms. Apple is a little disappointed with the number of students who did not meet the benchmark. She is especially concerned about Isaiah, Patricia, and Quinton, who missed by quite a lot. Her concern is appropriate, but it would be wrong to say her students did poorly. Many of them reached the benchmark, and some have even reached the end-of-year benchmark!

More importantly, students' responsiveness is very complex, so it would be impossible to place students perfectly the first time. RTI is designed with multiple screenings and regular progress monitoring precisely because student responsiveness can change dramatically in four months. So, Ms. Apple's pattern of responsiveness is not uncommon. And, with additional secondary prevention, it is likely all of her students will reach benchmark!

Secondary Prevention, Round 2

Ms. Verde works with multiple groups of Grade 1 students, as she did in last 8 weeks. They enter at different levels. Ms. Harding and Ms. Verde noticed that all of the Grade 1 classes had students like Alexandra and Ulises—responsive students who didn't reach benchmark, so they created one class of responsive students who are getting a second round of secondary prevention. These students are not starting at Lesson 1 or Lesson 25, the entry points in *Fantastic Phonics*. Rather, they are starting basically where they left off in Round 1 of secondary prevention, with a little review. Ms. Verde thinks that this group of students will make swift progress with this design.

As before, Ms. Verde tracks the progress of all her secondary prevention students on a weekly basis. Instruction once again lasts eight weeks.

Tertiary Prevention

Vanessa did not respond to primary or secondary prevention, so she will receive tertiary prevention.

In MISD, tertiary prevention begins with a comprehensive evaluation of student needs. This evaluation includes examination of a student's academic work, some cognitive assessment, and standardized academic assessments. The cognitive assessment is designed to rule out mental retardation as the cause of academic difficulty. Mental retardation (MR) is its own disability classification, but it is different from learning disability (LD), the disability we are examining here. LD is an isolated cognitive deficit in students with otherwise normal-range cognitive function. In an RTI framework, the student's failure to respond to intervention indicates the presence of a cognitive deficit. Cognitive assessment assures this cognitive deficit is isolated. The academic assessments measure different areas of reading ability, including phonological awareness, word reading, word decoding, listening comprehension, and reading comprehension.

If the comprehensive assessment shows the same difficulty observed in primary and secondary prevention, it is determined that the student has a learning disability. A team including school personnel and parents works to create an Individual Education Plan (IEP). The IEP team considers the student's academic results to determine exactly what type of instruction the student needs.

Once the IEP has been written, the student begins to receive special education services. In tertiary intervention, progress monitoring continues. In some cases, the progress monitoring instrument will not be the same as that used in secondary prevention. For example, a 4th grade struggling reader may need to work on phonics, so a Grade 2 oral reading fluency CBM is better than the Maze CBM, the recommended Grade 4 assessment.

Tertiary Intervention for Vanessa

Assessment

Now that Vanessa has not responded to primary and secondary prevention, the school psychologist, Ms. Drew, administers tests of cognitive ability and various reading skills. The Wechsler Abbreviated Scale of Intelligence is used to calculate a full-scale IQ score. For the reading assessments, she administers the Comprehensive Test of Phonological Processing (CTOPP), which tests many phonological awareness skills including syllable blending, phoneme deletion, phoneme blending, and rapid naming. The Woodcock Reading Mastery Test-Revised Word Identification and Word Attack subtests measure word reading and nonsense word decoding, respectively. Ms. Drew also gives Vanessa the reading comprehension and listening comprehension subtests of the Wechsler Individual Achievement Test, Version II. On the cognitive assessment, Vanessa's score is in the normal range, so MR is ruled out as a cause of disability. On the reading assessments, Vanessa scored below the 10th percentile on all tests except the listening comprehension test.

In addition, Ms. Drew, Ms. Apple, and Ms. Verde work together to collect information about Vanessa’s academic performance. Ms. Apple provides results on the weekly reading tests her students take, in addition to writing samples and a spelling inventory test (it tests what letter patterns students know). Ms. Verde provides a list of all the lessons Vanessa completed in *Fantastic Phonics*, as well as her sound-spelling practice journal, in which Vanessa daily wrote words using phonics patterns Ms. Verde had taught her and her classmates.

The academic data show the same pattern across the board: Vanessa struggles with the phonological processes involved in reading: Her very low scores on the simplest subtests of the CTOPP indicate this clearly. Her work in Ms. Apple’s and Ms. Verde’s class shows the same thing. She had difficulty spelling words with simple spelling patterns.

IEP Goals

Armed with lots of academic data, the IEP team determines that Vanessa needs to continue to focus on phonics. Vanessa’s difficulty with phonological processing, however, suggests that her individualized tertiary phonics program needs more emphasis on phonological and phonemic awareness skills. There are three options for setting goals for the IEP.

1. *Benchmarking.* The first option is end-of-year benchmarking. For typically developing students at the grade level where the student is being monitored, identify the end-of-year CBM benchmark. This is the end-of-year performance goal. The benchmark is represented on the graph by an X at the date marking the end of the year. A goal-line is then drawn between the median of at least the first three CBM graphed scores and the end-of-year performance goal.

Typical End-of-Year Benchmarks in Reading

Grade	Measure	Benchmark
1 st Grade	WIF Fluency Passage Reading Fluency	60 words correct/minute 50 words correct/minute
2 nd Grade	Passage Reading Fluency	75 words correct/minute
3 rd Grade	Passage Reading Fluency	100 words correct/minute
4 th Grade	CBM Maze	20 replacements/2 ½ min
5 th Grade	CBM Maze	25 replacements/2 ½ min
6 th Grade	CBM Maze	30 replacements/2 ½ min

2. *Intra-Individual Goals.* The second option for setting IEP goals is by an intra-individual framework. In other words, goals are set based on the individual child’s needs. To use this option, identify the weekly rate of improvement (slope) for the target student under baseline conditions, using at least eight CBM data points. Multiply this slope by 1.5. Take this product and multiply it by the number of weeks until the end of the year. Add this product to the student’s baseline score. This sum is the end-of-year goal.

For example, Vanessa’s 8 WIF scores during secondary prevention are 10, 11, 9, 13, 16, 14, 16, and 17.

Question 19. How should you calculate Vanessa’s slope, using the formula we learned earlier?

Think of your answer to this question before you go on.

We multiply this slope times 1.5 because we think that, with individualized tertiary instruction, we can improve this slope by 50%. So, for Vanessa, $0.86 \times 1.5 = 1.29$. Then, we multiply this number by the number of weeks until final benchmark testing. After Vanessa has been tested and the IEP written, there are about 12 weeks of school left. So, $1.29 \times 12 = 15.48$. We add this to the average for Vanessa’s last 8 WIF scores (13), so: $15 + 13 = 28$. Our goal for Vanessa would be 28 correct words per minute, under the intra-individual approach.

3. *Base goal on national improvement norms.* The third option for setting IEP goals is by using national norms for rates of improvement. For typically developing students at the grade level where the student is being monitored, identify the average rate of weekly increase from a national norm chart. Multiply this weekly increase norm by the number of weeks left in the school year, and add that product to the student’s current median score. This sum is the student’s end of year goal score.

CBM Reading Norms for Student Growth (Slope)

Grade	Measure	Norm Slope
1st Grade	WIF Fluency	1.8
2nd Grade	Passage Reading Fluency	1.5
3rd Grade	Passage Reading Fluency	1.0
4th Grade	CBM Maze	0.40
5th Grade	CBM Maze	0.40
6th Grade	CBM Maze	0.40

Question 20. What would Vanessa’s goal be if we use the national norms (assuming 13 weeks until final testing and given an average WIF score of 13 in the prior 8 weeks)?

Think of your answer to this question before you go on.

Developing and Monitoring Individualized Instructional Programs

Once IEP goals are set and individualized programs are implemented, it is important to monitor student progress frequently (e.g., weekly). CBM data can be used to judge the adequacy of student progress and the need to change instructional programs. Standard decision rules guide decisions about the adequacy of student progress and the need to revise goals and instructional programs. It is possible to utilize these decision rules to inform decision making at the secondary prevention level. MISD, however, uses slope data to guide decision making during secondary prevention. The district uses the following decision rules for instructional decision making at tertiary prevention.

Decision rules based on the most recent 4 consecutive scores:

- If the most recent 4 consecutive CBM scores are above the goal-line, the student's end-of-year performance goal needs to be increased.
- If the most recent 4 consecutive CBM scores are below the goal-line, the teacher needs to revise the instructional program.
- If the most recent 4 consecutive CBM scores approximate the goal-line, no changes are necessary.

Decision rules based on the trend-line:

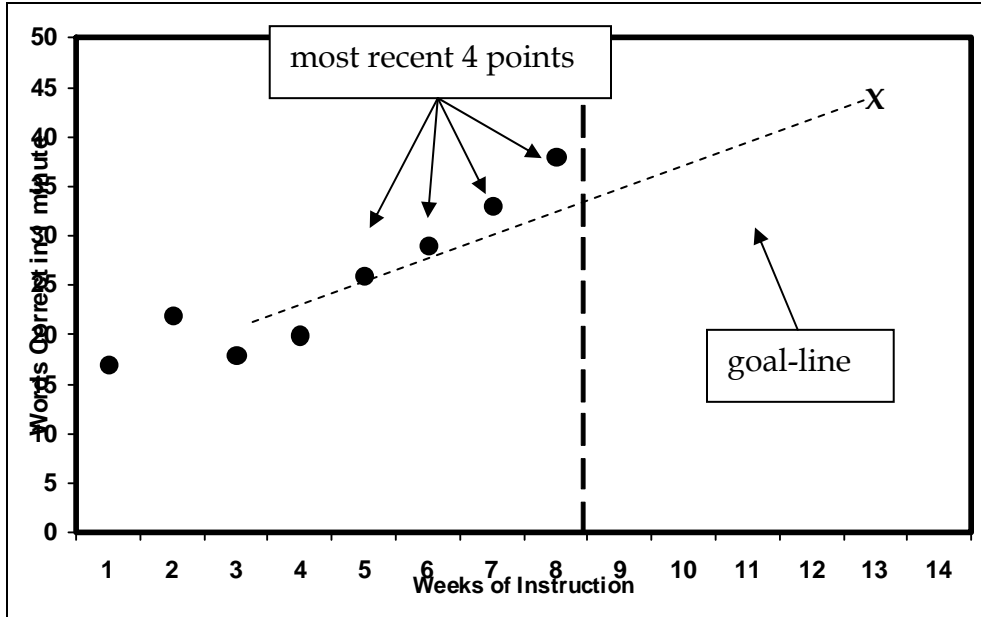
- If the student's trend-line is steeper than the goal-line, the student's end-of-year performance goal needs to be increased.
- If the student's trend-line is flatter than the goal-line, the teacher needs to revise the instructional program.
- If the student's trend-line and goal-line are the same, no changes are necessary.

The following graphs show examples of how each decision rule can be used to make decisions about student goals and instructional programs.

4 Consecutive Scores above Goal-Line

Here, the most recent 4 scores are above the goal-line. Therefore, the student's end-of-year performance goal needs to be adjusted. The teacher increases the desired rate (or goal) to boost the actual rate of student progress.

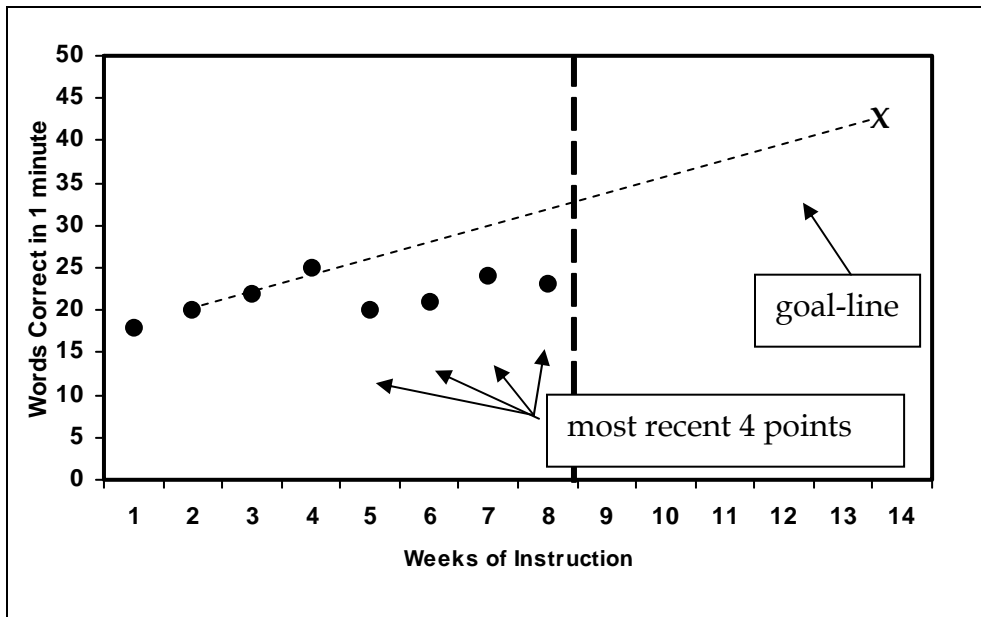
The point of the goal increase is notated on the graph as a dotted vertical line. This allows teachers to visually note when the student's goal was changed. The teacher re-evaluates the student's graph in another 7-8 data points.



4 Consecutive Scores below Goal-Line

Below, the most recent 4 scores are below the goal-line. Therefore, the teacher needs to change the student's instructional program. The end-of-year performance-goal and goal-line never decrease; they can only increase. The instructional program should be tailored to bring a student's scores up so they match or surpass the goal-line.

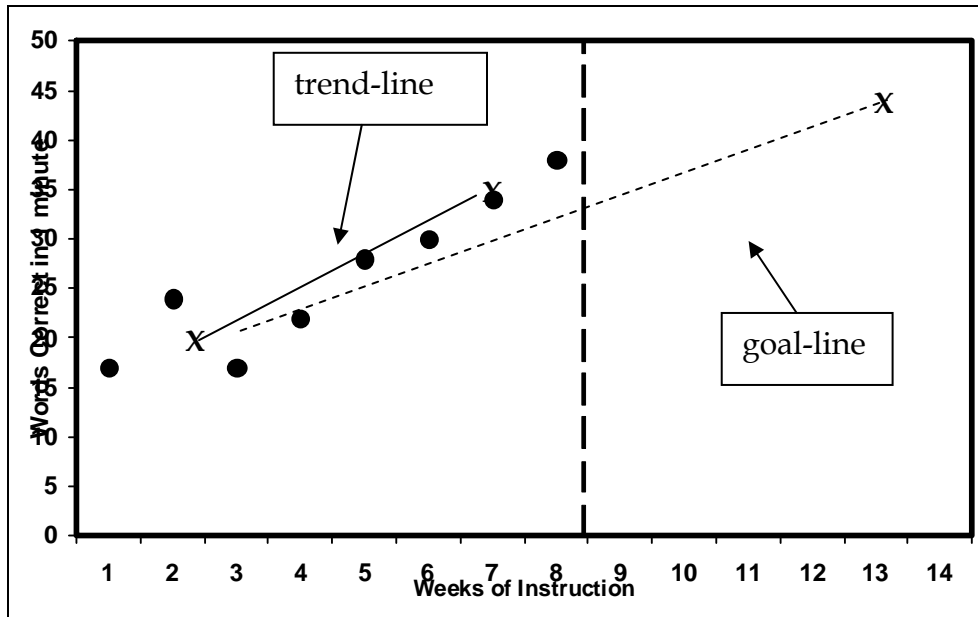
The teacher draws a dotted vertical line when making an instructional change. This allows teachers to visually note when changes to the student's instructional program were made. The teacher re-evaluates the student's graph in another 7-8 data points to determine whether the change was effective.



Trend-line Above Goal-Line

Below, the trend-line is steeper than the goal-line. Therefore, the student's end-of-year performance goal needs to be adjusted. The teacher increases the desired rate (or goal) to boost the actual rate of student progress. The new goal-line can be an extension of the trend-line.

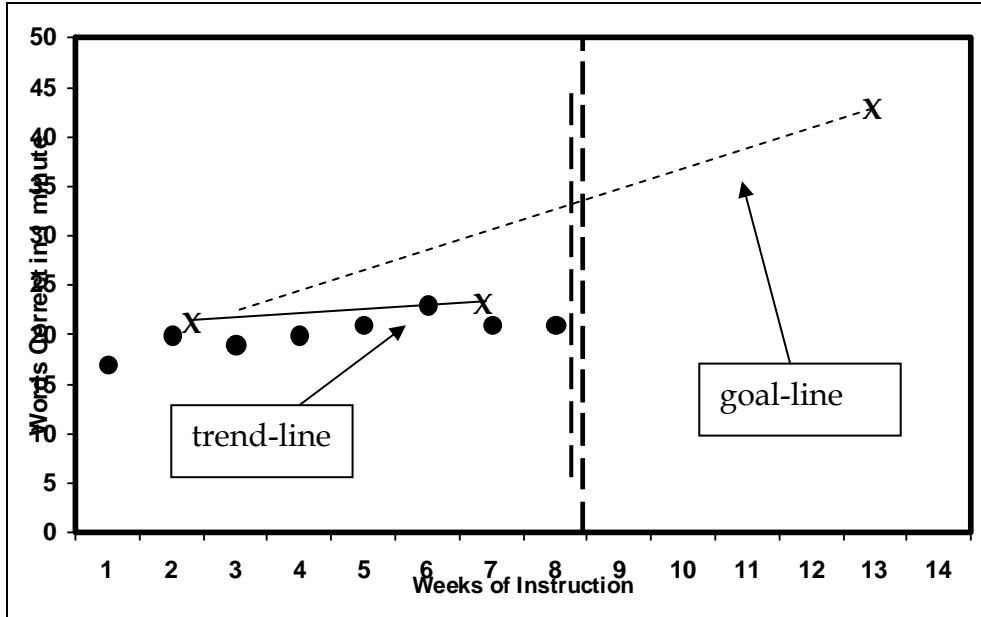
The point of the goal increase is notated on the graph as a dotted vertical line. This allows teachers to visually note when the student's goal was changed. The teacher re-evaluates the student's graph in another 7-8 data points.



Trend-line Below Goal-Line

Below, the trend-line is flatter than the performance goal-line. The teacher needs to change the student's instructional program. Again, the end-of-year performance goal and goal-line are never decreased! A trend-line below the goal-line indicates that student progress is inadequate to reach the end-of-year performance goal. The instructional program should be tailored to bring a student's scores up.

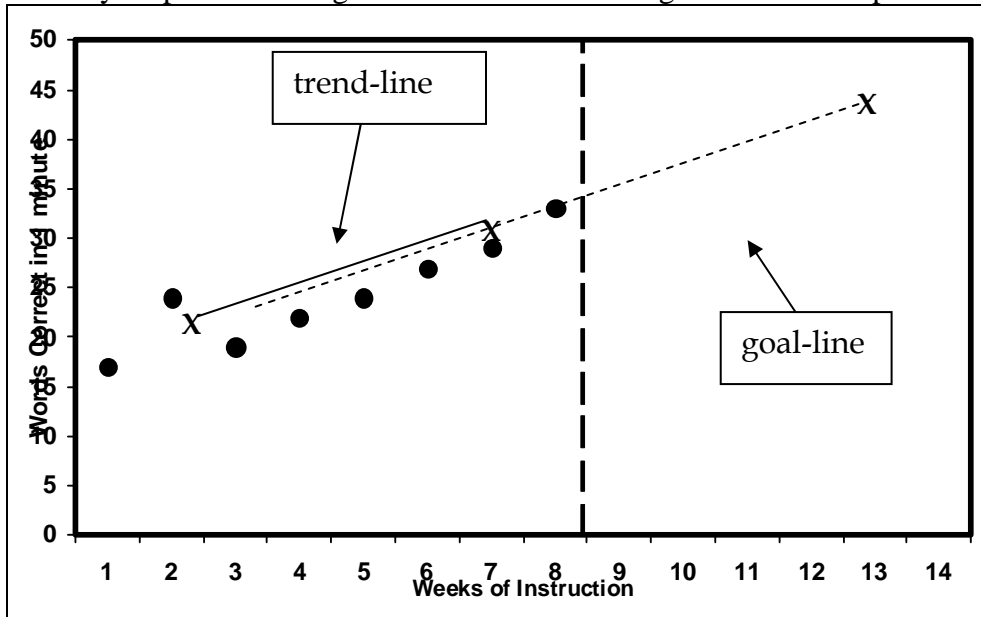
The point of the instructional change is represented on the graph as a dotted vertical line. This allows teachers to visually note when the student's instructional program was changed. The teacher re-evaluates the student's graph in another 7-8 data points.



Trend-line Matches Goal-Line

Below, the trend-line matches the goal-line, so no change is currently needed for the student.

The teacher re-evaluates the student’s graph in another 7-8 data points to determine whether an end-of-year performance goal or instructional change needs to take place.



So, What Happens in Tertiary Prevention?

We have established Vanessa's needs and the IEP goals she will work on, using national improvement norms. Now, Ms. Harding begins to work with her. It is important to note that special education services, as they occur at tertiary prevention, are not automatically delivered on a one-to-one basis. Depending on the needs of the student, some services may be provided on an individual basis, some through small-group instruction, and some may occur through consultation with, and even be provided by, the regular education teacher. It is important to note the distinction between these services and one-on-one tutoring that can occur in secondary prevention. Individual tutoring in secondary prevention does not mean that the student is receiving "special education" services.

In Vanessa's case, there are three other students with very similar needs who have IEPs. Ms. Verde, the reading specialist, schedules a special time of day to work with this group of students together. In addition, Ms. Harding works with Vanessa one-to-one on phonological awareness tasks because this is such a serious need for her. Ms. Harding also takes responsibility for tracking Vanessa's progress on the WIF CBM.

Determining Responsiveness in Tertiary Prevention

Ms. Harding keeps track of Vanessa's CBM data and uses it to calculate Vanessa's responsiveness to tertiary instruction. There are two ways to measure this. One is by examining the student's slope. The other is by examining end level. Vanessa's goal calls for her to read 43 correct words per minute. So, it makes little sense to measure her response based on end level because her goal calls for her to end up below the cutoff of 50 words per minute! So, they will measure her response based on her slope of improvement. If Vanessa is above the risk cutoff, they will continue the existing plan. If she falls below this cutoff, Ms. Harding will work with Ms. Verde and Ms. Apple to come up with better ways to meet Vanessa's needs. This may mean she receives more individual instruction from Ms. Harding.

Quantifying Response to Tertiary Intervention in Reading

Grade	Measure	Measurements	
		> Slope	> End level
1 st Grade	WIF Fluency	> 1.8	> 50 words per minute
2 nd Grade	Passage Reading Fluency	> 1	> 60 words per minute
3 rd Grade	Passage Reading Fluency	> .75	> 70 words per minute
4 th Grade	CBM Maze	> .25	> 25 replacements per 2 ½ min
5 th Grade	CBM Maze	> .25	> 25 replacements per 2 ½ min
6 th Grade	CBM Maze	> .25	> 20 replacements per 2 ½ min

Discussion Questions

How well did RTI appear to work in Ms. Apple's class?

What additional responsibilities did Ms. Apple have to handle during the school year that he didn't have to handle when Wilson Boulevard Elementary was not implementing RTI?

What changes would you make (if any) for the subsequent year?

Traditional special education referrals have been based on an achievement/IQ discrepancy. What are the pros and cons of this traditional way?

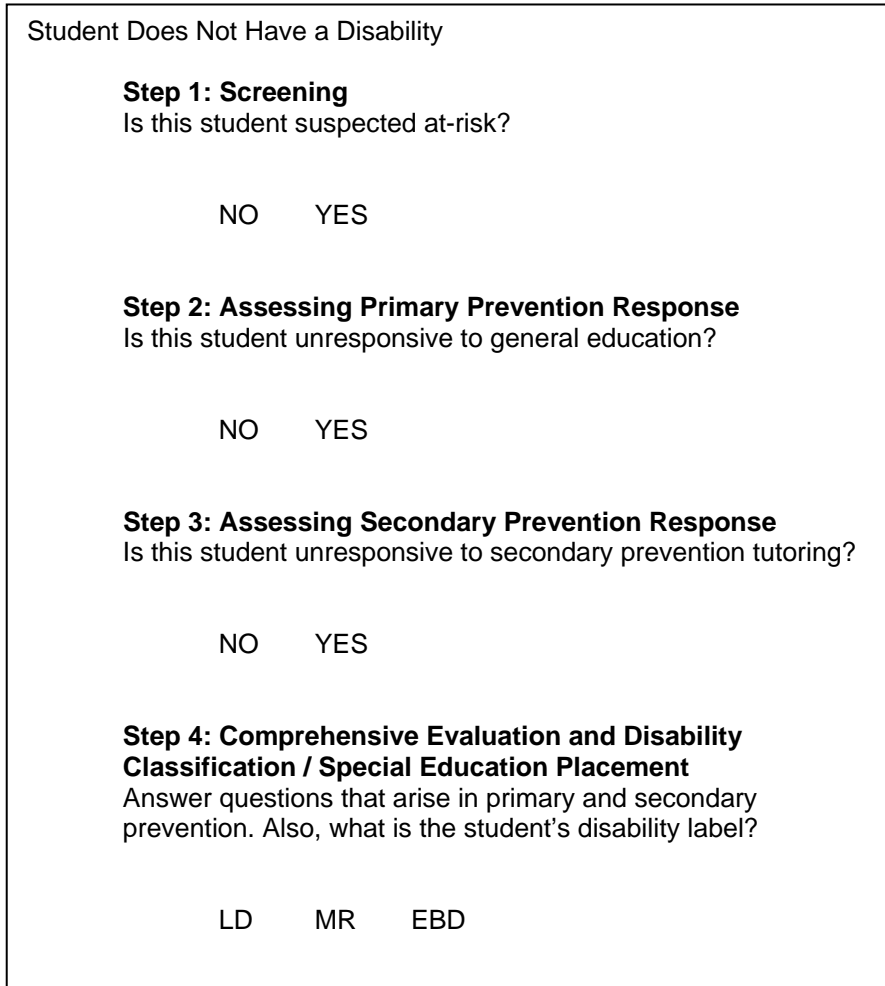
How is RTI different from the achievement/IQ discrepancy method for special education referral and placement?

What are the pros and cons of RTI?

Why might school districts want to implement RTI for special education placement decisions instead of the traditional method?

Which method for identifying special education students would you choose? Why?

Look at this flow chart. First, draw Samuel's path under the RTI model. Next, draw Talisa's path. Finally, draw Vanessa's path.



Draw your own flow chart, diagram, or picture depicting a three-level RTI model.

How were progress monitoring and specific interventions used in each of the three levels?

Primary Prevention:

Progress Monitoring:

Interventions:

Secondary Prevention:

Progress Monitoring:

Interventions:

Tertiary Prevention:

Progress Monitoring:

Interventions:



Appendix A: Benchmark Data for Reading CBM

Appendix B: Answers to Questions

Appendix A: Benchmark Data for Reading CBM

Reading At-Risk Cutoffs with Fall CBM Screening

Grade	Measure	Benchmark
Kinder	Letter Sound Fluency	< 10 letters/minute
1 st Grade	WIF Fluency	< 15 words on list/minute
2 nd Grade	Passage Reading Fluency	< 15 words in text//minute
3 rd Grade	Passage Reading Fluency	< 50 words correct/minute
4 th Grade	CBM Maze	< 10 replacements/2 ½ min
5 th Grade	CBM Maze	< 15 replacements/2 ½ min
6 th Grade	CBM Maze	< 20 replacements/2 ½ min

Quantifying Inadequate Response to Primary Prevention in Reading

Grade	Measure	Slope
Kindergarten	Letter Sound Fluency	< 1
1 st Grade	WIF Fluency	< 1.8
2 nd Grade	Passage Reading Fluency	< 1
3 rd Grade	Passage Reading Fluency	< .75
4 th Grade	CBM Maze	< .25
5 th Grade	CBM Maze	< .25
6 th Grade	CBM Maze	< .25

Typical End-of-Year Benchmarks in Reading

Grade	Measure	Benchmark
1 st Grade	WIF Fluency	60 words correct/minute
	Passage Reading Fluency	50 words correct/minute
2 nd Grade	Passage Reading Fluency	75 words correct/minute
3 rd Grade	Passage Reading Fluency	100 words correct/minute
4 th Grade	CBM Maze	20 replacements/2 ½ min
5 th Grade	CBM Maze	25 replacements/2 ½ min
6 th Grade	CBM Maze	30 replacements/2 ½ min

Risk Cutoffs for Secondary Prevention (Students should score above these levels)

Grade	Measure	Measurements	
		< Slope	< End level
Kindergarten	Letter Sound Fluency	< 1	< 30
1 st Grade	WIF Fluency	< 1.8	< 30
2 nd Grade	Passage Reading Fluency	< 1	< 60
3 rd Grade	Passage Reading Fluency	< 0.75	< 70
4 th Grade	CBM Maze	< 0.25	< 25
5 th Grade	CBM Maze	< 0.25	< 25
6 th Grade	CBM Maze	< 0.25	< 25

Benchmarks for Students in Tertiary Intervention in Reading (Students goals should be at these levels)

Grade	Measure	Measurements	
		> Slope	> End level
Kindergarten	Letter Sound Fluency	> 1	40 sound/minute
1 st Grade	WIF Fluency	> 1.8	60 words/minute
2 nd Grade	Passage Reading Fluency	> 1	75 words/minute
3 rd Grade	Passage Reading Fluency	> 0.75	100 words/minute
4 th Grade	CBM Maze	> 0.25	20 replacements/2 ½ min
5 th Grade	CBM Maze	> 0.25	25 replacements/2 ½ min
6 th Grade	CBM Maze	> 0.25	30 replacements/2 ½ min

CBM Reading Norms for Student Growth (Slope)

Grade	Measure	Norm Slope
1st Grade	WIF Fluency	1.8
2 nd Grade	Passage Reading Fluency	1.5
3 rd Grade	Passage Reading Fluency	1.0
4 th Grade	CBM Maze	0.40
5 th Grade	CBM Maze	0.40
6 th Grade	CBM Maze	0.40

Appendix B: Answers to Questions

Question 1 Answer. Universal screening only tests one thing: *Level*. Earlier, we stated that students are considered for special education only if they exhibit a dual discrepancy. The same thing is true for secondary prevention. If students begin below grade level but are making strong progress with primary prevention alone, secondary prevention is not necessary. Secondary prevention is used when students start below grade level *and* do not make strong progress (have a positive *trend*).

Some people worry that waiting for 6 to 8 weeks delays instruction too long. They worry that low-achieving students are just getting further and further behind. This is a valid concern, and sometimes schools begin secondary prevention based on universal screening data. But, many schools have limited resources, so it makes sense to be *sure* a student needs secondary instruction. Otherwise, we might be wasting resources on students who didn't really need the specialized instruction.

Question 2 Answer: We screened all students at the beginning of the year and monitored the progress of those with low scores. By the middle of the year, some students who looked fine at the beginning have not made good progress. These students now need secondary prevention, even though they did not seem to need it at the beginning of the year. So, it is important to screen again to see if any students have failed to progress as expected.

Question 3 Answer. Ms. Apple's goal is to get a fair picture of her students' ability, so she doesn't want to rely on one assessment alone. The CBM WIF word lists were designed to contain words Grade 1 students would learn, but sometimes students do better on one list than another. So, let's say List A has more words Ms. Apple's students know and List B has fewer words her students know. If Ms. Apple only gave List B, she would *underestimate* the ability of her students. If she only gave List A, she would *overestimate* their ability. Both cases are not good. So, Ms. Apple administers both passages and calculates the average of the two.

Question 4 Answer. Ms. Apple waits two or three weeks before testing her students at the beginning of the year. This is actually what her principal recommends. There are two reasons for this.

- First, Ms. Apple wants to make sure that her students are adjusted to school before she starts testing them. She will be administering the tests individually, so she needs to be sure the rest of the class can work independently. This isn't likely to work well on the first day or during the first week of first grade!
- Second, her school has something called "norm day" during the second week of school. Norm day is the day when the school's final enrollment is decided. After norm day, students are sometimes moved between classes. Ms. Apple waits until after norm day so she is sure she has her final enrollment.

Question 5 Answer: Doing CBM without sacrificing instructional time is very tricky, especially because Ms. Apple doesn't have outside assistance. In some schools in MISD, principals have provided paraprofessionals to manage classroom activities while the teachers do the assessments, but Wilson Boulevard does not have funds for this. So what does she do?

Fortunately, the WIF assessment takes only about 3 minutes (2 minutes for both lists plus time to read the instructions), so Ms. Apple can assess her entire class in 60 minutes or so. There are several different ways Ms. Apple finds the time to do this. The first way is to assign students some meaningful individual work she already planned to do, such as art projects. Wilson Boulevard first graders get a 10 minute recess during the morning, and Ms. Apple only has recess duty every other week, so she takes part of this time to administer the assessment to students. She can test all of her student in about a week if she just uses recess time. Sometimes Ms. Apple and the teacher next door, Mr. Robinson, work together and one of them works with all of their students while the other one administers their assessments.

There's no ideal solution, but Ms. Apple has come up with ways to do it that preserve instructional time and make sure everyone gets tested quickly.

Question 6 Answer: There are multiple lists so that students read a different list each time Ms. Apple tests them. If they read the same list each time, they could get used to the items in the list. This would probably make their scores too high. The lists are written so that all of them are at the same level. This is important because we are tracking progress using CBM data.

It is important to note that when Ms. Apple tests her class at the beginning of the year, the students all read the same list.

Question 7 Answer: Alexandra, Quinton, Samuel, Talisa, Ulises, and Vanessa are considered at risk because their scores fall below the "at risk" cutoff of 15 correct words read.

Question 8 Answer: If you thought we should begin secondary intervention for the students who are below the cut-off, you had the right idea, but we're not going to do that yet.

Why not? It is the beginning of Grade 1, when students make great strides in reading, so we should not form our secondary intervention groups until we have a little more information. We will continue to monitor progress of students who may be at risk using weekly WIF assessments for eight weeks.

Question 9 Answer: To calculate Ulises's slope, take the median for the last three points (12) and subtract the median for the first three points (9): $12 - 9 = 3$. Then, divide by number of probes minus 1 (7): $3 / 7 = 0.43$.

Question 10 Answer: Quinton and Samuel have demonstrated adequate progress. Quinton's slope is 2.00 and Samuel's 1.86. So, they are not at-risk any longer. What happens now is that they continue with primary prevention in Ms. Apple's class. Ms. Apple will discontinue monitoring their progress for now. (She will screen them again later to be sure they are still making adequate progress.)

Question 11 Answer: Alexandra, Talisa, Ulises, and Vanessa have not made adequate progress. All of their slopes are below 1.00, far below the cut-off of 1.8. (Note that Talisa actually started the year slightly higher than Quinton, but she did not progress at the same rate. This illustrates the importance of PM.)

Secondary prevention instruction is the next step for these students. If they continue in the primary prevention program alone, they will probably continue to fail. We know that the problem is not due to problems with Ms. Apple's instruction. She uses a research-based program, she follows the pacing guide, her colleagues have checked her fidelity and found it high, and other at-risk students are responding to her instruction. The non-responsive students need something more than Ms. Apple can provide.

Question 12 Answer: It appears so. If you cover $\frac{1}{2}$ the data at a time, such that the data for the pre- and post-secondary prevention appear on their own, you can see that the trends are very different. Talisa's slope is much steeper during secondary prevention.

Question 13 Answer: We should use her slope too. Although the graph is pretty convincing, visual examination of data can be deceptive. Calculating the slope will make us confident that Talisa really did respond.

Question 14 Answer: Median of Group 3 (39) minus median of Group 1 (24), divided by number of probes minus 1 (7): $(39 - 24) / 7 = 2.14$.

Question 15 Answer: Alexandra, Talisa, and Ulises all responded to secondary prevention. Their slopes were 2.00, 2.14, and 1.86 respectively. Vanessa did not respond adequately, with a slope of 0.86.

Question 16 Answer: The second screening will check to see if any students who were at the appropriate level at the beginning of the year are now at-risk. If any other students are at-risk they can participate in secondary prevention now.

Question 17 Answer: Alexandra, Brandon, Isaiah, Luis, Patricia, Quinton, Ulises, and Vanessa should be considered at-risk.

Question 18 Answer: Alexandra should probably receive more secondary prevention. Although her slope was good during secondary prevention (2.00), she will only just reach benchmark if she maintains that slope ($2.00 \times 15 = 30$) + 30 = 60. It's probably not a good idea to assume she would maintain this rate without secondary prevention. She did not do well with primary prevention alone at the beginning of the year.

Ulises may not need more secondary prevention. It is true that he hasn't reached the benchmark, but he is very close to it. Even if his growth slows a little when he is only getting primary prevention, he will still reach benchmark by the end of the year.

However, whether either student receives secondary prevention should probably be determined by capacity. In other words, these students have made enough growth to exit secondary prevention. Growth, not level, was our criterion for responsiveness, so both of these students are definitely responsive. On the other hand, they showed poor growth in primary prevention alone at the beginning of the year, so they should be included if there is room.

Question 19 Answer: You take the median of the first three data points (here, 10) and the median of the last three data points (here, 16). Then, subtract the first from the last: $16 - 10 = 6$. Next, divide this quantity by the number of data points, minus 1 (that's 7). So: $6 / 7 = 0.86$.

Question 20 Answer: We multiply the slope by the number of weeks, so, for WIF, $1.8 \times 13 = 23.4$. Then, we add this to her 8 week average ($23 + 13 = 43$ correct words per minute). This will be her goal for tertiary instruction.
