Improving Student Outcomes through Progress Monitoring

Nancy Safer Jacki Bootel Rebecca Holland Coviello

Virginia Department of Education September 28, 2006







Questions to Answer

- What is student progress monitoring and how does it fit within an accountability agenda?
- How can CBM assist all students in meeting Adequate Yearly Progress goals?
- How does CBM help me as I work within a Response to Intervention model and in the identification of learning disabilities?
- How does CBM help in the development of IEPs?
- Where can I learn more information about student progress monitoring?

What exactly is student progress monitoring?

How does it fit within an accountability agenda?







- No Child Left Behind focuses on the progress of sub-groups of students including SWD
- IDEA 2004 focuses on early intervening and response to intervention



Progress Monitoring

- Conducted frequently at least monthly
- Designed to:
 - Estimate rates of improvement
 - Identify students who are not demonstrating adequate progress
 - Compare the efficacy of different forms of instruction
 - Thereby design more effective, individualized instructional programs for struggling learners



What is the Difference Between Traditional Assessments and PM?

- Traditional assessments:
 - -Lengthy tests
 - -Not administered on a regular basis
 - Teachers do not receive immediate feedback
 - -Student scores are based on national scores and averages



What is the Difference Between Traditional Assessments and PM?

- Curriculum-Based Measurement (CBM) has the strongest evidence base.
 - Provides an easy and quick method to gathering student progress
 - Teachers can analyze student scores and adjust student goals and instructional programs
 - Student data can be compared to teacher's classroom or school district data





National Center on Student Progress Monitoring

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What Is Scientifically-Based Research on Progress Monitoring? Lynn S. Fuchs and Douglas Fuchs

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Abstract. When teachers use systematic progress monitoring to track their students progress in reading, mathematics, or spelling, they are better able to identify students in need of additional or different forms of instruction, they design stronger instructional programs, and their students achieve better. This document first describes progress monitoring procedures for which experimental evidence demonstrates these effects. Then, an overview of the research is presented. CBM's capacity to help teachers improve student outcomes at the elementary grades.

Most classroom assessment relies on mastery measurement. With mastery measurement, teachers test for mastery of a single skill and, after mastery is demonstrated, they assess mastery of the next skill in a sequence. So, at different times of the school year, different skills are assessed. Because the nature and difficulty of the tests keep changing with successive mastery, test scores from different times of the school cannot be compared (or scores



Curriculum-Based Measurement

- CBM is distinctive:
 - Each CBM test is of equivalent difficulty
 - Samples the year-long curriculum
 - CBM is highly prescriptive and standardized
 - Reliable and valid scores



The Basics of CBM

- CBM monitors student progress throughout the school year
- Students are given probes at regular intervals
 - Weekly, bi-weekly, monthly
- Teachers use student data to quantify short- and long-term goals that will meet end-of-year goals



The Basics of CBM

- CBM tests are brief and easy to administer
- All tests are different, but assess the same skills and the same difficulty level
- CBM scores are graphed for teachers to use to make decisions about instructional programs and teaching methods for each student

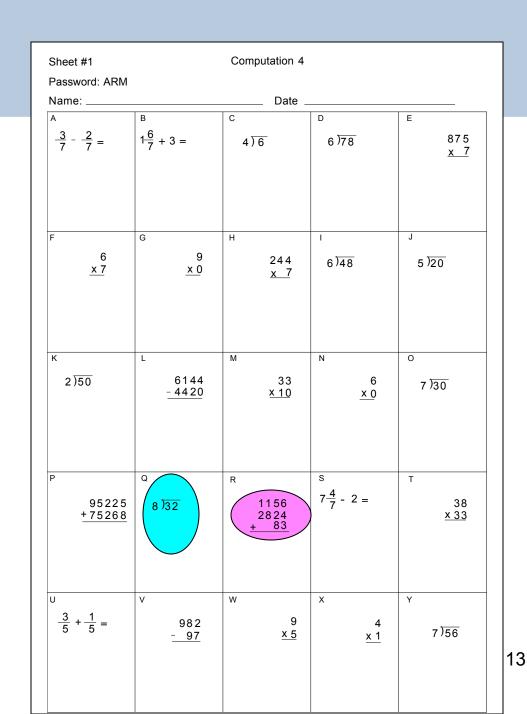


Hypothetical Fourth-Grade Math Computation Curriculum

Multidigit addition with regrouping Multidigit subtraction with regrouping Multiplication facts, factors to 9 Multiply 2-digit numbers by a 1-digit number Multiply 2-digit numbers by a 2-digit number Division facts, divisors to 9 Divide 2-digit numbers by a 1-digit number Divide 3-digit numbers by a 1-digit number Add/subtract simple fractions, like denominators Add/subtract whole number and mixed number

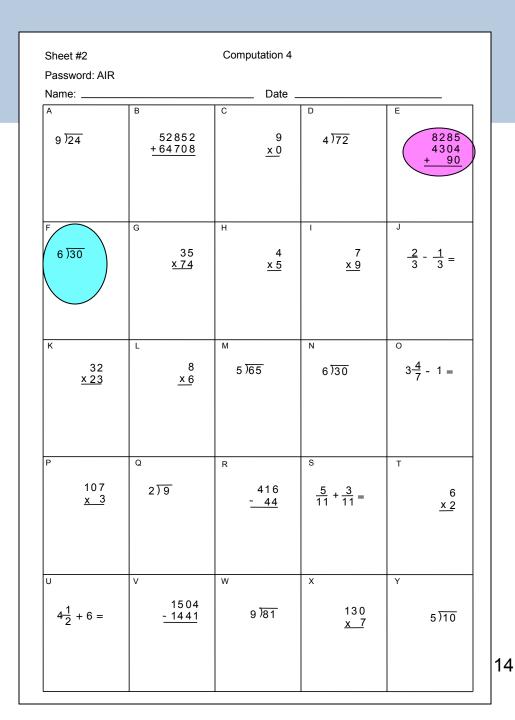


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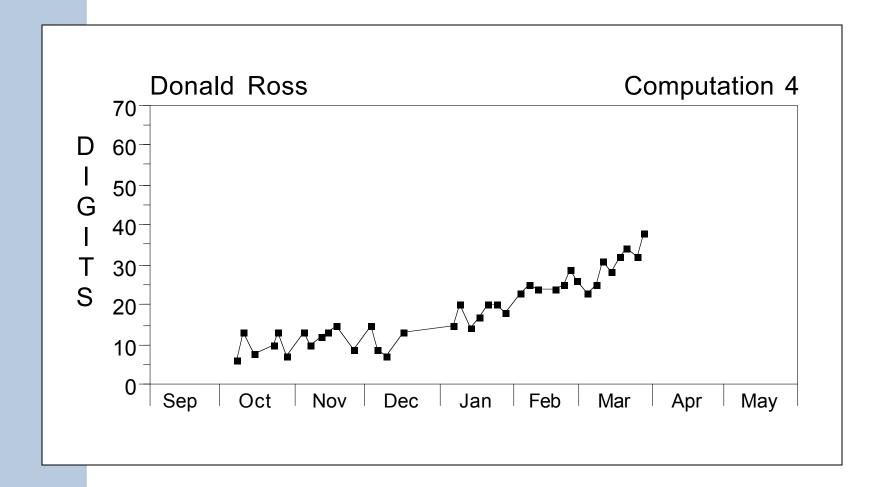




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A "Correct Digit" Is the Right Numeral in the Right Place

4507 4507 4507 -2146-2146-21462361 2461 2441 3 2 4 correct correct correct digits digits digits



What We Look For in CBM

INCREASING SCORES:

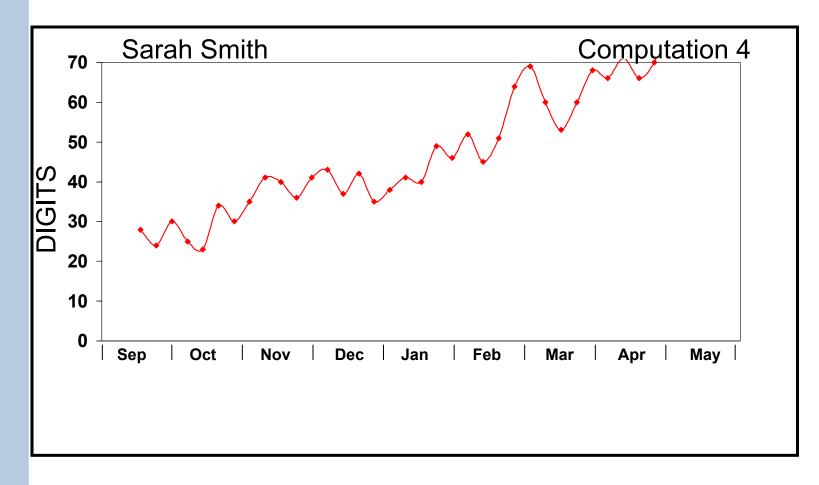
Student is mastering the 4th grade curriculum.

FLAT SCORES:

 Student is not profiting from instruction and requires a change in the instructional program.

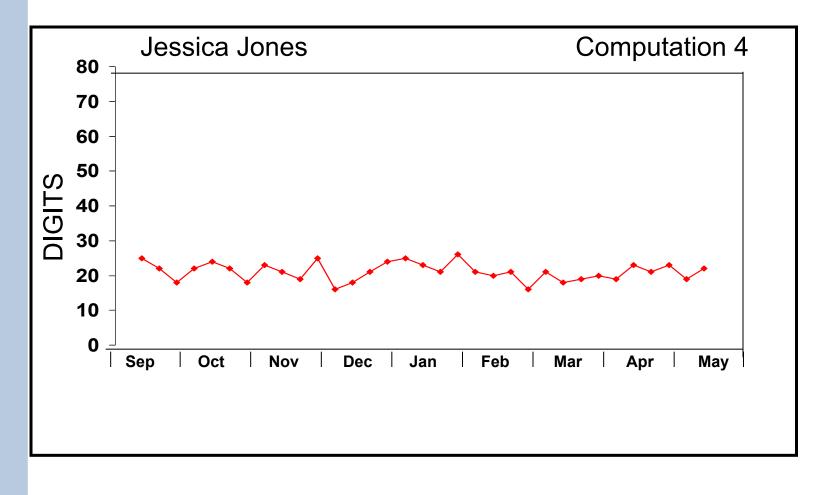


Sarah's Progress on Digits Correct Across School Year





Jessica's Progress on Digits Correct Across School Year







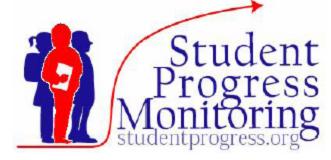
- CBM research has been conducted over the past 30 years
- Research has demonstrated that when teachers use CBM for instructional decision making:
 - -Students learn more
 - -Teacher decision making improves
 - -Students are more aware of their performance

How can CBM assist all students in meeting Adequate Yearly Progress goals?









National Center on Student Progress Monitoring

Determining Adequate Yearly Progress From Kindergarten through Grade 6 with Curriculum-Based Measurement *

Introduction

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Progress monitoring is a scientifically based practice that teachers can use to evaluate the effectiveness of their instruction for individual students or their entire class. Teachers identify goals for what their students will learn over time, measure their students' progress toward meeting these goals by comparing expected and actual rates of learning, and adjust their teaching as proficient in mathematics and reading by 2013-2014. In the meantime, schools must show they are achieving AYP toward meeting the universal proficiency goal. AYP therefore is the annual minimum growth rate needed to eliminate the discrepancy between a school's initial proficiency status and universal proficiency within the established timeframe. So, what constitutes AYP for one school will be inadequate in another context

Progress Monitoring

- Evaluate effectiveness of instruction
 - Individual students
 - Entire class
- Identify goals, measure goals, adjust teaching as needed
- Accelerated learning
- Targeted instruction
 - Faster attainment of state standards



Progress Monitoring and AYP

Progress monitoring can evaluate progress of a

- -Student
- -Class
- -Or school



Three steps for Applying CBM to the AYP Requirement

Step 1: Quantifying initial proficiency status

 Step 2: Quantifying the discrepancy between initial proficiency status and universal proficiency

Step 3: Identifying AYP





Quantifying initial proficiency status

- School assesses every student using CBM
- Identify number of students who meet CBM benchmarks
- This number is the school's initial proficiency status



Quantifying the discrepancy between initial proficiency status and universal proficiency

- Universal proficiency = the 2013-2014 goal of 100% proficient
- Subtract initial proficiency from total number of students in the school



Identifying AYP

- Divide discrepancy by number of years remaining before 2013-2014
- This is your AYP goal or the number of students who need to reach the CBM benchmarks each year in order to achieve universal proficiency by the deadline.



AYP Example

- 500 students in school
- After initial assessment 314 met CBM benchmark
- **500-314=186**
- 186 / 7 = 26.6
- Each year between now and 2014, 26.6 more students must meet CBM benchmarks in order for this school to be on target to reach 100% proficiency by 2014

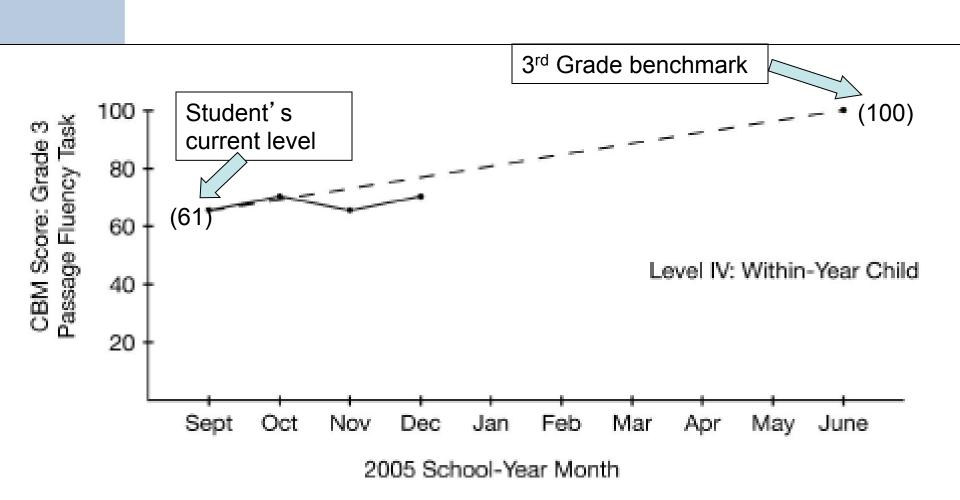


Multi-level monitoring of AYP with CBM

- Level 1: Monitoring at the within-year student level
- Level 2: Monitoring at the within-year teacher level
- Level 3: Monitoring at the within-year school level
- Level 4: Monitoring at the across-year school level

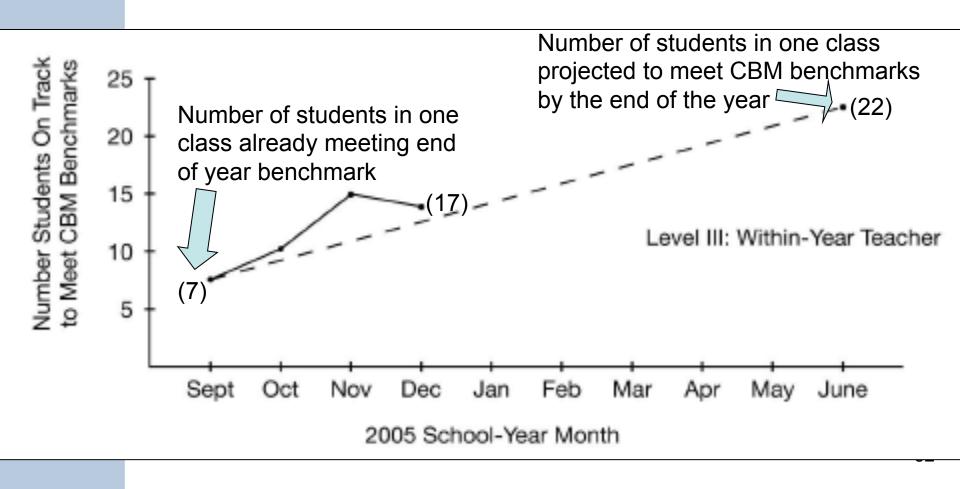


Monitoring at the within-year student level



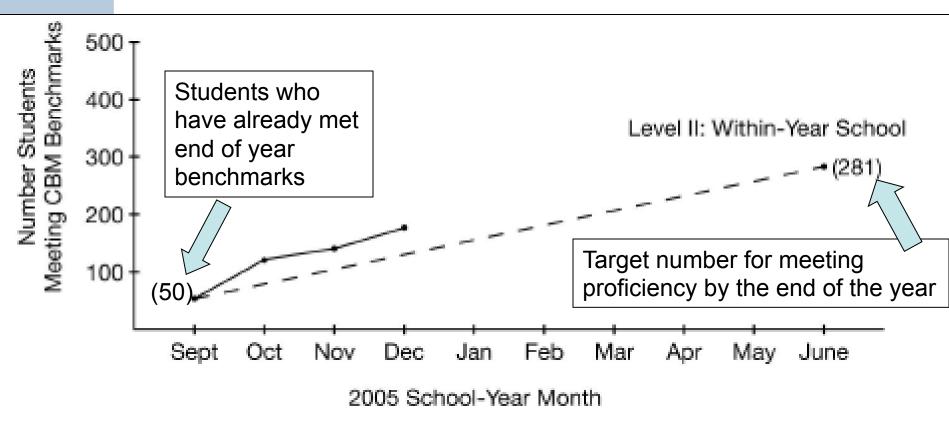


Monitoring at the within-year teacher level



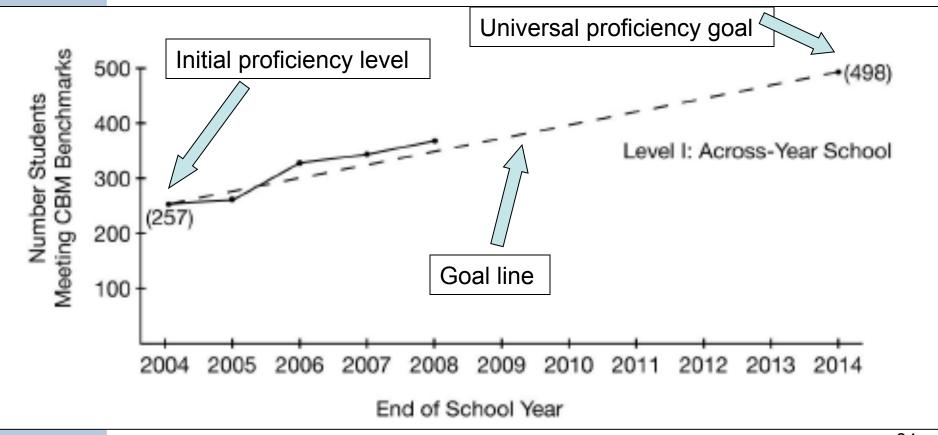


Monitoring at the within-year school level





Monitoring at the across-year school level



How does CBM help me as I work within a Response to Intervention model?







Progress Monitoring in the Context of Responsiveness-to-Intervention

Dr. Lynn S. Fuchs and Dr. Douglas Fuchs

Excerpt from 2006 Summer Institute on Student Progress Monitoring RTI Manual





36



IDEA 2004 and RTI

- IDEA 2004 permits use of IDEA funds for early intervening services; requires early intervening to address disproportionality
- IDEA 2004 permits LEAs to use RTI as an alternative to IQ/ achievement discrepancy model



IQ/Achievement Discrepancy Model

- Over-identifies students
- IQ tests do not necessarily measure intelligence
- IQ and academic achievement are not independent from one another
- Students must fail before they are identified with LDs



Response to Intervention

- Students are provided with an early intervention
- Students are identified as LD only after they have not responded to instruction that is effective for the vast majority of students
- Assessment data is collected frequently



Approaches To Implementing RTI: Five Dimensions

- 1. Number of tiers (2–5)
- 2. How at-risk students are identified:
 - Percentile cut on norm-referenced test
 - Cut-point on curriculum-based measurement (CBM) with and without progress monitoring (PM)
- **3**. Nature of Tier 2 preventative treatment:
 - Individualized (i.e., problem solving)
 - Standardized research-based protocol
- 4. How "response" is defined:
 - Final status on norm-referenced test or using a benchmark
 - Pre-post improvement
 - CBM slope and final status
- 5. What happens to nonresponders:
 - Nature of the abbreviated evaluation to categorize learning disability (LD), behavior disability (BD), and mental retardation (MR)
 - Nature of special education



Several Viable Approaches To Implementing RTI

In this presentation, we feature the most widely researched model.

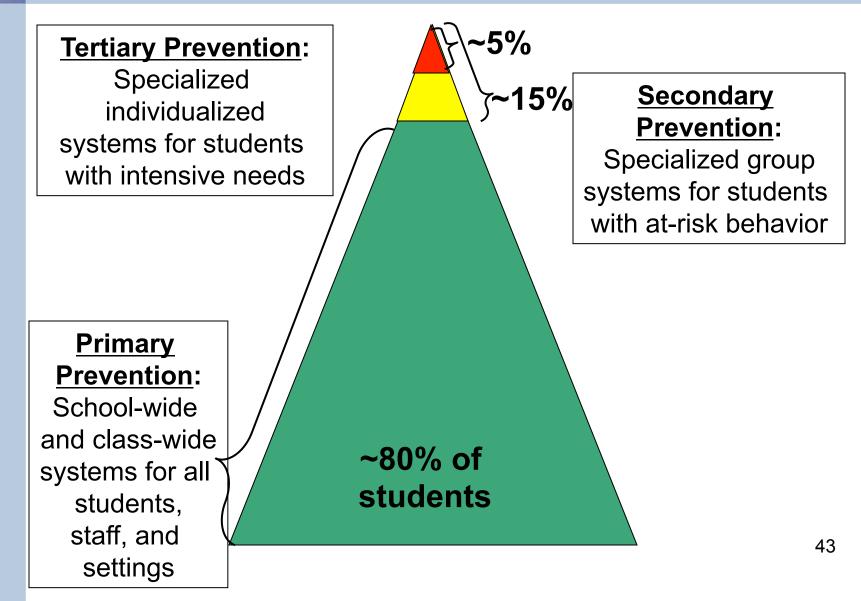
- 1. Three tiers
- 2. Designating risk with benchmark + PM
- 3. Standardized research-based Tier 2 preventative tutoring
- 4. Defining response in terms of CBM slope/ final status
- 5. Nonresponders undergo abbreviated evaluation to answer questions and distinguish LD, BD, and MR
 - Receive reformed Tier 3 special education



- RTI relies on a multi-tier prevention system to identify students with LDs:
 - -Primary prevention
 - -Secondary prevention
 - -Tertiary prevention



Continuum of School-wide Support





Primary Prevention (Tier 1):

- All students screened to find suspected at-risk students
- Suspected at-risk students remain in primary prevention and are assessed using progress monitoring
- Responsive students remain in primary prevention
- Unresponsive students move to next tier



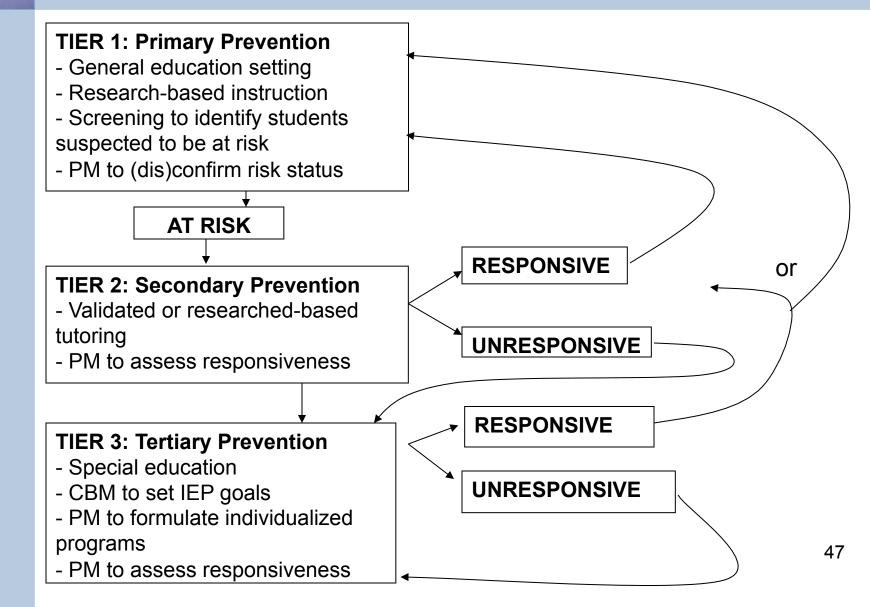
- Secondary Prevention (Tier 2):
 - -Research-based tutoring.
 - -Provided in small groups.
 - Student progress is monitored weekly.
 - Responsive students return to primary prevention.
 - Unresponsive students move to next tier.



- Tertiary Prevention (Tier 3):
 - Special education services.
 - Individualized education program (IEP) goals.
 - Individualized instructional programs.
 - Student progress is monitored weekly.
 - Responsive students return to secondary or primary prevention.
 - Unresponsive students remain in tertiary prevention.



Three Tiers of RTI





Typical RTI Procedure

- 1. All students screened to identify suspected at-risk students.
- Progress of suspected at-risk students is monitored and students with confirmed risk require more intensive tutoring.
- 3. At-risk students receive secondary prevention tutoring and progress is continually monitored.



Typical RTI Procedure (continued)

4. Students unresponsive to secondary prevention tutoring move to tertiary prevention and receive comprehensive evaluation to answer questions and determine disability.

Progress is monitored in tertiary prevention to set IEP goals, formulate effective programs, and decide responsiveness-to-intervention.



Progress Monitoring and RTI

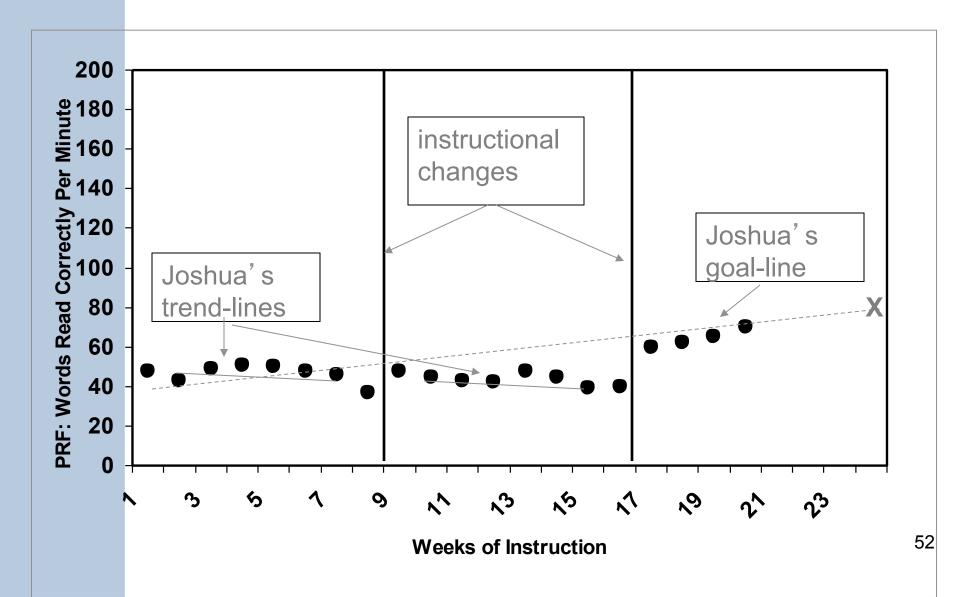
- PM is an essential tool for RTI.
- With PM, student academic performance is assessed using brief measures.
- PM takes place frequently (generally weekly) using alternate forms.
- Decisions are made based on PM

Progress Monitoring (PM)

- CBM benchmarks used for screening
- CBM slopes used to confirm or disconfirm student risk status in Tier 1
- CBM used to define responsiveness-tointervention in Tier 2
- CBM used to set IEP goals, formulate individualized programs, and determine responsiveness-to-intervention in Tier 3



Case Study: Joshua





Decisions in Developing EI/RTI Models

- What is our purpose?
- What is our scope?
- How will we define and monitor students at risk?
- What is our EI/RTI model?
- How does our EI/RTI model relate to special education eligibility?



What is our purpose?

- To maximize performance on end of year tests?
- To reduce inappropriate referrals to special education?
- To identify students with LDs earlier?
- To move away from the discrepancy model?



What is our scope?

- Academic or academic plus behavior?
- Which academic subjects?
- What grades?
- What schools?



How will we determine students at risk?

- Relates to your purpose.
- What tools will we use for screening?
- What progress monitoring tools will we use?



What is our EI/RTI model?

- How many tiers will we have?
- Do we have a research-based curriculum in place?
- Who will deliver services at each tier and what will they be?
- How long is the intervention at each tier?
- Can students repeat a tier? How many times?



How does EI/RTI model relate to special education eligibility?

- How will EI/RTI information be used in referral?
- What other information will be gathered?
- Does failure to progress at Tier 2=learning disability?
- What about procedural safeguards?

How Does CBM Help in the Development of IEPs?





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Monitoring Student Progress in Individualized Educational Programs Using Curriculum-Based Measurement Pamela M. Stecker Clemson University

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Abstract

Curriculum-based measurement encompasses an assessment methodology that can be used to develop goals, benchmarks, or short-term objectives for individualized educational programs for students with disabilities. Teachers also use curriculum-based measurement as a means for monitoring student progress across the year. This paper describes curriculumbased measurement in reading and to describe how CBM can be used to enhance IEP development. First, CBM is explained. Then, the process is outlined for using CBM information to develop IEP statements for present levels of performance, long-term goals, and shortterm objectives in both reading and mathematics. Additionally, how teachers use CBM procedures to monitor student progress is described.



Curriculum-Based Measurement

 Reliable and Valid assessment system

- Basic academic skill areas
 - -reading
 - -writing
 - -spelling
 - -mathematics





Present Levels of Performance

Annual Goals

Measurable Objectives for Progress



Present Levels of Performance

- Average initial CBM scores are translated into present level of performance
- Current performance can be compared to subsequent performance later in the year
 - Test administration is consistent
 - Scoring procedures consistent
 - Difficulty level of test consistent



Present Levels of Performance

Reading

 Given randomly selected passages at the third-grade level, J. R. currently reads aloud 65 words correct per minute.

Mathematics

 Given 25 problems representing the third-grade level, J. R. currently writes 20 correct digits in 3 minutes.



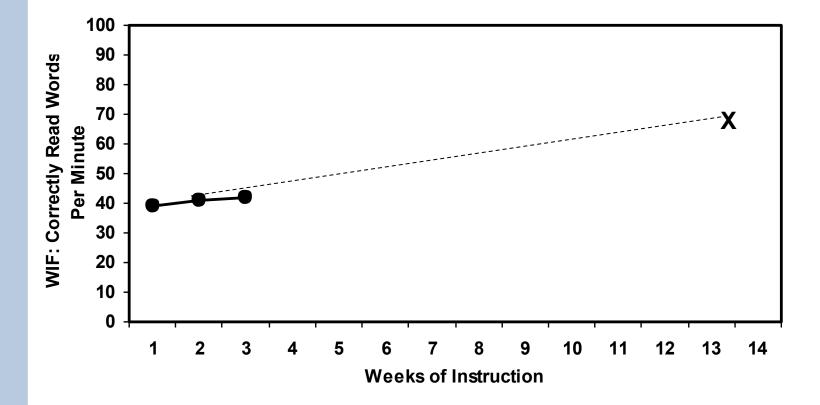


- Instructional programming identifies end-of-year goals
- CBM probes represent skills to be mastered by the end of the year

 Measurable CBM goal statement can be written that reflects long-term mastery



Annual Goal-Line





Measurable Objectives for Progress

Annual goal

Minus current performance

Divided by number of weeks between baseline and goal

= Measurable Objectives for Progress



Goals and Objectives in Reading

Present Level of Performance

 Given randomly selected passages at the thirdgrade level, J. R. currently reads aloud 65 words correct per minute.

Annual Goal

 Given randomly selected passages at the thirdgrade level, J. R. will read aloud 115 words correct per minute by the end of the year (or in 35 weeks).

Measurable Objective for Progress

- Given randomly selected passages at the thirdgrade level, J. R. will read aloud 1.4 additional words correct per minute each week [(115 - 65)/ $_{68}$ 35 = 1.43].

Goals and Objectives in Math

Present Level of Performance

 Given 25 problems representing the third-grade level, J. R. currently writes 20 correct digits in 3 minutes.

Annual Goal

 Given 25 problems representing the third-grade level, J. R. will write 40 correct digits in 3 minutes by the end of the year (or in 35 weeks).

Measurable Objective for Progress

Given 25 problems representing the third-grade
 level, J. R. will write .6 additional correct digits in 39
 minutes each week [(40 – 20)/35 = .57].

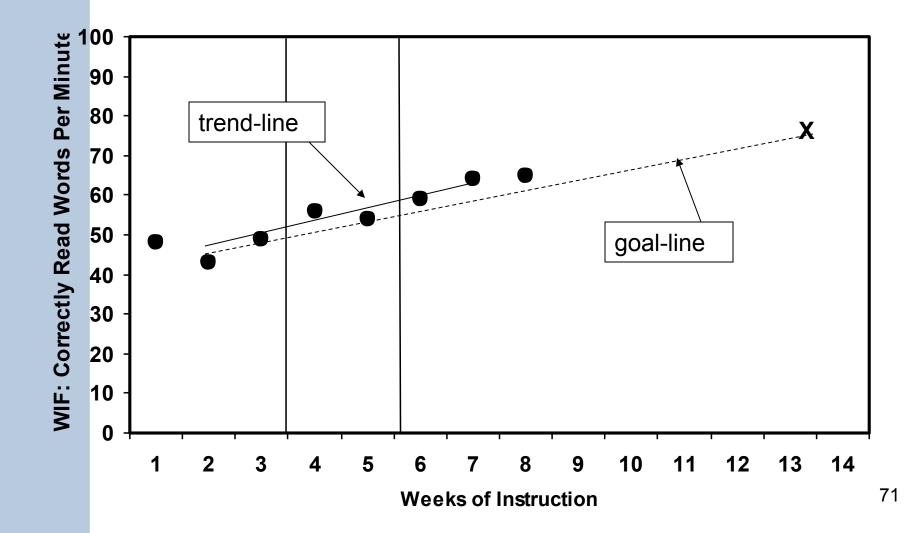


Using CBM to Monitor and Report Student Progress

- Using weekly data points, compare trend line against goal line
 - If trend line is steeper than goal line raise the goal
 - If trend line is below goal line modify instruction
 - If trend line is at goal line, student is making sufficient progress to meet annual goal

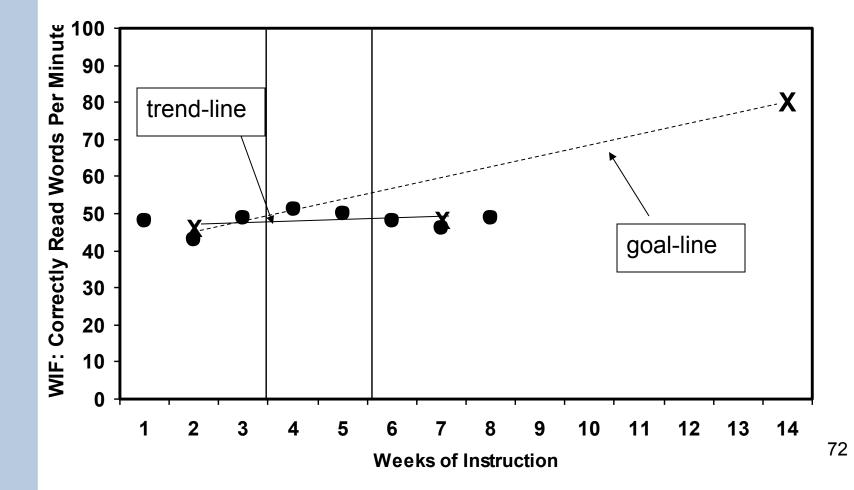


Progressing greater than the goal – Increase the goal





Not making Progress – Change instructional program



Where can I learn more information about student progress monitoring?

73





National Center on Student Progress Monitoring Website

www.studentprogress.org

74







Families



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Home

Library

Discuss

'06 Summer Institute

What is Progress Monitoring?

About

Progress monitoring is a scientifically based practice that is used to assess students academic performance and evaluate the effectiveness of instruction. Progress monitoring can be implemented with individual students or an entire class.

How does progress monitoring work? What are the benefits of progress monitoring? Who should be practicing progress monitoring? What challenges face progress monitoring? Are there other names for progress monitoring?

Web Library



The National Center on Student Progress Monitoring (NCSPM) has exciting:

Discuss

Tools



The <u>discussion</u> allows people from across the country to share information and ideas. You also have the opportunity to sign up for our newsletter.

Review of Tools



Our <u>Technical Review</u> <u>Committee</u> regularly

What's New - updated 8/7/06



August Issue of The Progress Monitor

The August issue of The Progress Monitor, the Center's free monthly e-newsletter, is now available on the <u>newsletter archives page</u> in our library. If you would like to receive The Progress Monitor, please <u>sign up here</u>. Added 8/7/06

<u>Link to Us!</u>

Have you found this site useful? Do you have your own website? If you answered yes to both of these questions, please consider adding a link to our site. Links are available on the <u>link to us</u> page under the <u>About tab</u>. Added 5/12/06

Calendar of Events	
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- 29 - 30	1



Student National Center on Progress Monitoring Student Progress Monitoring



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Our Staff	National Advisory	Committee	Technical Review	/ Committee	Center Trainers	Our Partners	Link to Us

About Us



To meet the challenges of implementing effective progress monitoring, the Office of Special Education Programs (OSEP) has funded the **National Center on Student Progress Monitoring**. Housed at the American Institutes for Research, and working in conjunction with researchers from Vanderbilt University, we are a national technical assistance and dissemination center dedicated to the implementation of scientifically based student progress monitoring.

The Center's mission:

The Center's mission is to provide technical assistance to states and districts and disseminate information about progress monitoring practices proven to work in different academic content areas (Gr. K-5).

The Student Progress Monitoring Center 's integrated program of

services will:

- Raise knowledge and awareness by forming partnerships and communicating with States, districts, associations, technical assistance providers, institutions of higher education, and other interested groups;
- Provide implementation support for using and sustaining proven progress monitoring practices to States and districts; and
- Provide for national dissemination by developing resources and supporting on-going information sharing through advanced web services, regional meetings, and a national conference.

<u>Our Staff</u>

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Student National Center on Progress Monitoring Student Progress Monitoring



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Center Trainers

A team of experienced trainers enhances the National Center on Student Progress Monitoring's work. These trainers are experienced in, and well known for, demonstrating how progress monitoring can be implemented and sustained.

Dr. Todd Busch is an Assistant Professor of Special Education at Minnesota State University, Mankato. He has expertise in curriculum and instruction and has published several articles and presented at national, state, and local conferences on the topics of Curriculum-Based Measurement and student progress monitoring.

Dr. Joe Dimino has 30 years experience as a general education teacher, special education teacher, administrator, behavior consultant, and researcher. He has extensive experience working with teachers in the areas of early literacy, progress monitoring and reading comprehension.

Dr. Pam Fernstrom is a Professor of Special Education at the University of North Alabama. She has over 25 years of experience in accommodating student diversity in the general education classroom and student progress monitoring.

Dr. Tracey Hall is a Senior Research Scientist/Instructional Designer at the Center for Applied Special Technology. She has expertise in instructional scaffolds and progress monitoring and is currently part of an OSERS-funded model demonstration project using progress monitoring in early reading instruction.

Dr. John Hintze, Associate Professor in the School Psychology Program at the University of Massachusetts, has done extensive writing on behavioral and functional analysis, including curriculum-based measurement monitoring.

Dr. Michelle Hosp is an Assistant Professor in the Department of Special Education at the University of Utah. Her background is in school psychology and her current research is in the areas of assessment and reading. She has published articles and conducted workshops both at the state and national level on



Web Library

The National Center on Student Progress Monitoring (NCSPM) has exciting downloadable articles, PowerPoint presentations, FAQs, and additional resources about student progress monitoring, Curriculum-Based Measurement, applying decision making to IEPs and other researched based topics. All of our publications are designed to inform and assist audiences in implementing student progress monitoring at the classroom, building, local or state level.



Sections of the library:

<u>Articles and Research</u> <u>Presentations</u> <u>Training</u> <u>Frequently Asked Questions</u> <u>Newsletter Archives</u> <u>Links</u>

Other Resources

NCSPM strongly encourages the reproduction and distribution of our materials. We encourage you to download, copy, and share all our products. Let us know when you download our materials, how they work for you, and what additional resources you would like to see us publish. Please send us a quick note at: <u>studentprogress@air.org</u> letting us know when you use our materials, and briefly describing how you plan to use them.

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Student Progress Monitoring Resources for Families

Are you, as **parent** or **family member** of a child, looking for information about student progress monitoring that will assist in your child's efforts to meet his or her goals? Or are you an **educator** looking for ways to communicate with families about student progress monitoring and how and why it is used in schools? This section offers resources about progress monitoring, written in family-friendly language, explaining the benefits of implementing student progress monitoring for the student, the teacher and the family.



<u>Student Progress Monitoring: What This Means for Your</u> <u>Child</u>

What Is Curriculum-Based Measurement And What Does It Mean to My Child?

Fact Sheet: Benefits of Curriculum-Based Measurement

Curriculum-Based Measurement and Statewide Tests

What Can I Do to Make Sure My Child Receives the Benefits of CBM?

Please feel free to download and share these

resources. And let us know what you think. Send us an e-mail at <u>studentprogress@air.org</u> telling us what you think about the resources, how you are using them, and what additional resources would be useful to you in the future.



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Student Progress Monitoring: What This Means for Your Child

by Kathleen McLane



help your child learn better.

Our children's progress is being monitored constantly at school, through the steady stream of homework assignments, quizzes, tests, projects, and standardized tests. On first hearing the term "student progress monitoring," our initial reaction may be "they're doing this already!" or "more tests?".

But do you really know how much your child is learning or progressing? Standardized tests compare your child's performance with other children's or with state standards. However, these tests are given at the end of the year; the teacher who has been working with your child during the year will not be able to use the test results to decide how to

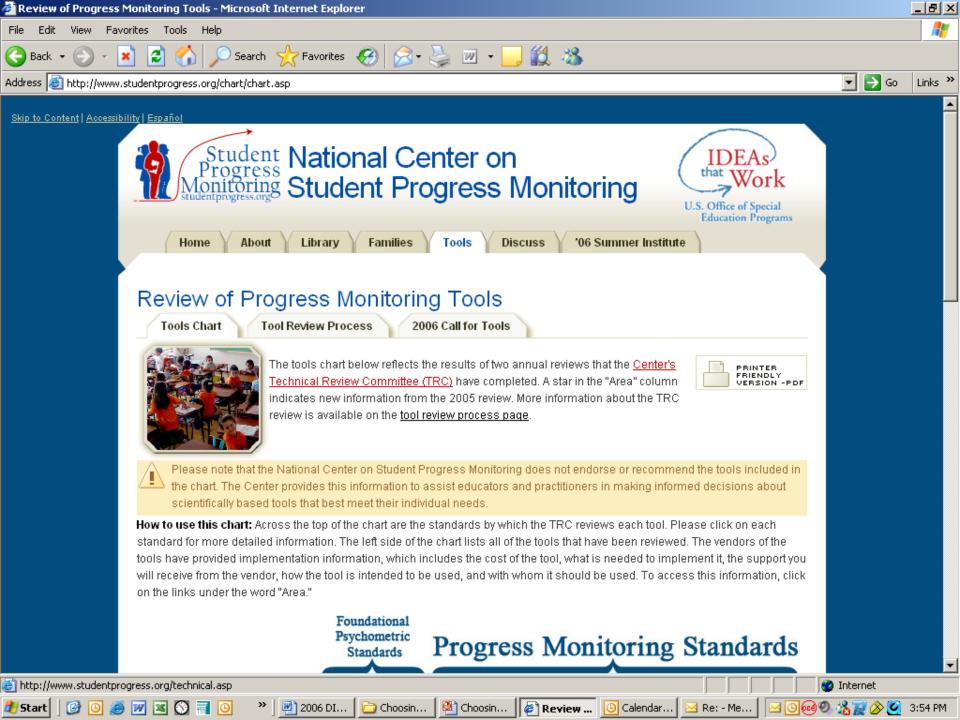
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Progress monitoring can give you and your child's teacher information that can help your child learn more and learn faster, and help your child's teachers teach more effectively and make better decisions about the type of instruction that will work best with your child. In other words, student progress monitoring is not another way of assigning a number to your child; it is a way of helping the child learn and the teacher teach.

What Is Student Progress Monitoring?





Which Tool Should I Choose?

A Look at Possible Decision Making Scenarios





83



I'm interested in monitoring student progress in mathematics in my district for grades 1-3. Which tools would be appropriate?

AIMSWeb

Monitoring Basic Skills
 Progress (MBSP)

Yearly Progress Pro





Which tools offer accommodations for students with special needs (e.g. English Language Learners, hearing impaired)?

 Dynamic Indicators of Early Basic Literary Skills (DIBELS)

EdCheckup



Center Trainers

- Dr. Todd Busch, Minnesota State University, Mankato
- Dr. Joe Dimino, Instructional Research Group
- Dr. Pam Fernstrom, University of North Alabama
- Dr. Tracey Hall, Center for Applied Special Technology
- **Dr. John Hintze**, University of Massachusetts
- Dr. Michelle Hosp, University of Utah
- **Dr. Erica Lembke**, University of Missouri
- Dr. Laura Saenz, The University of Texas Pan American
- Dr. Pam Stecker, Clemson University

Questions?

87

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