



Response to Intervention

Dr. Erica Lembke
Assistant Professor
University of Missouri
lembkee@missouri.edu



Overview

- Core principles of RtI
- Critical elements that districts need to have in place
- Screening and progress monitoring using curriculum-based measurement
- Supporting teachers and schools in implementing RtI
- What RtI is and is not

2

What do we know about RTI?

- RtI is the practice of providing high-quality instruction and intervention matched to student need, monitoring progress frequently to make decisions about change in instruction or goals and applying child response data to important educational decisions. (NASDSE, 2005)
- IDEA 2004 provides for the use of RtI as part of the process to determine eligibility for learning disabilities.

3

Core Principles of Response to Intervention (RTI)

- We can effectively teach all children
- Intervene early
- Use a multi-tier model of service delivery
- Use a problem-solving method to make decisions within a multi-tier model

4

Core Principles of Response to Intervention (RTI)

- Use research-based scientifically validated interventions/instruction
- Monitor student progress to inform instruction
- Use data to make decisions. A DATA-BASED decision regarding student response to intervention is **central** to RtI practice
- Use assessment for screening, diagnostic and progress monitoring purposes

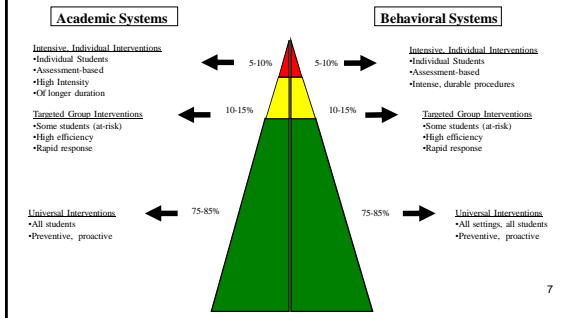
5

Key Points

- RtI is not about:
 - Special Education
 - General Education
 - Talented and Gifted Education
 - Compensatory Education
- RtI is about EVERY EDUCATION
- RtI is fundamentally about improving teaching and learning/matching differentiated instruction with student needs

6

School-Wide Systems Approach for Student Success



Assessment and Instruction in a Three-Tiered Model (also see pgs. 2-3 in handouts)

- Tier 1—Universal, school-wide
 - Assessment—School-wide screening system, using CBM to monitor all students' performance 3-4 times per year
 - Instruction—All students receive an effective, evidence based core program that is implemented with fidelity
- Tier 2—Strategic
 - Assessment—Students monitored on a monthly basis using CBM
 - Instruction—Students receive an additional 30-45 minutes of strategic, evidence-based instruction each day that is structured to meet their needs

8

Assessment and Instruction in a Three-Tiered Model, cont.

- Tier 3—Intensive
 - Assessment—Students are monitored on a weekly basis using CBM
 - Instruction—Students receive an additional 45 minutes of intensive, evidence-based instruction in small groups each day that is structured to meet their needs. This could be one program for all students or individual interventions for specific students.

9



Critical elements that districts need in place to effectively implement RtI

1. Well-functioning, school-based problem-solving teams
2. School wide screening and progress monitoring system
 - Needs to be technically adequate (Curriculum-Based Measurement (CBM) is one example)
3. Systematic analysis of school-wide data
 - Utilize decision-making rules
 - Examine current core academic programs
 - Are these programs meeting the needs of the majority of the students?



Critical elements that districts need in place to effectively implement RtI, cont.

5. Identify evidence-based interventions for Tiers 2 and 3 and a schedule for implementation of the tiered interventions
 - a) Determine how fidelity of treatment for Tiers 1-3 will be assessed
6. Monitor the progress of students in Tiers 2 and 3 on a frequent basis
 - Setting goals
 - Collecting data
 - Implementing data decision rules
 - Making changes in instruction

Problem-solving teams—What?

- Use a systematic set of activities to guide each meeting (see pgs. 4-5)
 - Activities will vary dependent upon why the team convened
 - Activities for examining screening data
 - Activities for examining progress monitoring data

Examining screening data

- All students in a school are screened
- The principal has access to all school data
- Each teacher gets a graph of data for his/her class
- Students are placed in Tiers 1-3 based on this screening data

Suggested steps for discussing screening data—school-wide data

- Assessment plan: School-wide data—overall
 - Define the problem: Are there particular grade levels that are not achieving as we would expect?
 - Analysis of the assessment results: What could be the cause of this lack of performance? Curriculum? More support needed for novice teachers? Large numbers of students at-risk in a particular grade? Management skills needed?
 - Develop and implement the intervention plan: Are there resources that need to be allocated for this grade level (personnel, professional development, curriculum)? How will the plan be put into place? What decision-making rule will you put in place to assess the effects? Analyze data at next screening point? Sooner?

Suggested steps for discussing screening data—school-wide data, cont.

- Define the problem: Are there particular grade levels that are attaining superior performance?
 - Analysis of the assessment results: What could be leading to this superior performance? Teaching and/or management skills that could be modeled for others?



School wide screening and progress monitoring system

What system can be used to monitor the effectiveness of RTI?

- Curriculum-Based Measurement (CBM)—use for screening and progress monitoring
 - CBM provides an easy and quick method for gathering student progress
 - Teachers can analyze student scores and adjust student goals and instructional programs
 - Student data can be compared to district or national data
 - CBM data is reliable, valid, and has teacher utility

Why Curriculum-Based Measurement?

- *The scientifically validated form of progress monitoring*
 - The result of 30 years of research
 - Used across the country
 - Demonstrates strong reliability, validity, and instructional utility



Research support

- Over 30 years of research support the use of CBM to...
 - Increase student achievement (Fuchs, Deno, & Mirkin, 1984; Stecker, Fuchs, & Fuchs, 2006)
 - Make predictions about who will succeed on high-stakes assessments (Good, Simmons, & Kameenui, 2001)
 - Help teachers identify when instructional changes are needed (Fuchs, Fuchs, & Hamlett, 1993)
 - Develop classroom, school, or district norms (Shinn, 2002)
 - Increase ease of communication with parents, teachers, students, and others (Shinn, Habedank, & Good, 1993)

19

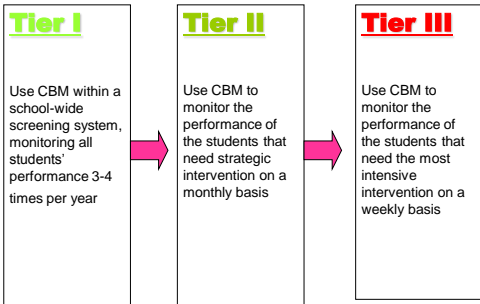
Many different uses for CBM...

- Special education decision-making
- Progress Monitoring
- Benchmarking
- Monitoring prereferral interventions
- Alternate assessment

All lead to data-based decision-making

20

Using CBM within a RTI framework

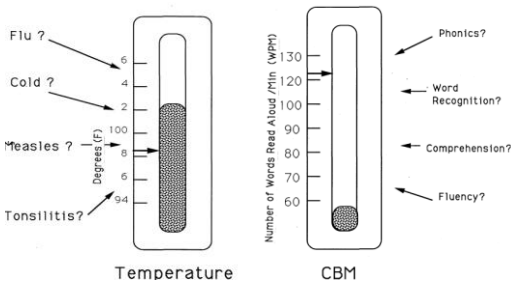


Curriculum-Based Measurement

- Not interested in making kids work faster
- Interested in kids becoming better in academics
- The CBM score is an OVERALL INDICATOR of academic competence
- Students who score high on CBMs are better:
 - Decoders
 - At sight vocabulary
 - Comprehenders
 - Computers
 - Problem-solvers
- Correlates highly with high-stakes tests

22

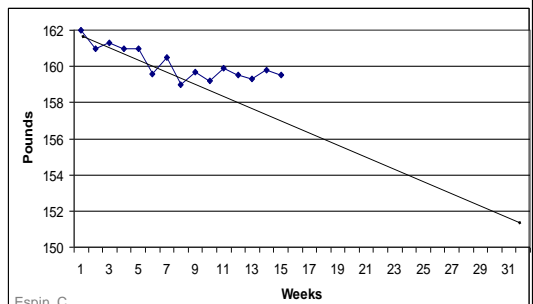
CBM: An Index of Academic Health



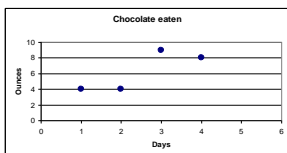
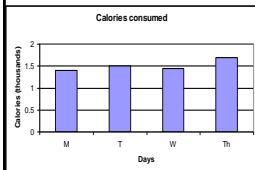
Markell, M.

23

Weight Loss Graph



Interventions



Espin, C.

How does weight loss relate to monitoring academic skills?

- We want a graph of “educational health”
- What do we measure?



Espin, C.

26

Measuring Educational Health

- We want to measure “educational health” using something that is:
 - Inexpensive
 - Easy
 - Time efficient
 - Sensitive to change
 - Easy to understand
 - An INDICATOR of educational health
- The measures do tell us if our teaching is effective. The measures do not tell us what to teach.

27

Espin, C.

Measures Used For Monitoring

- Pre-Reading/Reading
 - Early Literacy measures (letter sounds, onset, phoneme segmentation)
 - Correct words (reading aloud)
 - Correct choices (maze)
- Content-area Learning
 - Correct matches (vocabulary)
- Spelling
 - Words correct
 - Correct letter sequences
- Math
 - Algebra
 - Estimation
 - Computation
 - Concepts and Applications
 - Early Numeracy Measures
 - Problems correct
 - Digits correct
- Written Expression
 - Words spelled correctly
 - Correct word sequences
 - Correct minus incorrect word sequences



Monitor the progress of students in Tiers 2 and 3 on a frequent basis

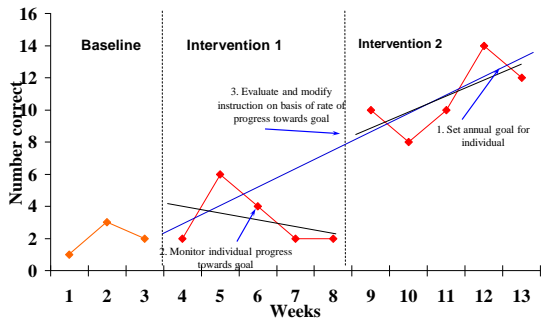


- Setting goals
- Collecting and graphing data
- Implementing data decision rules
- Making changes in instruction

	Price*	Skills Covered*
AIMSweb http://aimsweb.com/	Basic (data management for DIBELS)–\$1 per student per year Pro (data management and materials for skills)–\$2–\$4 per student per year	Early literacy, oral reading, maze, writing, early numeracy, spelling, mathematics
DIBELS http://dibels.uoregon.edu/	Materials only—Free; Materials and data management, \$1 per student per year	Early literacy, oral reading, retell, word use fluency
Edcheckup www.edcheckup.com/	Materials and data management, \$80–\$100 per classroom, per year Reading materials free for a limited time	Beginning reading, oral reading, maze, writing; mathematics being developed
Yearly Progress Pro www.mhdigitalllearning.com/	Annual student subscription: \$9.25 for one subject or \$14.25 per student for two subjects (skills aligned to state or national standards as requested), provides skills analyses and report access for teachers and administrators; includes student tutorials for each skill; add 1st-year technology and implementation fee for less than 350 subscriptions	Reading and Language Arts—includes reading maze and language assessment of specific reading and language skills, such as main idea, critical analysis, spelling, vocabulary, grammar Mathematics—grade-level specific computation and problem solving skills aligned to state and national standards

*Information obtained from websites or publishers on 4/12/07. Check with individual publishers for most current information.

**VIP of CBM (Very Important Pieces)—
Graphing data, setting goals, and using data
for instructional decision-making**



Setting goals

- Screening
 - Use established benchmarks within the system you’re using
 - Use tables that are not part of a system that provide end-of-year benchmarks
- Progress monitoring or IEP goals:
 1. End-of-year benchmarking
 2. National norms for weekly rate of improvement (slope)

**Oral Reading Fluency Norms,
2005**

Grade	1	2	3	4	5	6	7	8
WPM	59	89	107	125	138	150	150	150

*Spring norms

*Over 100,000 students

Taken from: Oral Reading Fluency, 90 Years of Measurement. Behavioral Research and Teaching, Eugene, OR, 2005. http://brt.uoregon.edu/techreports/TR_33_NCORF_DescStats.pdf

**Growth criteria for weekly
improvement—Reading**

Grade	Realistic	Ambitious
1	2.0	3.0
2	1.5	2.0
3	1.0	1.5
4	0.85	1.1
5	0.5	0.8
6	0.3	0.65
Maze Fluency	0.4	0.85

(see L. S. Fuchs, Fuchs, Hamlett, Walz, & Germann, 1993)

Graphing

- Graph by hand
- Graph with Excel
- Use a web-based graphing program (check interventioncentral.org, CBM warehouse; Aimsweb; Edcheckup; DIBELS)

**Systematic analysis of school-wide
data**



- Utilize decision-making rules
 - Percentile ranks
 - Tiered levels based on benchmarks
- Examine current core academic programs
 - Is your core program meeting the needs of the majority of your students?
 - Are there particular grade levels that are not as successful? Particular students?
 - Utilize the previously discussed problem-solving questions

MOST IMPORTANT
Implement instructional changes based on decision-making rules

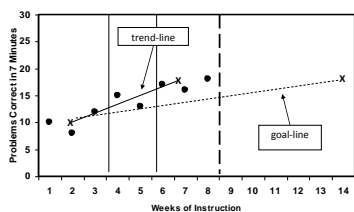
- Monitor adequacy of student progress and design effective, individualized instructional programs
- Decision rules for graphs:
 - Trend line rule—most accurate, but more difficult to obtain
 - 4-point rule—less accurate, but easy to implement

General Decision-Making Framework

Trend-Line Rule

- If 4 weeks of instruction have occurred AND at least 8 data points have been collected, figure trend of current performance and compare to goal line.
 - If trend of student progress is steeper than goal line, raise goal.
 - If trend of student progress is less steep than goal line, make a teaching change.
- Calculate by hand or computer

Based on Trend

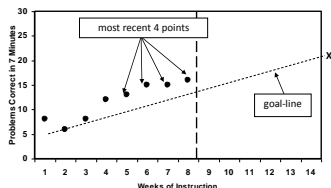


General Decision-Making Framework

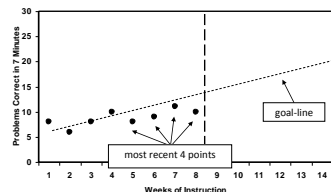
4-Point Rule

- If 3 weeks of instruction have occurred AND at least 6 points have been collected, examine the 4 most recent data points.
 - If all 4 are above goal line, increase goal.
 - If all 4 are below goal line, make a teaching change.
 - If the 4 data points are both above and below the goal line, keep collecting data until trend-line rule or 4-point rule can be applied.

Four-Point Method



Four-Point Method





Identify evidence-based interventions for Tiers 2 and 3

- Schedule for implementation of the tiered interventions?
 - Core + Intervention?
 - Where do interventions occur? General education or pull-out?



Using research-validated instructional procedures: Is there evidence for their effectiveness? How do we determine this?

- Evidence-based practices
 - Replicated in a variety of settings
 - Sample reflects the population for which we're seeking answers
 - Utilize a control group—Implemented with one group while being compared to a control that is not getting the intervention
 - Procedures are clearly described (so that the study could be replicated)
 - Published in peer-reviewed journals

Treatment fidelity

- One of the key components of RtI is lack of response to validated instruction, implemented with integrity
 - Need to check on fidelity of implementation. How can this be done?
 - Checklists, observation, discussion, video
- The purpose of fidelity checks is to create open dialogue regarding what is effective and what needs to be altered
 - Should be an OPEN process—no surprises here!

Research-validated practices

- Sources
 - Google Scholar--<http://scholar.google.com/>
 - Find relevant, research-based references for interventions you're considering
 - John Hopkins Evidence Encyclopedia
 - Bestevidence.org
 - Florida Center on Reading Research
 - Fcrr.org
 - CORE reading sourcebook
 - Corelearn.com

Benefits of Progress Monitoring Using CBM

47

Benefits of Progress Monitoring

- Teachers & students get regular feedback regarding progress
- Graphing of progress promotes motivation
- Teachers make data-based decisions
- Teachers more likely to implement instructional changes when needed
- Local individual or peer norms can be developed

48

Research Shows . . .

- CBM produces accurate, meaningful information about students' academic levels and their rates of improvement
- CBM is highly sensitive to student improvement
- CBM corresponds well with high-stakes tests
- When teachers use CBM to inform their instructional decisions, students achieve better

49

Progress monitoring and its positive effect on all stakeholders

- Students
 - More accurate identification of performance, difficulties
 - Better instructional programs
 - More intensive instruction
- General education teachers
 - More sensitive data regarding student performance
 - Greater accountability for student performance
 - Ability to assess effects of instruction
- Special education teachers
 - Ability to monitor students' performance towards meeting IEP goals
 - More accurate identification
- Special area/fine arts teachers
 - Better instruction in the classroom=fewer behaviors and students that are more highly engaged

50

Progress monitoring and its positive effect on all stakeholders, cont.

- Paraprofessionals
 - Data provides a better tool for communication between teacher/para/student
- Related service providers
 - More accurate identification of student needs
 - Data on the success of interventions attempted
- Administrators
 - Less frustration=fewer behaviors=fewer office referrals
 - Increased collaboration with students and staff
- Parents
 - Easy to understand performance data
 - Increased communication regarding intervention follow-up at home

51



ACTION PLAN

How is your school/district currently interpreting the RTI process? (see pgs. 6-8)

- What is the understanding of general educators regarding the RTI process? Special educators? Parents? Other stakeholders?
- What are common misconceptions about the RTI process right now?
- How are you seeking and finding information on RTI?
- What are your goals for RTI implementation for the rest of this school year? For next year? 3 years from now?
- What goals can you set for yourself for individual students? For small groups? For entire classes or grade levels? For your school?

Final Thoughts

53

Questions to ponder... (also see pg. 9)

- What are current barriers in thinking about this process at your schools?
- To ponder...
 - How do we influence change in our buildings?
 - What if I have a colleague in my building that isn't implementing universally effective practices, but doesn't recognize this or is unwilling to change?
 - How do we examine fidelity of implementation of effective practices?
 - How do we encourage all teachers/staff to get on board?

54

Where are we in the RtI process?

- In Missouri...
 - Numerous schools and district using technically adequate systems of schoolwide screening and progress monitoring
 - Some schools are using the RtI model for eligibility decision-making
 - More prevalent at the elementary level, although some districts are implementing at the middle school level
 - Very little is known about how RtI functions at the high school level
 - Most schools are implementing in reading first, with math, written expression, and other content areas to follow
 - DESE has created a website with RtI information, including MO state guidelines:
<http://dese.mo.gov/divspeced/RtIpg.html>

So how do you get started?

- 1) Assess your current strengths and needs
 - Use the RtI checklists in the back of your handouts (pgs. 10-21)
 - Determine what critical elements need to be introduced or enhanced
 - Determine what critical elements are already in place
- 2) Create an action plan for what your goals are for this year, next year, and 3 years from now
 - Goals, timeline, resources necessary, who is responsible
- 3) Continue to check the DESE RtI link for up-to-date resources

Building-level activities

- Book Studies
 - Schmoker chapters. Use questions from study group activities
 - Articles/questions from study group and leadership team activities
 - Brown-Chidsey & Steege RTI book
- Where to get materials...
 - National Center on Student Progress Monitoring, www.studentprogress.org, click on library and then on presentations or training. Feel free to use the materials, giving credit to the National Center.
 - Check resources in the back of your packet (pgs. 22-26)

57