Background of Secondary Level RTI

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RTI Research Studies at the Secondary Level

- No experimental studies investigating an RTI framework of commonly associated components
  - Screening
  - Student progress monitoring
  - Multi-level services
  - Data-based decision making
- Experimental study of 6th grade secondary level (Tier 2) reading interventions (Vaughn et al., 2010) and descriptive studies of a few high schools
- **Webinar on Middle School RTI (April 2011; Archived at RTI4Success.org)**

Considerations for Implementation and Sustainability

1. RTI is a process for the whole school.
2. Education is a team sport.
3. RTI is scaled up; Not a package.
4. Leadership has to come across all of the staff.
5. Fundamental shared **values** are the point for initial discussions.
6. **Primary** level of prevention has to support 80%+ of the students.

Middle School Information Gathering Activities

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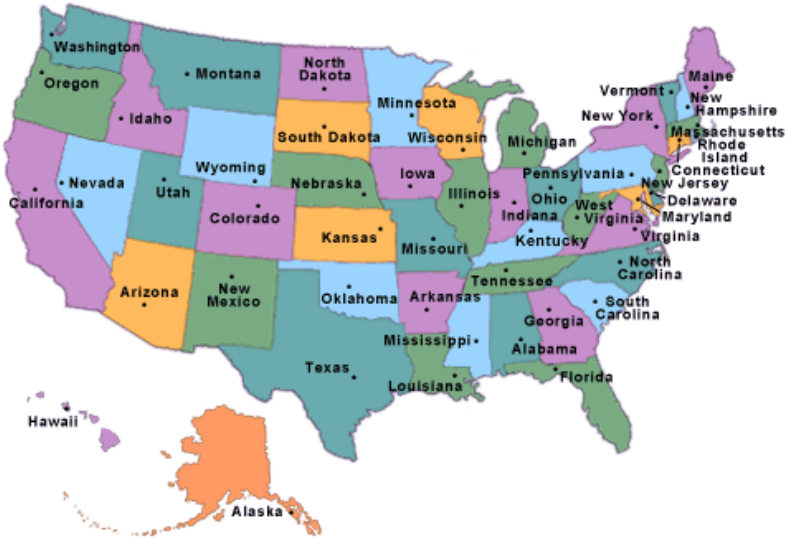
Research Participants

NCRTI staff spoke with middle school representatives from the following states:

Alaska
Arizona
California
Colorado
Connecticut
Florida
Georgia
Idaho
Illinois
Iowa
Maine
Maryland
Minnesota
Mississippi
Missouri
Montana
New York
North Dakota
Ohio
Oregon
Pennsylvania
South Carolina
Texas
Utah
Virginia
Washington
Wisconsin
Wyoming



Information gathering activities

NCRTI staff

- Initially called and asked schools to participate
- Conducted two-hour phone interviews with participants.
  - Asked about RTI practices for screening, progress monitoring, data based decision making and multi-level instructional practices.
- Conducted follow-up two-hour phone calls with schools that implemented all essential components
- Conducted site visits with schools

Schools' Demographics

- Most schools served 6th, 7th, and 8th grades
- Schools represented rural, suburban, and urban schools.
- Many schools had diverse student populations
- IEPs ranged from 7% to 20% of the population

Some Principal Testimonies

- RTI is possible in middle schools
- Assess the resources already in existence; then see what else is needed
- Innovate techniques and interventions
- Use your data: keep what works, change what doesn’t
- Leadership is key to putting change in motion
- Combine professional development with coaching

Key Findings From Middle Schools

- Strong, cohesive, knowledgeable building **leadership**
- Use of open, transparent **communication**
- Continuous **professional development** opportunities
- Establishment of a leadership/planning **team**
- Routinize **data based decision making** practices

RTI Essential Components in Middle Schools

1. Screening
2. Progress monitoring
3. Multi-level prevention system
4. Data-based decision making

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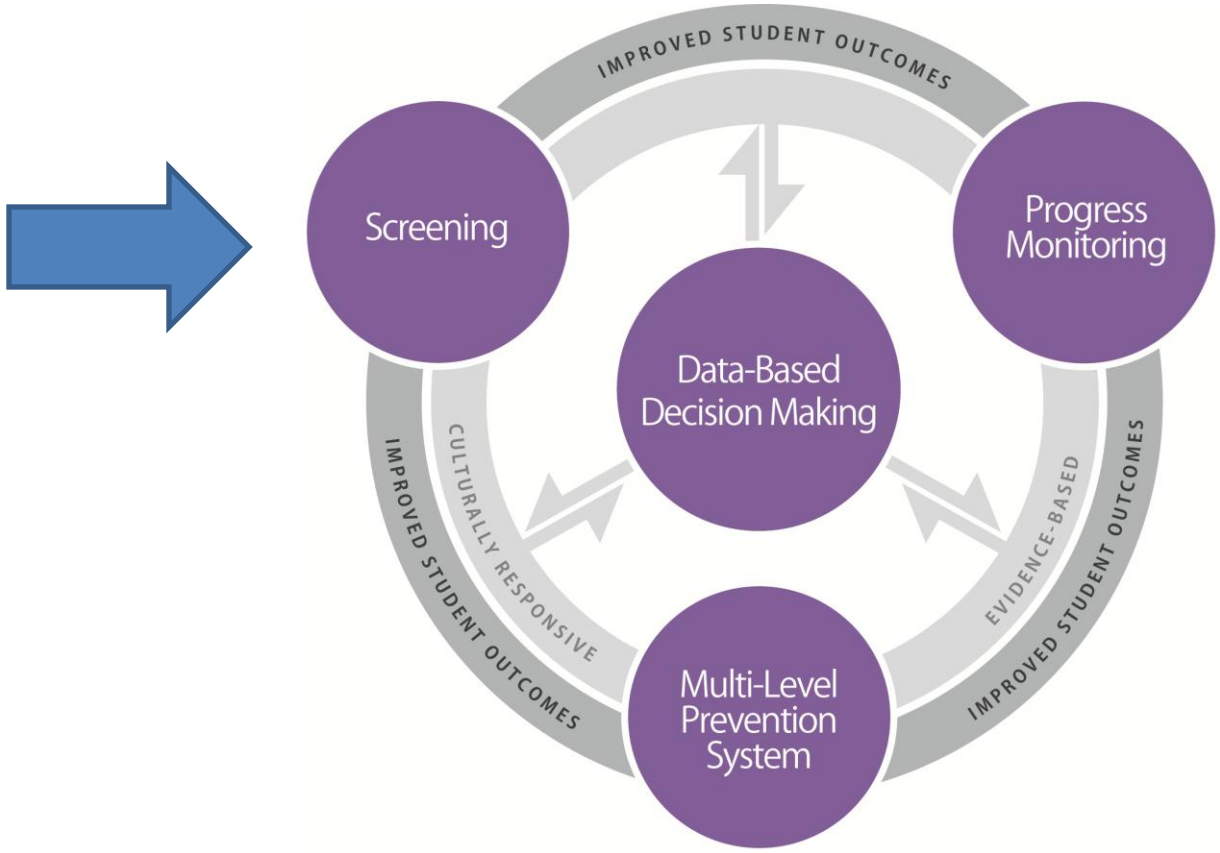
Essential Components of RTI



Screening Practices

- **Purpose** - Screening data gives school staff a broad view of
  - Class-wide needs
  - Individual student risk status
- **Tools** - Key staff members researched and chose tools that matched the method, frequency, and content area that best fit their needs.
- **Frequency** – Almost three-quarters (30/42) of schools screen 3 times each year.

Screening Importance

You can't forget about universal screens that scoop up students you may have missed before because they were making it with their understanding at one level, but the bar got raised and now they're falling behind.

Middle school principal

Choosing screening tools

Participating middle schools considered

- Their desired outcomes from an assessment
  - Determine basic skills gaps
  - Predict school performance
- Existing data collection tools

Because we are screening so quickly, we see problems in real time, so we are identifying kids before there is a major deficit

NCRTI Screening Tools Chart

TOOLS	AREA	Classification Accuracy	Generalizability	Reliability	Validity	Disaggregated Reliability, Validity, and Classification Data for Diverse Populations	Efficiency			
							Administration Format	Administration & Scoring Time	Scoring Key	Norms/ Benchmarks
AIMSweb	Reading Curriculum Based Measurement (R-CBM)	◐	Moderate High	●	●	—	Individual	2 Minutes	Yes	Yes
Dynamic Indicators of Basic Early Literacy Skills (DIBELS)	Letter Naming Fluency	○	Moderate Low	●	◐	—	Individual	2 Minutes	Yes	Yes
	Nonsense Word Fluency	◐	Moderate Low	●	◐	○	Individual	2 Minutes	Yes	Yes
	Oral Reading Fluency	◐	Moderate High	●	◐	◐	Individual	2 Minutes	Yes	Yes
	Phoneme Segmentation Fluency	○	Moderate Low	◐	○	◐	Individual	2 Minutes	Yes	Yes
Scholastic	Phonics Inventory - Screener Version	◐	Moderate High	●	◐	—	Individual Group	10 Minutes	Computer Scored	No
STAR	Early Literacy	◐	Broad	●	◐	●	Individual Group	10 Minutes	Computer Scored	Yes
	Reading	◐	Moderate High	●	●	●	Individual Group	10 Minutes	Computer Scored	Yes
STEEP	Oral Reading Fluency	●	Moderate High	●	◐	—	Individual	1 Minute	Yes	Yes

Chart Legend: ● Convincing Evidence | ◐ Partially Convincing Evidence | ○ Unconvincing Evidence | — No Evidence Submitted

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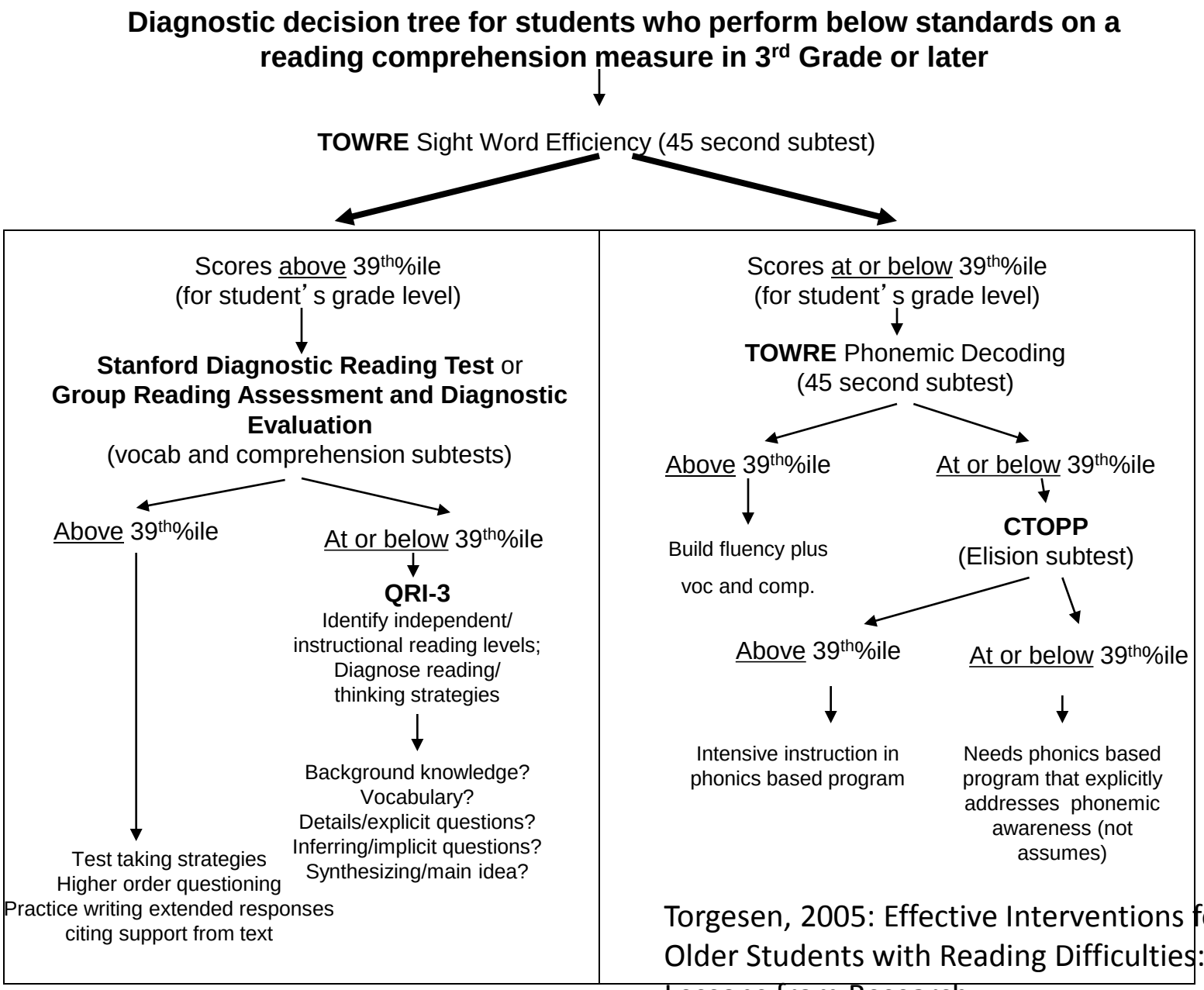
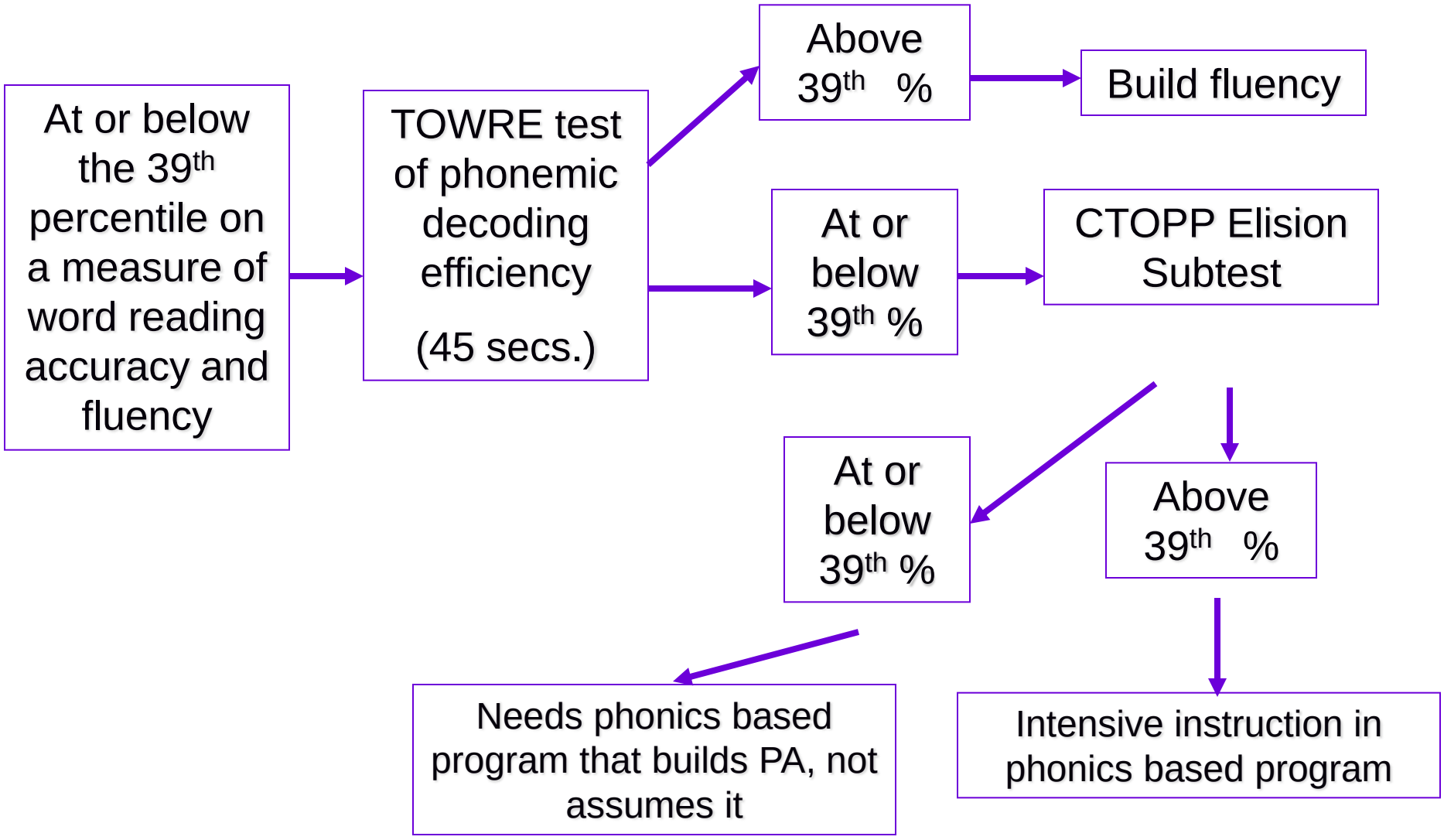


Torgesen, 2005: Effective Interventions for Older Students with Reading Difficulties: Lessons from Research

The side of the tree for students with word reading difficulties



The side of the tree for students with word level skills above the 39th percentile

Stanford Diagnostic Reading Test or
Group Reading Assessment and Diagnostic Evaluation
(vocabulary and comprehension subtests)

Above 39th %

Test taking strategies
Higher order questioning
Practice writing extended responses citing support from text

At or below 39th %

QRI-3
Identify independent/instructional reading levels;Diagnose reading/ thinking strategies

Build background knowledge
Teach vocabulary
Teach comprehension strategies

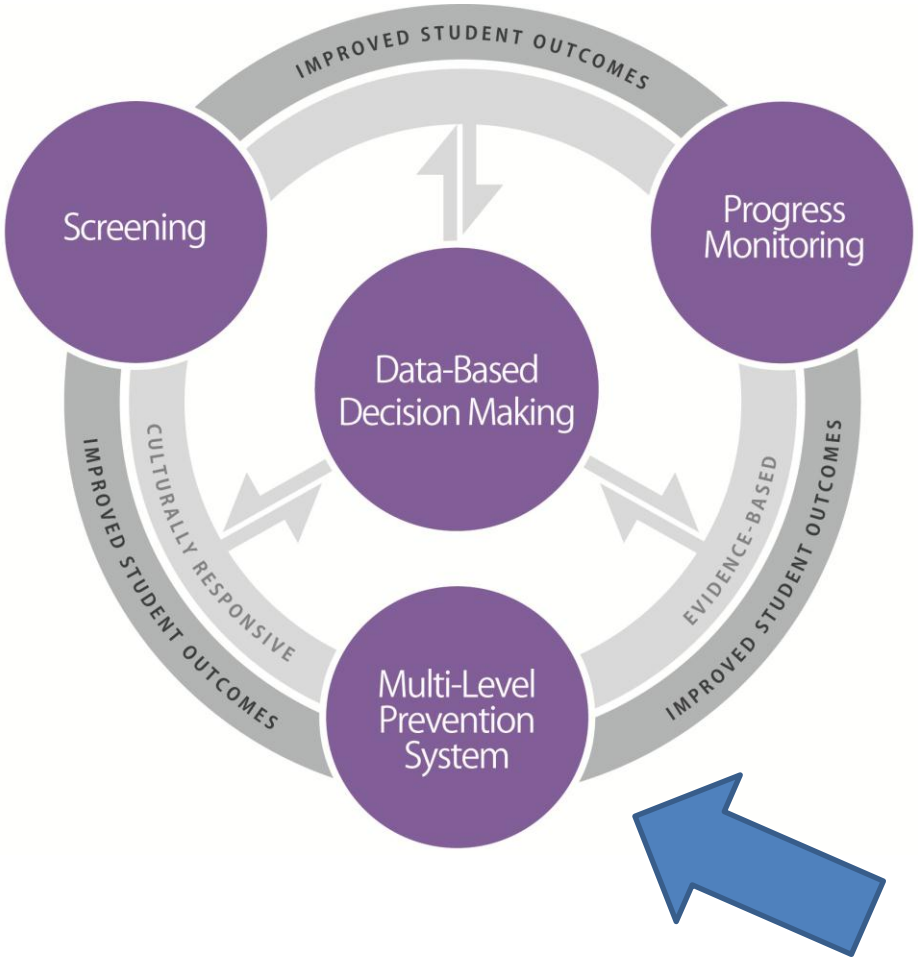
Think, Pair, Share

Screening processes

Review the screening items on the *RTI Essential Components Integrity Rubric*

- What does the evidence indicate for your school?
- If you already have a screening practice, how are the data and results working for your needs?

Essential Components of RTI



Multi-level instruction

- Middle schools follow the same general instructional framework that has been found in elementary schools –
  - Primary prevention
  - Secondary intervention
  - Tertiary intervention

Primary Prevention
Middle School Practices

- Improving their primary level of prevention (general education) is pivotal to RTI implementation success
- Engaging students in their learning
  - Every student knows the learning goals.
- Standardized curriculum
  - Mr. X's 6th grade math is the same as Ms. Y's 6th grade math.

Primary Prevention

Middle school principal

Our "big bucks" go into tier 1 [primary prevention].

Secondary Prevention
Middle School Practices

- Class size: The student-teacher ratio was ~ 10-15:1
- Schedule: Interventions often occurred during electives or an already existing “flex” class period.
- Delivery: General education teachers most frequently taught the intervention classes, but some schools reported a combination of general educators, special educators, and specialists.
- Frequency: Most students received interventions daily.
- Duration: Most interventions were a class-long session (typical time was 44 minutes).

Tertiary Prevention
Middle School Practices

- Class size: The student-teacher ratio was ~ 4:1
- Schedule: Most tertiary classes occurred in place of core (general education) and elective classes
  - Tertiary level interventions were often delivered in addition to the core curriculum
- Delivery: Special educators and full-time interventionists were the most common teachers
  - Many schools had co-teaching (two teachers delivered the interventions) models for the tertiary level
- Frequency: Daily instruction
- Duration: Usually classes lasted one class period each day.
  - Many students needing tertiary level instruction had two intensive classes (e.g., in lieu of both electives).
  - Often, length is dependent upon individual student's needs (e.g., problem severity, subject, intervention method)

Example School Schedule

Period	Grade 6	Grade 7	Grade 8
HR	8:30 Homeroom 8:55	8:30 Homeroom 8:45	8:30 Homeroom 8:45
T	8:57 Intervention 9:37	8:45 Tutorial 9:00	8:45 Tutorial 9:00
1	9:40 Basic 10:20	9:02 Basic-Block 10:22	9:02 Basic-Block 10:22
2	10:22 Basic 11:02	10:24 Intervention/Basic 11:04	10:24 Related Arts 11:04
3	11:04 Lunch 11:37	11:06 Intervention/Basic 11:46	11:06 Related Arts 11:46
4	11:39 Basic 12:19	11:48 Lunch 12:21	11:48 Intervention 12:28
5	12:21 Related Arts 1:01	12:23 Basic 1:03	12:30 Lunch 1:03
6	1:03 Related Arts 1:43	1:05 Basic 1:45	1:05 Basic 1:45
7	1:45 Basic/Reading 2:23	1:47 Related Arts 2:27	1:47 Basic 2:27
8	2:25 Reading/Basic 3:09	2:29 Related Arts 3:09	2:29 Basic 3:09

Instruction Tools Chart

Program	Study	Study Quality				Effect Size			
						Full Sample			Disaggregated Sample
		Participants	Design	Fidelity of Implementation	Measures	Number of outcome measures	Mean	Range	Subgroup(s)
Corrective Reading Decoding	Benner, Beaudoin, & Stein (2005)	○	○	◐	●	4 Reading	Inadequate information		—
	Gunn, Biglan, Smolkowski, & Ary (2000)	●	●	○	●	5 Reading	Inadequate information		—
Early Vocabulary Connections	Nelson, Vadasy, & Sanders (in submission)	●	●	◐	●	3 Reading	0.38	0.23 to 0.67	—
Failure Free Reading	Torgesen et al. (2006)	●	◐	●	●	18 Reading 1 Writing 1 Math	Inadequate information		—
Hot Math Tutoring	Fuchs, et al. (2008)	●	●	●	●	4 Math	0.88	0.38 to 1.15	—
My Sidewalks Intensive Reading Intervention	Baird-Wilkerson (2008)	●	●	○	●	14 Reading	0.01	-0.12 to 0.24	—
Number Rockets	Fuchs et al. (2005)	●	●	●	●	7 Math	0.33	0.03 to 0.64	—
Pirate Math Individual Tutoring	Fuchs et al. (2009)	●	●	●	●	7 Math	0.50	0.14 to 0.79	—
Read Naturally	Heistad (2005)	●	◐	○	●	3 Reading	0.26	0.14 to 0.39	—
Reading Mastery	Carlson & Francis (2002)	○	○	○	○	2 Reading	Inadequate information		—
	Gunn, Biglan, Smolkowski, & Ary (2000)	●	●	○	●	5 Reading	Inadequate information		—
	Schwartz (2005)	●	◐	○	●	10 Reading	0.90	0.14 to 2.09	—

Legend: ● Convincing Evidence ◐ Partially Convincing Evidence ○ Unconvincing Evidence

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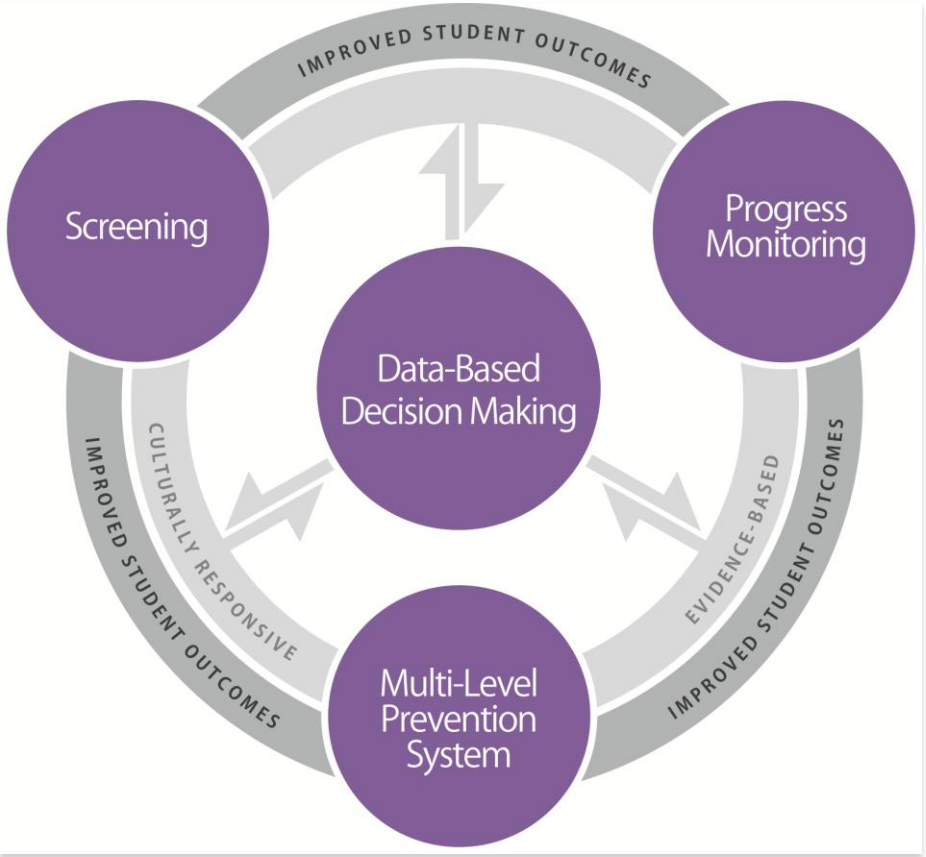
Think, Pair, Share

Multi-level instruction

Review the multi-level prevention/intervention system items on the *RTI Essential Components Integrity Rubric*

- What does the evidence indicate for your school?
- What techniques do you employ in your primary prevention level to boost instructional outcomes?
- What specific practices differentiate your secondary and tertiary instructional levels?
- How will you ensure intensive-level instruction remains aligned to the core curriculum?

Essential Components of RTI



Progress Monitoring Practices In Middle Schools

- Progress monitoring practices are diverse.
- The most common tools were assessment programs and CBMs
- Most middle schools progress monitored
  - Weekly for secondary level, (but frequency ranged from weekly to monthly)
  - Tertiary level was often progress monitored twice a week, but ranged from daily to twice a month

Progress Monitoring Tools Chart

General Outcome Measures | Mastery Measures

TOOLS	AREA	Reliability of the Performance Level Score	Reliability of the Slope	Validity of the Performance Level Score	Predictive Validity of the Slope of Improvement	Alternate Forms	Sensitive to Student Improvement	End-of-Year Benchmarks	Rates of Improvement Specified	Norms Disaggregated for Diverse Populations	Disaggregated Reliability and Validity Data
	Test of Early Literacy - Nonsense Word Fluency	●	●	●	●	●	◐	●	●	No	●
	Test of Early Literacy - Phonemic Segmentation Fluency	●	●	●	●	●	◐	●	●	No	●
Curriculum Based Measurement in Reading (CBM-R)	Letter Sound Fluency	●	●	●	●	●	●	●	●	No	—
	Maze Fluency	●	●	●	●	●	●	●	●	No	—
	Passage Reading Fluency	●	●	●	●	●	●	●	●	No	—
	Word Identification Fluency	●	●	●	●	●	●	●	●	No	—
Dynamic Indicators of Basic Early Literacy Skills (DIBELS)	Initial Sound Fluency	●	—	●	—	●	●	○	○	No	—
	Nonsense Word Fluency	●	—	●	○	●	●	○	○	No	—

Chart Legend: ● Convincing Direct Evidence | ◐ Partially Convincing Evidence or Convincing Indirect Evidence | ○ Unconvincing Evidence | — No Evidence Submitted

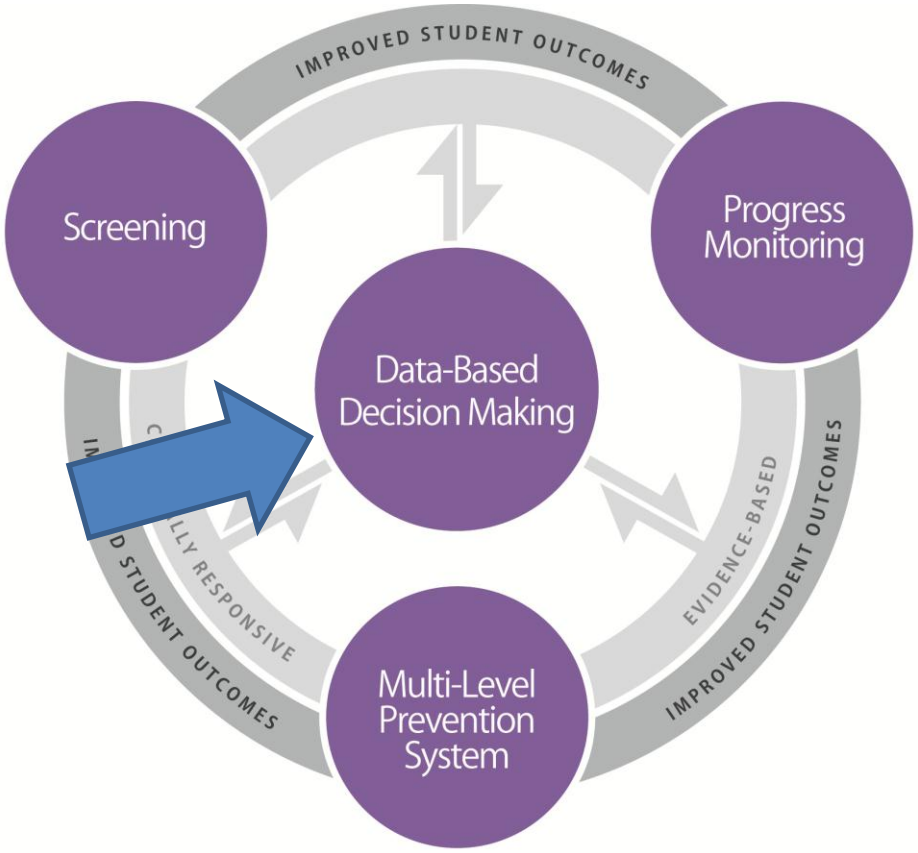
Think, Pair, Share

Progress monitoring

Review the progress monitoring items on the *RTI Essential Components Integrity Rubric*

- What does the evidence indicate for your school?
- What tools will you use to measure each content area and level of intervention?
- With what frequency do you need to collect student data for secondary-level and tertiary-level intervention classes?

Essential Components of RTI



Data-Based Decision Making

- Data analysis at all levels of RTI implementation (e.g., state, district, school, grade level)
- Established routines and procedures for making decisions
- Explicit decision rules for assessing student progress (e.g., state and district benchmarks, level and/or rate)

Data-Based Decision Making
Example Middle School

- Use a pre-screening questionnaire for all incoming 6th graders
- Use district-provided cut scores to determine which students are in need of interventions
  - In addition, the results of diagnostic assessments, grades, and other sources of "soft data" are used to inform data discussions
- School counselors organize all the data (screening, progress monitoring, and "soft data")
- Leadership team meets to discuss all students receiving interventions and those students who have been referred to the team by content area teachers

Think, Pair, Share

Data-based decision making

Review the data-based decision making items on the *RTI Essential Components Integrity Rubric*

- What does the evidence indicate for your school?
- What types of data (screening and progress monitoring) will you use to make data-based instructional decisions?
- What are your data-based decision making procedures (decision tree)?

Overarching Factors

- Focus
- Culture
- Leadership
- Leadership Teams

Focus
Why did schools choose RTI?

- *To close the student achievement gap*
- *To meet AYP every year with every subgroup*
- *To address undesirable and disruptive behaviors*

Culture
"RTI = All Staff + All Kids"

Schools reported a cultural shift in language and thinking.

- Teachers think less about teaching content and more about ensuring students learn.
- "*We all [staff] believe that all students can learn.*"
- All staff own all students; no more "my student" or "his student."
- All teachers can teach reading and math

Leadership

Strong **principal leadership** in the schools

- Provided ongoing professional development
- Provided staffs sufficient time to understand RTI
- Addressed staff questions and concerns
- Led school structural changes to accommodate collaboration and intervention time
- Promoted staff buy-in through hands-on involvement in the decision-making process
- Ensured new hires are willing to embrace RTI

Leadership Teams

- A leadership team should be established early in the process
  - Facilitates decision making about implementation
  - Establishes professional development needs,
  - Plans implementation activities
  - Leads data-based decision making needs

Systemic Leadership

- Principals emphasized that RTI implementation decisions were made in collaboration with school staff members
- Staff leaders facilitated and promoted buy-in and understanding of RTI among colleagues

"As an administrator, it is critical to have the teachers push [RTI] forward, while the administrator is in the background pushing."

Think, Pair, Share

Overarching Factors

- Review the Overarching Factors on the *RTI Essential Components Integrity Rubric*
- How will RTI benefit your school (*focus*)?
- Are staff ready to embrace RTI (*culture*)?
- Will the principal lead the RTI changes (*leadership*)?
- Which staff members are helping lead RTI (*systemic leadership*)?

Staff Knowledge Building

- Key actions for staff understanding were:
  - Clearly stating **purpose**, **goals**, expected **outcomes** of RTI
  - Developing an implementation **plan** with staff
  - Establishing frequently-used **communication** pathways
  - Listening to and **addressing** staffs' **concerns**
  - Having a **shared language** of RTI concepts

Professional Development

The ongoing knowledge-building served to

- Facilitate understanding of the RTI process
- Prepare teachers to
  - teach interventions with fidelity
  - monitor students' progress
  - use data to make instructional decisions

Professional Development takes a lot of resources and time, but it is necessary to keep all staff informed and up-to-date on the innovation, techniques, and curriculum.

Implementation Plan Development

In the middle schools, the *Leadership Teams*

- Established a **timeline** to focus on RTI planning, guidance, and implementation steps
- Clearly defined their **implementation goals** and **schedule** for essential components, assessment tools, intervention programs
- Identified **staff members** to lead implementation activities for each essential component implementation (e.g., screening, progress monitoring, and multi-level instruction)
- Ensured their **coaches** were prepared to assist teachers in implementing interventions and assessing fidelity.

Think, Pair, Share

- What are some activities you can easily establish to build staff knowledge?
- What professional development opportunities can you access to begin the implementation process?
- How will you begin the plan development process?
- How will you engage parents in the planning process? Introduce your framework to them?

Implementing

- “One essential component”
- “One small group”

“One Essential Component”

- Build model with one component at a time.
  - For example – Screening, then data based decision making, then progress monitoring, then intervention levels.
- Administrators recommended
  - Having a timeline for each essential component implementation
  - Training staff in advance of each component implementation
  - Beginning with a component that makes sense for the school based on existing tools, structures, and resources

“One Small Group”

- Build model with one pilot group at a time.
  - For example – Implemented all essential components with one small class of students
- Administrators recommended:
  - Collecting data from the pilot group
  - Investigating which components and their associated features worked well
  - Identifying which components and their associated features needed to be refined
  - Scaling-up to other classes, grades, content areas

Think, Pair, Share

Implementing

- Where are you in your current implementation activities?
- What implementation method might work best for your school's current resources, staff, and students?

Additional Resources

http://www.rti4success.org

- Middle School Implementation (Spring 2011) http://www.rti4success.org/resourcetype/rti-implementation-processes-middle-school
- Scheduling Frequently Asked Questions (Spring 2011) http://www.rti4success.org/resourcetype/rti-scheduling-processes-middle-school
- "Frequently Asked Questions" brief (Summer 2011)
- Middle School Essential Components report (Summer 2011)

National Center on Response to Intervention

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