

Implementing RtI at the Middle School

sponsored by the NYS RtI TAC

In the middle of difficulty lies great opportunity.

Matthew Burns

University of Missouri

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Contributions to Learning – Hattie 2009

- The student $d = .40$
- The school $d = .23$
- The teacher $d = .49$
- The curriculum $d = .45$

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Interventions for Children with LD

Reading comprehension	1.13
Direct instruction	.84
Psycholinguistic training	.39
Modality instruction	.15
Diet	.12
Perceptual training	.08



Special Education

- President's Commission on Excellence in Special Education
- Reduce paperwork and increase flexibility
- Identify and intervene early
 - Service first and assessment later
- “Those that get counted, count.”
- Use special education staff more effectively

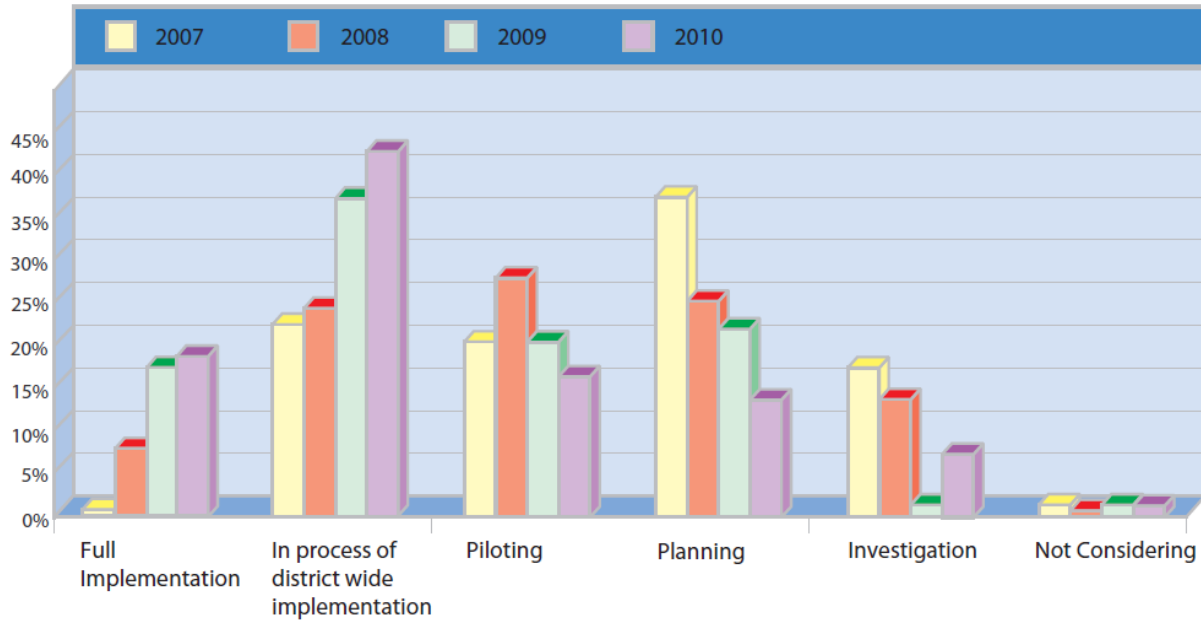
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MTSS

The systematic use of assessment data to most efficiently allocate resources in order to enhance learning for all students.

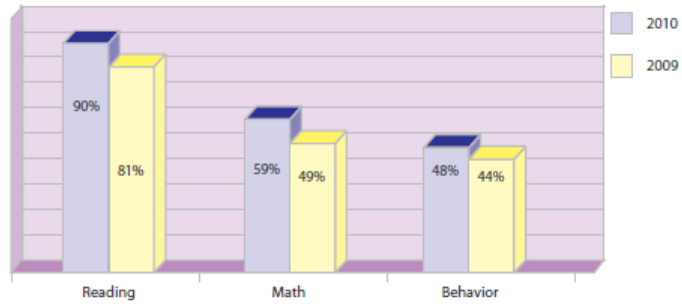
Burns & VanDerHeyden, 2006

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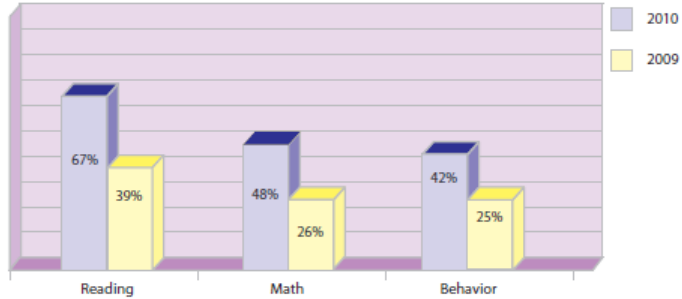


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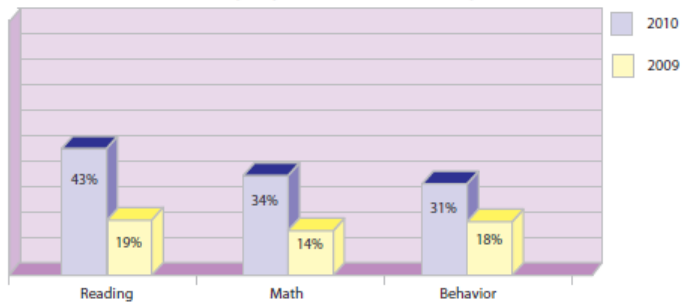
Areas RTI is currently implemented - **Elementary Schools**



Areas RTI is currently implemented - **Middle Schools**

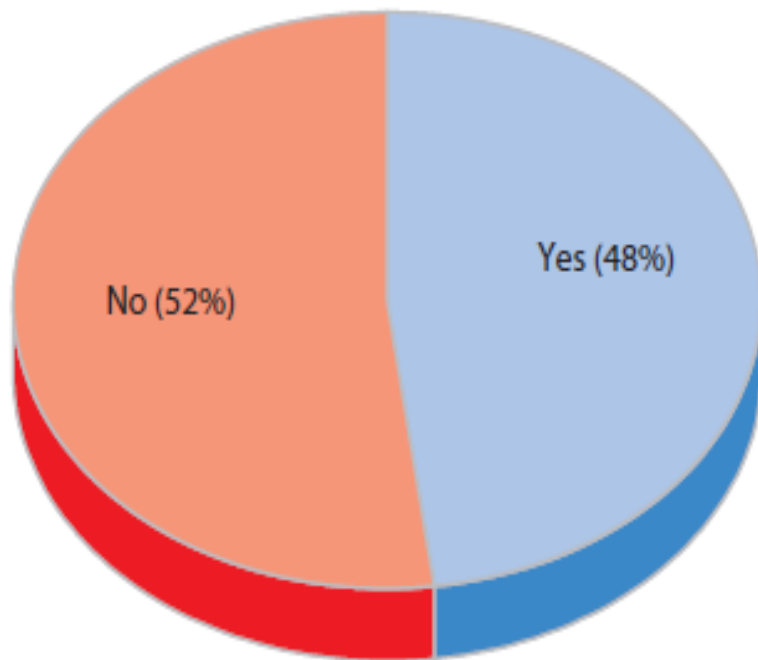


Areas RTI is currently implemented - **Secondary Schools**



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Does your district have a formal RTI district implementation plan?



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Components of MTSS

- Universal Screening
- Monitoring Student Progress
- Tiered Interventions
- Data-Based Decisions

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Professional Learning Communities

- Teams of teachers
 - All of those who teach a particular grade level
 - A forum to collectively problem-solve at the school, classroom, and student level (DuFour, Eaker, DuFour, 2005)
- PLCs focus on student data and a culture of collaboration (DuFour, 2005).
- Many do not have common assessments, criteria to judge student proficiency, or a process to collaboratively analyze data (DuFour et al., 2005; Love, 2009).

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PLC Meetings:	Agenda
PLC: 1st weekly meeting of the month (Content Focus)	<ul style="list-style-type: none"> • Grade level teams and coaches with additional personnel as appropriate • School-site established PLC focus on various topics (e.g., math, STEM, behavior, environment, or other school topical initiatives)
PLC: 2nd weekly meeting of the month RTI (Core Instruction Literacy Focus)	<ul style="list-style-type: none"> • Grade level teams and coaches with additional personnel as appropriate • Examine various formal and informal data to drive core instruction • Agenda will include embedded professional development on topics that address opportunities and challenges for core instruction
PLC: 3rd weekly meeting of the month (Content Focus)	<ul style="list-style-type: none"> • Grade level teams and coaches with additional personnel as appropriate • School-site established PLC focus with schools studying varied topics
PLC: 4th weekly meeting of the month RTI (Data Analysis)	<ul style="list-style-type: none"> • Grade level teams and coaches with additional personnel as appropriate (data management team) • Analyze screening/benchmark data • Analyze progress monitoring data • Discuss, monitor and adjust tiered interventions.

Data Management Team

- School Psychologist
- Literacy Coach

- SLOWLY remove

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Four Purposes of Assessment

Program evaluation: How is the education system working for students overall?

- State test

Screening: Which of my students are not meeting grade level expectations given Universal Instruction?

- E.g., MAP

Diagnostic: What are the specific needs of students who struggle with reading or math?

E.g., measures of specific skills

Monitoring Progress: What does the student's growth look like?

E.g., CBM

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Screener	MAP < 25 th %ile	MAP ≥ 25 th %ile	Total
Oral Reading Fluency (ORF)			
ORF < Benchmark Goal	276	145	421
	A	B	
ORF ≥ Benchmark Goal	46	501	547
	C	D	
Total	322	646	968
Fountas and Pinnell (F&P)			
F&P < Benchmark Goal	90	189	279
	A	B	
F&P ≥ Benchmark Goal	200	367	567
	C	D	
Total	290	556	846

Sensitivity = $a / (a + c) = .86$ for ORF and $.31$ for F&P,

Specificity = $d / (b + d) = .78$ for ORF and $.66$ for F&P,

Overall Correct Classification = $(a + d) / N = .80$ for ORF and **.54** for F&P

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Fluency (actually rate)

Descriptive Data and Correlations between R-CBM and Accountability Test Scores

Grade	<u>R-CBM</u>			<u>Maze</u>			<u>State Test</u>		r_{cbm}	r_{maze}
	N	Mean	SD	N	Mean	SD	Mean	SD		
3rd	3165	114.5	42.8				1462.7	192.5	.71*	na
5 th	3283	142.8	44.3				1506.9	211.7	.65*	na
7th	528	165.7	41.2	282	15.6	3.0	1456.7	104.8	.60*	.54*
8 th	1843	168.6	39.0	1028	18.9	4.6	641.5	51.9	.51*	.49*

Note: MCA test was used for third, fifth, and seventh grade and BST was used for eighth grade, correlations are corrected for range restriction

Silberglitt, B., Burns, M. K., Madyun, N. H., & Lail, K. E. (2005). Relationship of reading fluency assessment data with state accountability test scores: A longitudinal study of elementary school students. Manuscript accepted pending revisions. *Psychology in the Schools*

Developmental Activities

- ✘ 1st grade – Phonemic awareness and phonics instruction
- ✘ 2nd grade – Explicit phonics instruction, writing, and fluency
- ✘ 3rd grade – Fluency and comprehension
- ✘ 4th grade – Read to learn
- ✘ Upper elementary & Middle School – Vocabulary and comprehension
- ✘ High school – Comprehension and application

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	Screening/ Benchmark	Diagnostic	Monitor Progress Skill	Monitor Progress GOM
Middle School Fluency to Comprehension	CBM-ORF & MAP	MAP, ORF, & Words Their Way	Weekly Instructional-level ORF	Every other week Grade-level ORF Monthly STAR

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Individual Screening without a Test

- Middle School
 - More than 20% absent
 - Poor behavior/conduct grade
 - Failing math
 - Failing English (Balfanz & Herzog, 2006).
- High School
 - More than 20% absent
 - Course failures
 - Credits earned
 - Grade point average (Allensworth, 2005).

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Tiered Interventions

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Multi-Tiered Academic Interventions (Burns, Jimerson, & Deno, 2007)

Tier I: Universal screening and progress monitoring with quality core curriculum: All students,

Tier II: Standardized interventions with small groups in general education: 15% to 20% of students at any time

Tier III: Individualized interventions with in-depth problem analysis in general education : 5% of students at any time

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Problem Solving

- Tier I – Identify discrepancy between expectation and performance for **class or individual** – **Is it a classwide problem?**
- Tier II – Identify discrepancy for individual. Identify **category of problem**. Assign small group solution. **What is the category of the problem?**
- Tier III – Identify discrepancy for individual. Identify **causal variable**. Implement individual intervention. **What is the causal variable?**

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TIER I

Classwide problem?

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You've Got the Data – Now What?

- Data Management Team
 - Usually school psychologist and one other
 - Know data!
- PLC or Discipline Teams
- Get data to teachers within 2 to 3 days
- Lead data meeting

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What is the Class Median?

- Median: the middle value in a list of numbers when the values are arranged from lowest to highest.
- Finding the class median:
 - Order student scores from the lowest to highest value.
 - The score in the middle of the list is the median.
 - If there is an even number of scores, take the average of the middle two scores.

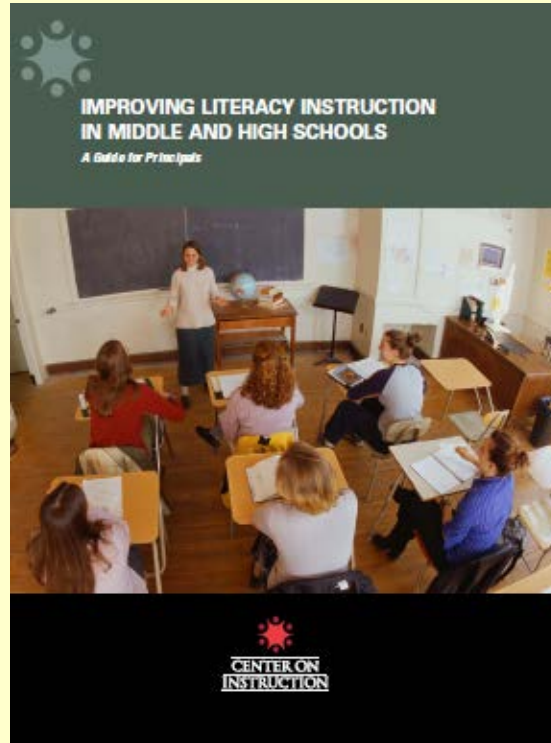
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Literacy in MS/HS



<http://www.fcrr.org/Interventions/pdf/Principals%20Guide-Secondary.pdf>

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Adolescent Literacy

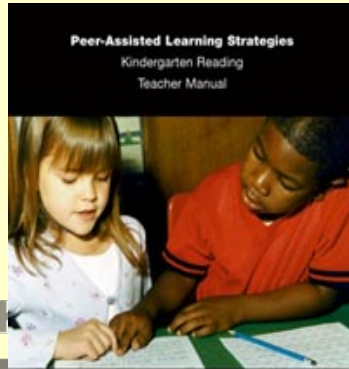
- Create a literacy plan
- Adopt coherent and rigorous standards
- Assess student needs
- Deliver interventions to struggling readers
- Help teachers learn literacy instruction
- Make a long term commitment

Biancarosa, G. & Snow, C.E. (2004). *Reading Next—A Vision for Action and Research in Middle and High School Literacy: A Report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education.



Classwide Intervention

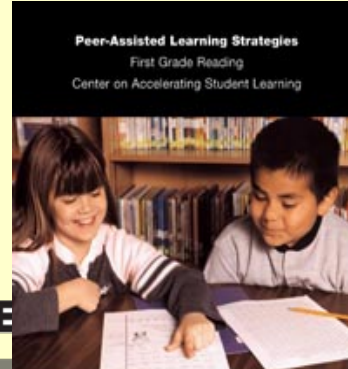
<http://kc.vanderbilt.edu/pals/>



Peer-Assisted Learning Strategies
Kindergarten Reading
Teacher Manual

Douglas Fuchs, Lynn Fuchs, Anaska Thompson,
Stephanie Al Otaiba, Louise Yen, Kristina McManes,
Randy Yang, Erika Swanson, Mary Brown

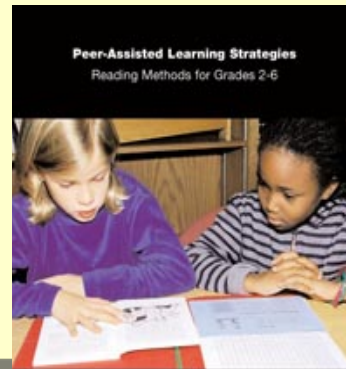
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Department of Education, Office of Special Education Programs, under the
Title II, Part C, of the Individuals with Disabilities Education Act.



Peer-Assisted Learning Strategies
First Grade Reading
Center on Accelerating Student Learning

Douglas Fuchs, Lynn Fuchs, Erika Swanson, Louise Yen,
Anaska Thompson, Kristina McManes,
Stephanie Al Otaiba, Randy Yang, Mary Brown

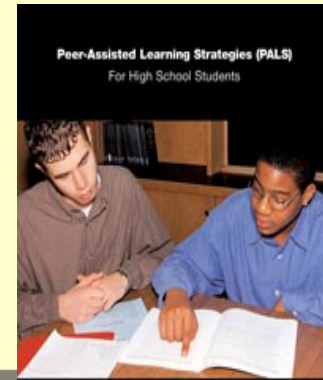
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Peer-Assisted Learning Strategies
Reading Methods for Grades 2-6

Dr. Douglas Fuchs, Dr. Patricia S. Hoffman,
and Dr. Lynn S. Fuchs

Support for the development of this manual was provided in part by
a grant awarded from the Office of Special Education Programs by the
U.S. Department of Education, Office of Special Education Programs, under
the Federal Institute of Education Research, under the
Title II, Part C, of the Individuals with Disabilities Education Act.



Peer-Assisted Learning Strategies (PALS)
For High School Students

Lynn S. Fuchs, Douglas Fuchs, Sarah Kessler,
Patricia Hoffman, Karin Proffitt, & Laura Spivey
George Peabody College, Vanderbilt University

Support for the development of this manual was provided in part by
a grant awarded from the Office of Special Education Programs by the
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P A L S

Peer Assisted Learning Strategies

Objectives

- Increase students opportunity to read
- Includes tasks that all students can perform successfully
- Motivates students to become better readers
- Involves all students; creates opportunities for lower functioning students to assume an integral role in a valued activity
- Provides for positive and productive peer interaction

Overview

Partner Reading

1. Stronger reader reads aloud for 5 minutes
2. The weaker reader reads aloud the SAME text for 5 minutes
3. Weaker readers sequence the major events of what has been read for 1 minute

Paragraph Shrinking

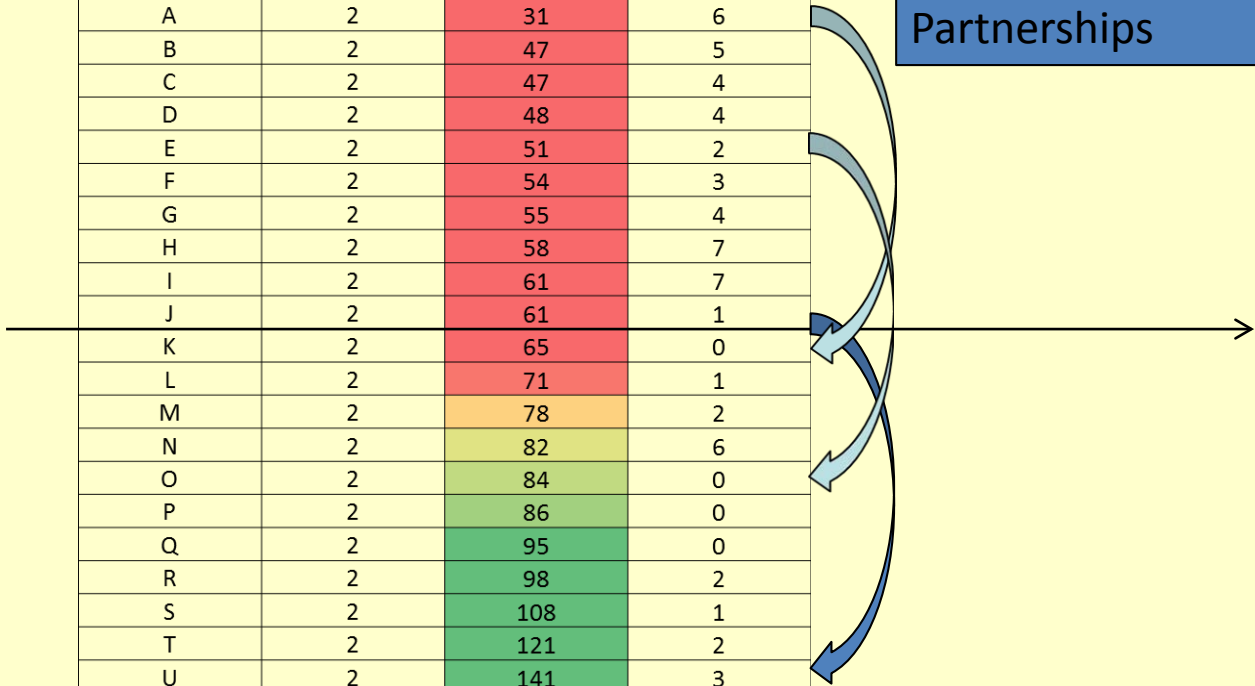
1. For 5 minutes the stronger read continues reading new text in the story, stopping after each paragraph to summarize
2. For 5 minutes the weaker reader continues with the new text, stopping after each paragraph to summarize

Set Up Procedures

Pairs/ Teams	Points	Selecting Text	Materials to Display
<ul style="list-style-type: none">• Pair the top ranked higher performing student with the top ranked lower performing student, keep going until you have all your pairs. Students will remain with their partner the entire time.• 2. Divide the pairs into 2 teams.	<p>Students earn points by:</p> <ul style="list-style-type: none">• Reading accurately• Summarizing what they have read• Working cooperatively with their partners• transitions	<ul style="list-style-type: none">• Both members of a pair will read for the weaker reader's book.• Students should make no more than 10 errors per 100 words of text	<ul style="list-style-type: none">• PALS rules• Types of Misread errors• Word recognition Correction Procedures• Pairs and Teams Chart• Score Board

Spring Benchmark			90
Student	Grade	ORF	
		WRC	Errors
A	2	31	6
B	2	47	5
C	2	47	4
D	2	48	4
E	2	51	2
F	2	54	3
G	2	55	4
H	2	58	7
I	2	61	7
J	2	61	1
K	2	65	0
L	2	71	1
M	2	78	2
N	2	82	6
O	2	84	0
P	2	86	0
Q	2	95	0
R	2	98	2
S	2	108	1
T	2	121	2
U	2	141	3
Class Median			

Partner Reading Partnerships



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Procedure

Partner Reading	Paragraph Shrinking
<ol style="list-style-type: none"><li data-bbox="469 416 971 500">1. Stronger reader reads aloud for 5 minutes<li data-bbox="469 521 971 656">2. The weaker reader reads aloud the SAME text for 5 minutes<li data-bbox="469 678 971 812">3. Weaker readers sequence the major events of what has been read for 1 minute	<ol style="list-style-type: none"><li data-bbox="991 416 1493 656">1. For 5 minutes the stronger read continues reading new text in the story, stopping after each paragraph to summarize<li data-bbox="991 678 1493 918">2. For 5 minutes the weaker reader continues with the new text, stopping after each paragraph to summarize

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Timeline

Collect Data: Pre-test (fluency and comprehension)

- **Day 1:** Train Students on Set Up Procedures and Partner Reading, Practice Reading for 10 minutes, Error Correction
- **Day 2:** Train Students on Paragraph Shrinking, Practice Reading for 10 minutes
- **Day 3-10:** Partner Reading, Paragraph Shrinking 15 minutes every day

Collect Data: Post-test (fluency and comprehension)

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Partner Reading

- **First Reader** reads for 5 minutes.
- **Second Reader** reads the **same** text for 5 minutes.
- **Second Reader** **retells** for 1 minute.

RULES

Talk only to your partner and only talk about Partner Reading

Keep your voice low

Help your partner

Try your best!

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Paragraph Shrinking

- Name the most important **who** or **what**.
- Tell the **most important thing** about the who or what.
- Say the main idea in **10** words or less.

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Correction
Procedures



STOP. That word is _____



What word?



Good Job!



Go back and read that line again.

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What we found: 3rd grade Partner Reading data

Third Grade			
Third Grade Benchmark	91 Words Read Correctly (WRC)		Slope (WRC)
	Pre Intervention Class Median (WRC)	Post Intervention Class Median (WRC)	
Class 1	81	104	11.5
Class 2	87	115	14

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	WRC	WRC after PALS
Student 1	48	92
Student 2	122	142
Student 3	126	147
Student 4	82	113
Student 5	102	117
Student 6	77	97
Student 7	51	70
Student 8	84	95
Student 9	80	82
Student 10	102	127
Student 11	83	106
Student 12	38	47
Student 13	104	115
Student 14	152	161
Student 15	143	158
Student 16	115	125
Student 17	142	160
Student 18	114	127
Student 19	13	40
Student 20	75	92
Student 21	141	136
Student 22	87	105
Student 23	49	47
Median	87	113

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What we found: 3rd grade Partner Reading data

	Students Below Benchmark Pre Intervention	Students Below Benchmark Post Intervention	Total Students in Class
Third Grade Class 1	10	5	20
Third Grade Class 2	13	5	23

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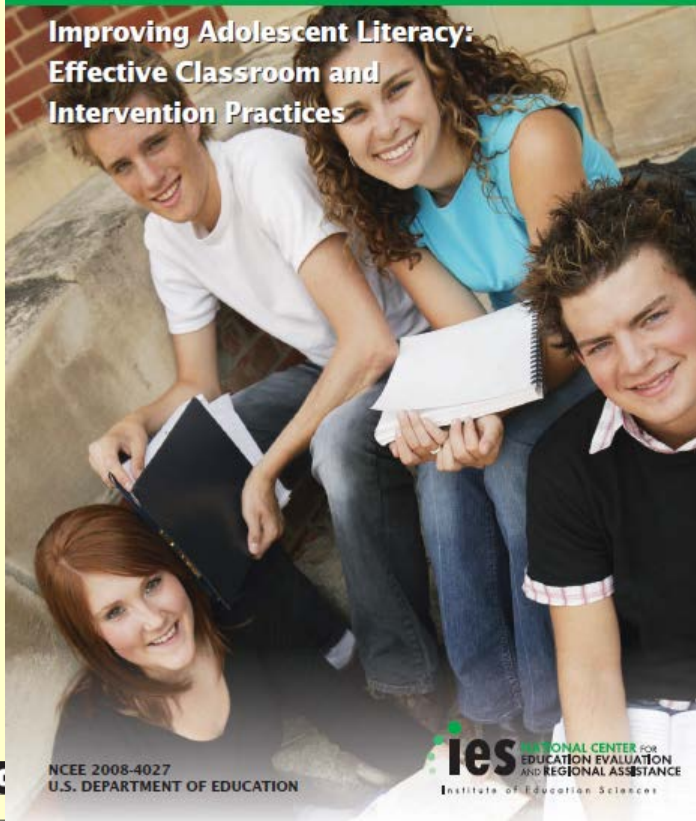
Tier 2 Problem Analysis

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IES PRACTICE GUIDE

WHAT WORKS CLEARINGHOUSE

Improving Adolescent Literacy: Effective Classroom and Intervention Practices



NCEE 2008-4027
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ies NATIONAL CENTER FOR
EDUCATION EVALUATION
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TIER II INTERVENTIONS

Category of the Deficit

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IES – Adolescent Literacy

Recommendation

Level of
Evidence

-
- | | | |
|---|--|----------|
| 1 | Provide explicit vocabulary instruction. Source – 1485 KB | Strong |
| 2 | Provide direct and explicit comprehension strategy instruction. Source – 1485 KB | Strong |
| 3 | Provide opportunities for extended discussion of text meaning and interpretation. Source – 1485 KB | Moderate |
| 4 | Increase student motivation and engagement in literacy learning. Source – 1485 KB | Moderate |
| 5 | Make available intensive and individualized interventions for struggling readers that can be provided by trained specialists. Source – 1485 KB | Strong |

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Recommendation 5. Make available intensive individualized interventions for struggling readers that can be provided by qualified specialists

Use reliable screening assessments to identify students with reading difficulties and follow up with formal and informal assessments to pinpoint each student's instructional needs.

Select an intervention that provides an explicit instructional focus to meet each student's identified learning needs.

Provide interventions where intensive-ness matches student needs: the greater the instructional need, the more intensive the intervention. Assuming a high level of instructional quality, the intensity of interventions is related most directly to the size of instructional groups and amount of instructional time.

Kamil et al., 2008 (IES Practice Guide Adolescent Literacy)

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Grade Level Team Meeting

- Is there a classwide problem?
- Who needs Tier 2?
- Did we miss anyone?
- What should we do for Tier 2?
- Should we go to Tier 3?

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National Reading Panel

- Is phonemic awareness instruction effective in helping children learn to read?
- Reviewed 52 studies of PA instruction.
- Three general outcomes were explored
 - PA tasks such as phoneme manipulation,
 - spelling,
 - and reading tasks such as word reading, pseudoword reading, reading comprehension, oral text reading, reading speed, time to reach a criterion of learning, and miscues

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National Reading Panel Results

- PA instruction demonstrated better efficacy over alternative instruction models or no instruction
- Improved PA measures (strong), reading ($d = .53$) and spelling skills
- Teaching one or two PA skills was preferable to teaching three or more
- PA instruction benefited reading comprehension (Ehri et al.).

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Means and Ranges of Effect Sizes by Reading Outcome Measure

	N	Mean ES	SD	Minimum	Maximum
Pseudowords	24	.84	.80	-.19	3.60
Words in Isolation	48	.92	.89	-.05	4.33
Contextual Reading	24	.37	.38	-.37	1.18

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Assess 4 NRP Areas

- Phonemic Awareness
 - NA at secondary setting
- Phonics
 - Word attack - WJ
- Fluency
 - Oral reading fluency or Test of Silent Contextual Reading Fluency
- Vocabulary/Comprehension
 - MAP

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Category of Problem MN HS

- 9-12 with approximately 1600 students
- 69.2% pass reading
- 9th-10th grade
- 28% low on MAP (~225)
- 45% Low on TOSCRF (~100)
 - 64% low on phonics (~65)
 - 36% acceptable phonics (~36)

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Groups

- Randomly assigned to two groups
 - Read 180
 - Targeted (phonics – REWARDS, fluency – Read Naturally, comprehension – Read 180)
- Wait list control group
- 20 minutes each day for 13 weeks in addition to reading and study skills

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Variable	Targeted Interventions		Control		Waitlist Control	
	Mean	SD	Mean	SD	Mean	SD
Fluency Pretest	90.17	7.65	89.88	9.73	na	na
Fluency Posttest	98.33	7.27	94.32	8.77	na	Na
MAP Fall	206.00	9.25	211.00	10.11	210.37	6.56
Map Winter	217.21	7.56	212.40	8.06	212.78	6.04

ANCOVA for fluency $F(1, 42) = 4.98, p < .05, d = .50$

ANCOVA for MAP $F(2, 74) = 5.84, p < .05, \text{partial eta squared} = .14.$

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Interventions

- Phonics – Rewards
- Fluency – Read Naturally
- Vocabulary/Comprehension
 - Read On!
 - Reading Advantage
 - Thinking Readers

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Engagement

- Academic
 - credit hours completed & GPA
- Cognitive
 - Self-regulation and perceived value of learning
- Psychological
 - Sense of belonging and identification with the school (Appleton et al., 2006).

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Measuring Cognitive and Psychological Engagement

- Student Engagement Instrument (SEI; Appleton et al., 2006)
 - 35-item self-report measure
- Fredericks et al. (2011)
 - Review of several measures of student engagement
 - available at <http://ies.ed.gov/ncee/edlabs>

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Engagement Intervention

- Tier 1
- Smaller class sizes, extended class time through block scheduling, extended periods, advisory periods, and encouraged participation in extracurricular activities (Dynarski et al., 2008).

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Engagement Intervention

- Tier 2
- Check & Connect
(<http://checkandconnect.org/>)

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Engagement Intervention

- Tier 3 - Cognitive
 - Setting personal goals, self-monitoring progress toward goals, and teaching specific strategies to reach personal and academic goals,
- Tier 3 - Psychological
 - Personal relationships with a caring adult or some other mentor, increased participation in group activities, social support combined with appropriately challenging academic work, and a caring and supportive environment (Christenson et al., 2008).

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Tier II

- Effective – at least moderate ES
- Costs – Low as possible, cost/ES, cost effective (comes with a lot), dedicated teacher time
- Delivery
 - Group/individual (two to six considering efficiency)
 - Total students (20%)
 - Who - teacher supervision with some peer and or adult tutoring
 - Pull out – in addition to, some pull out component, 3 to 5 X/week, approximately 30 minutes (kinder – 20min tops). No less than 8 weeks.
- Grades of kids – earlier better, certainly K-2.
- Measure – fluency measure of reading at least monthly
- Materials
 - Ease – much easier if compiled, but not prerequisite
 - Availability – standardized (manual)

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Secondary Setting

- 50 minute courses
 - Smaller courses (up to 12 or so)
 - Content area (e.g., Social Studies)
- 90 minute blocks
 - Within course
 - 30 minutes of strategies

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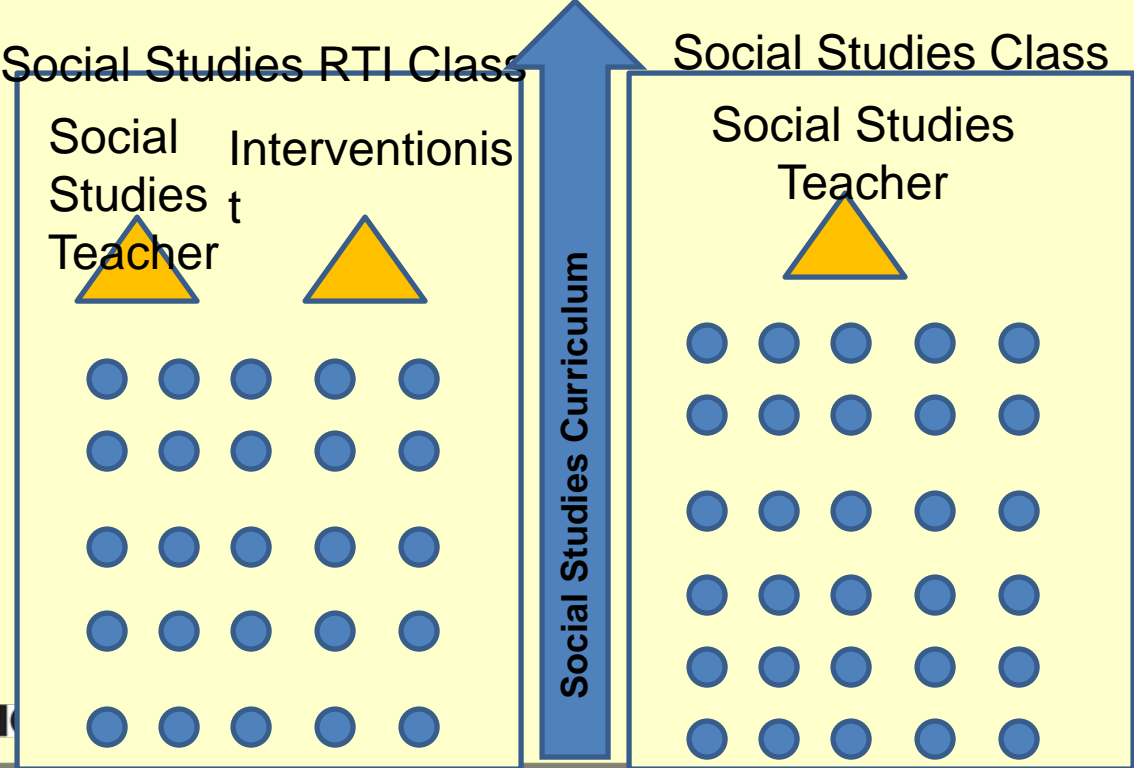
Secondary Setting

- 50 minute courses
 - Smaller courses (up to 12 or so)
 - Content area (e.g., Social Studies)
- 90 minute blocks
 - Within course
 - 30 minutes of strategies
- Remedial course
- 20 to 30 minute homeroom
- Study hall

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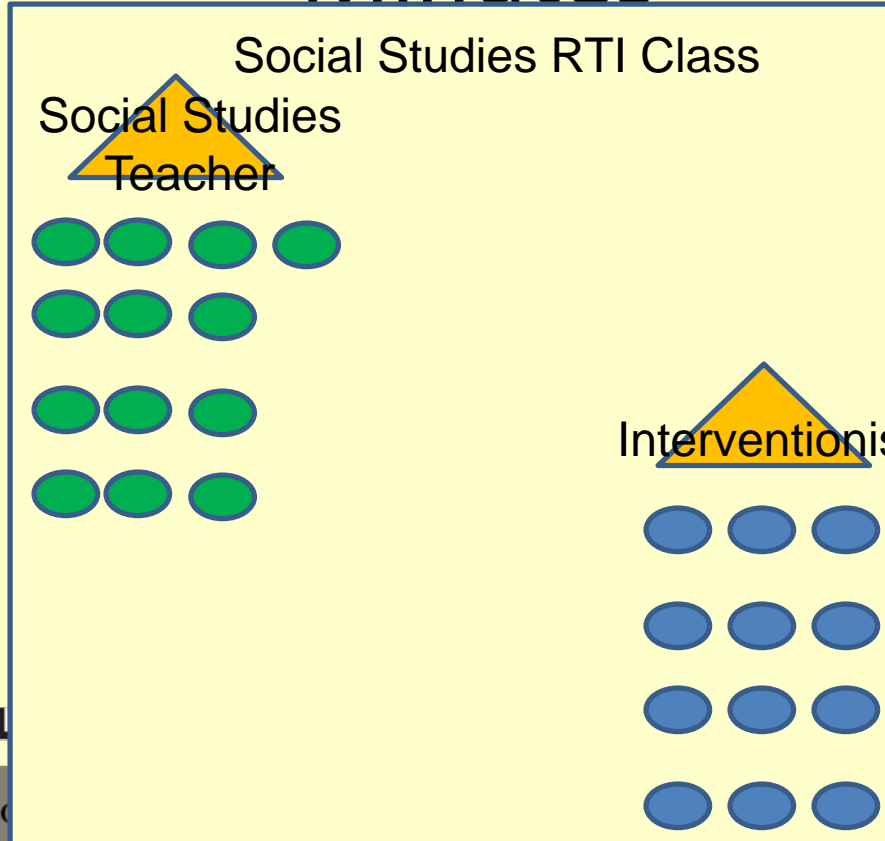
Tier II in Content Course



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Tier II in Content Course – 1st 30

Minutes

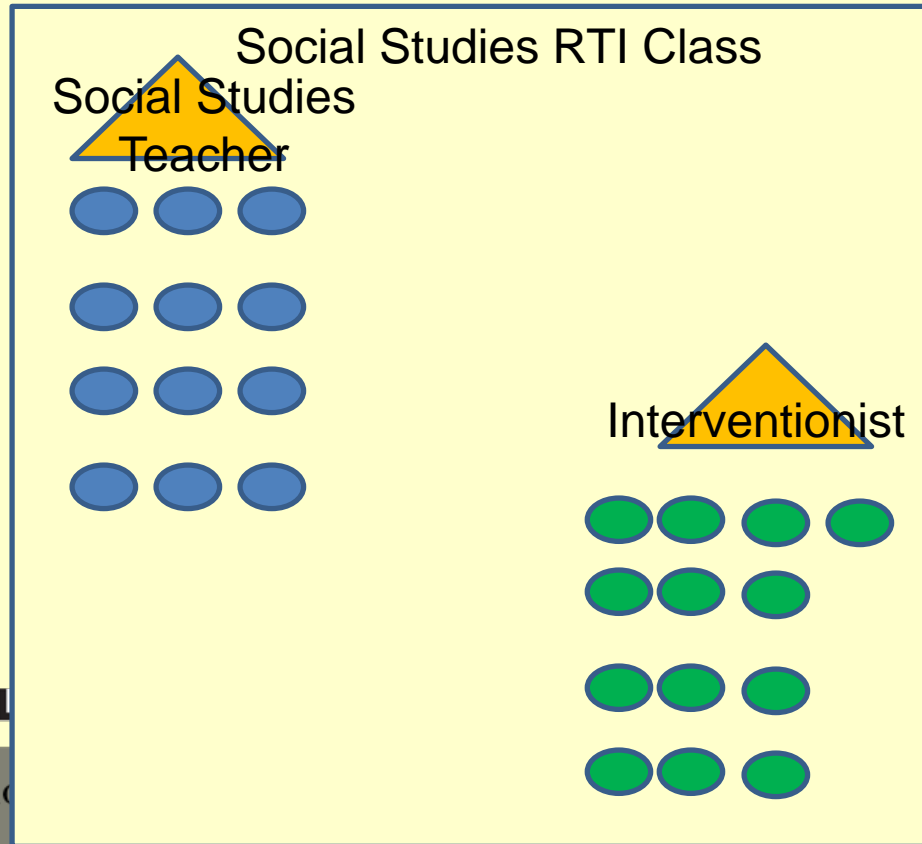


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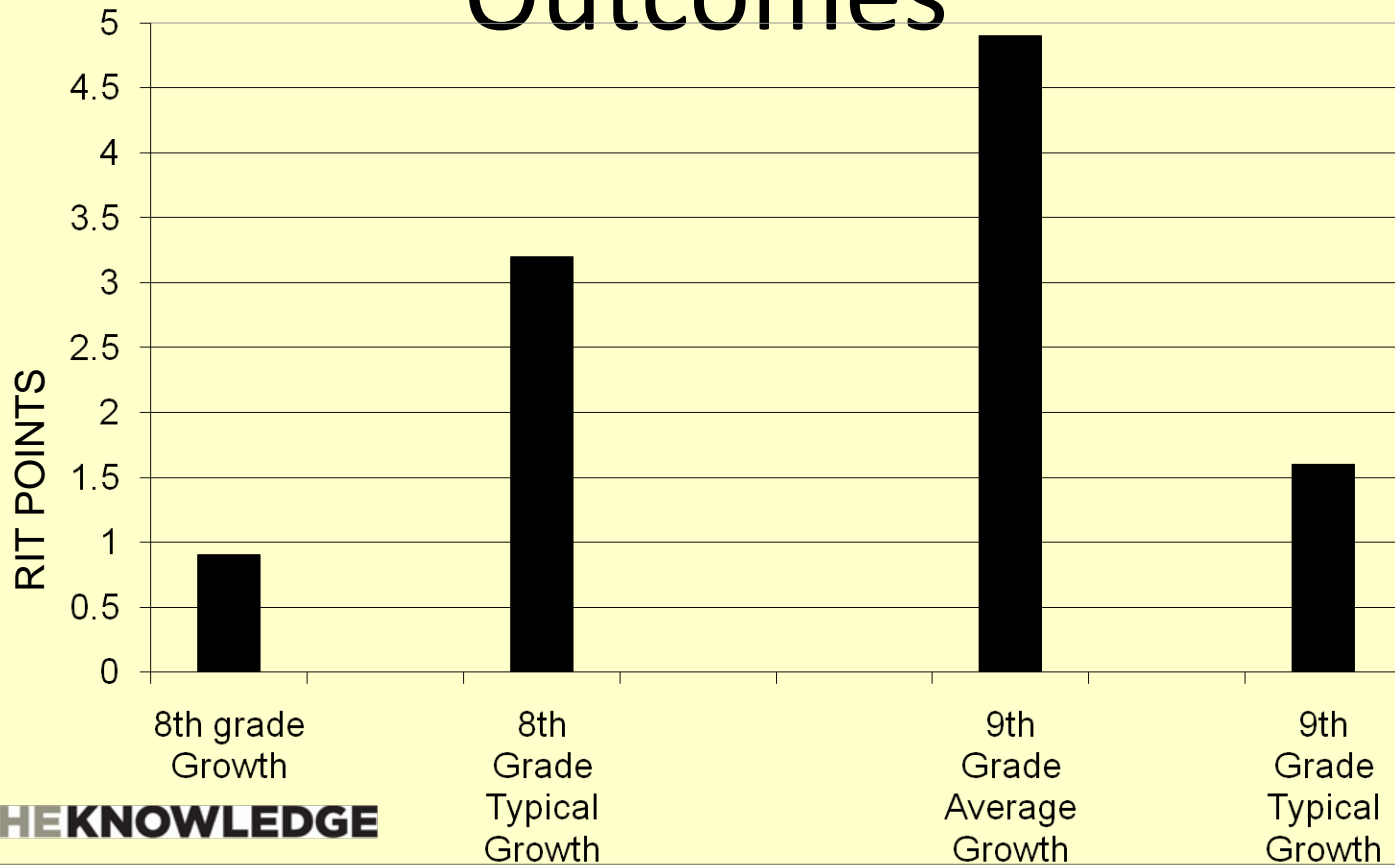
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Tier II in Content Course – 2nd 30 minutes



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Outcomes



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Tier III

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Reading Comprehension

- Occurs when the reader develops mental representations of the text and uses them to interpret the text (Pressley & Afflerbach, 1995).
- Critically low among middle- and high-school students (RAND Reading Research Group, 2002).

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Comprehension is affected by

- 1 & 2) Background knowledge and vocabulary
- 3) Correct inferences about reading
- 4) Word reading skill
- 5) Strategy use

(Cromley & Azevedo, 2007)

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Meta-analyses for Interventions

Kavale & Forness, 2000

Psycholinguistic training	.39
Modality instruction	.15
Perceptual training	.08
Auditory Sequential Memory	.32
Visual Sequential Memory	.27

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Working Memory

Melby-Lervag & Hulme, 2012 – Working Memory

Verbal Ability	.13
Word Decoding	.13
Arithmetic	.07

“There was no convincing evidence of the generalization of working memory training to other skills (nonverbal and verbal ability, inhibitory processes in attention, word decoding, and arithmetic).”

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Meta-Analysis on Interventions

Variable	k	Median Adjusted Hedge's g	95% CI
Cognitive Functioning	3	.09	-.50 to .68
Phonological/Phonemic Awareness	11	.44	.24 to .64
Verbal Memory	1	.20	NA
Reading Fluency	11	.43	.29 to .57
Attention	1	.13	NA
Mixed	5	.33	.13 to .53
Assessment Group			
Cognitive Measures	8	.17	-.07 to .41
Phonological/Phonemic Awareness	13	.50	.34 to .66
Reading Fluency	11	.43	.29 to .57

•Instructional Hierarchy: Stages of Learning

	Acquisition	Proficiency	Generalization	Adaption
Learning Hierarchy	<ul style="list-style-type: none"> ■ Slow and inaccurate 	<ul style="list-style-type: none"> ■ Accurate but slow 	<ul style="list-style-type: none"> ■ Can apply to novel setting 	<ul style="list-style-type: none"> ■ Can use information to solve problems
Instructional Hierarchy	<ul style="list-style-type: none"> ■ Modeling ■ Explicit instruction ■ Immediate corrective feedback 	<ul style="list-style-type: none"> ■ Novel practice opportunities ■ Independent practice ■ Timings ■ Immediate feedback 	<ul style="list-style-type: none"> ■ Discrimination training ■ Differentiation training 	<ul style="list-style-type: none"> ■ Problem solving ■ Simulations

Haring, N. G., & Eaton, M. D. (1978). Systematic instructional procedures: An instructional hierarchy. In N. G. Haring, T. C. Lovitt, M. D. Eaton, & C. L. House (Eds.), *The fourth R: Research in the classroom* (pp. 23-40). Columbus, OH: Charles E. Merrill.

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Learning Process



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Intervention Ideas

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Previewing (Graves et al., 1983)

1. Provide each student the text
2. Provide a synopsis
3. Ask questions about the topic
4. Describe major story elements: setting, characters, point of view (narration), and description of the plot.
5. Present the names and descriptions of main characters

About 15 minutes

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- Preteach Keyword (Burns et al., 2004)
- Keywords - “central to understanding the meaning of the reading passage” (Rousseau & Yung Tam, 1991, p. 201)
 - Preteach with Incremental Rehearsal (Tucker, 1989)

About 7 minutes

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Incremental Rehearsal

- Developed by Dr. James Tucker (1989)
- Folding in technique
- Rehearses one new item at a time
- Uses instructional level and high repetition

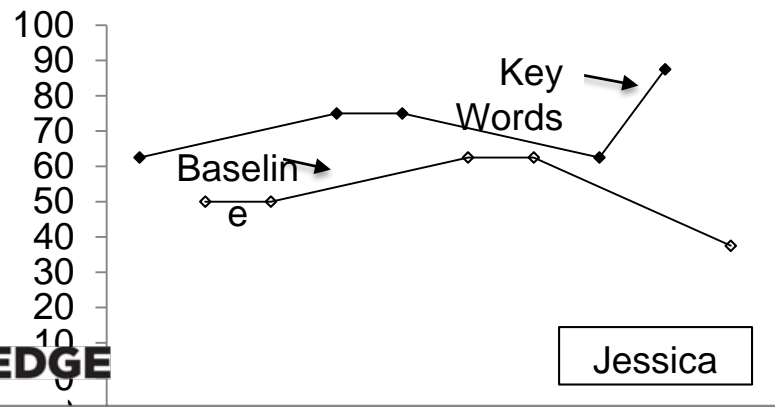
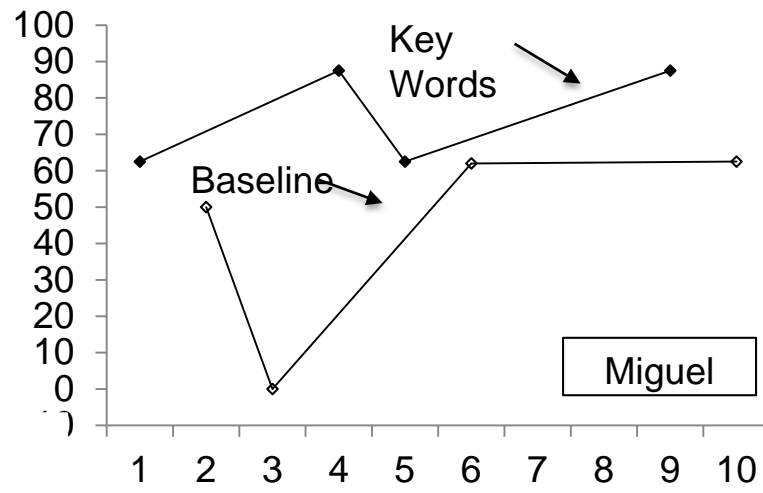
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Results

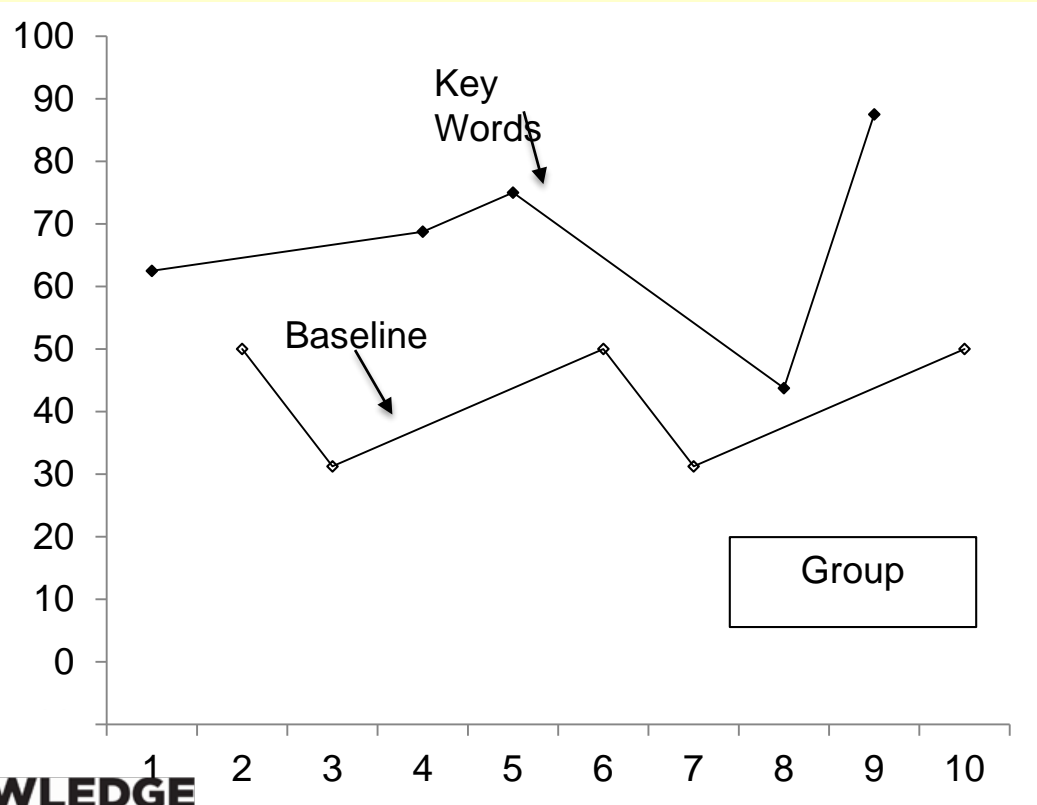
	<u>Baseline</u>		<u>Preview</u>		<u>Keyword</u>		
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>	Statistic
<hr/>							
Number of Comprehension							
Questions Correct	2.95	1.61	4.42	2.39	4.89	1.94	$F = 8.52^*$
Questions correct for each							
Minute of Instructional	NA	NA	.32	.17	.83	.46	$t = 5.02^*$
Time							

$p < .025$

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Inference

What was Taught	Materials	How it was Taught
Teaching inferential questions (Carnine et al., 2004)	4 th grade Read Naturally passages and comprehension questions	Students independently read passages and answered comprehension questions with support from interventionist
Determining relationships		
Relationship stated		Interventionist discussed answers using corrective feedback on errors
Relationship not stated		
Generalize inference rules into reading passages		

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Inference – Relationship Stated

1. Provide a rule
 - e.g. the more milk you drink, the stronger your bones
2. Provide questions for which the rule is required to find the answer
 - Chris drank one glass of milk. Jeff drank 3 glasses of milk. Who is more likely to have stronger bones?
3. Model, lead, and test stating the rule and relating the answer to the rule

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Inference – Relationship Not Stated

1. Give a series of questions based on prior knowledge
 - e.g., The snow was falling as Cho walked home from school. How do you think Cho felt: a. hot, b. cold, or c. tired?
2. Model finding clues to help
 - e.g., It's snowing, what do we know about the temperature when it snows?

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Inference – Relationship Induced

- Nicole had oatmeal and a banana for breakfast and a salad for lunch. What do you think Nicole will choose for dinner, chicken and vegetables or a McDonald's hamburger?
 1. Model finding information to induce a rule
 - e.g. Nicole likes healthy foods
 2. Answer the question
 3. Model lead, & test

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Results

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SC MS

- 87% of kids below the 10th %ile made MAP reading gains
 - 77% made gains of more than 5 RIT points
 - The average gain was 12.1 RIT points!
- 80% of the students in the 11-25th %ile made MAP reading gains.
 - 53% made gains of 5 RIT points or more
 - Average gain was 8.32 RIT points!
- 6th grade +4.5, 7th grade +5.9, 8th grade +6.5

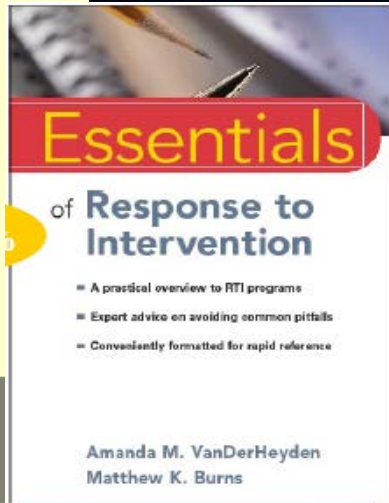
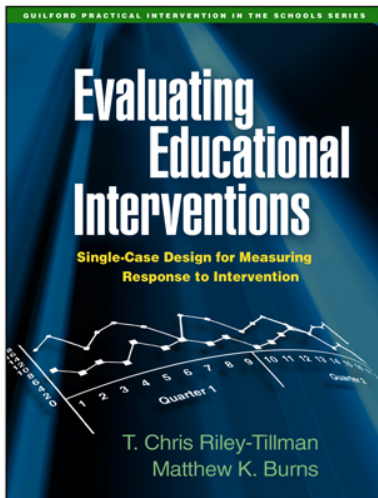
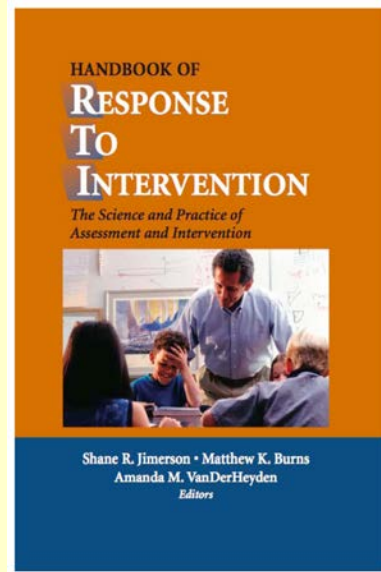
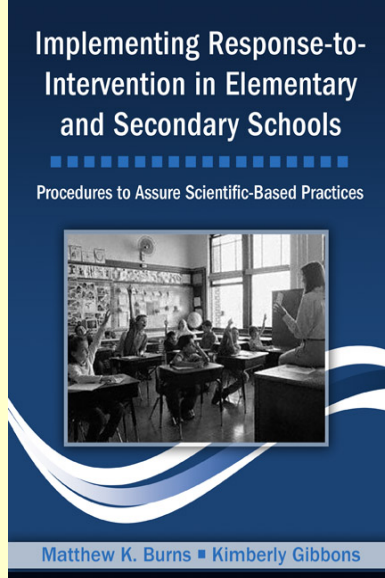
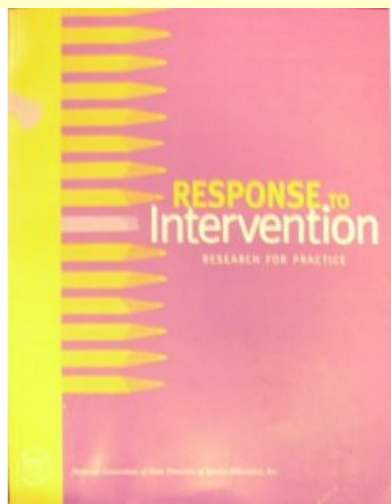
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5-Year Plan

1. Get universal screening data collected and grade level teams using it
 1. Classwide problems
 2. Plan tier 2
2. Start tier 2
 1. Plan for tier 3
 2. Train Problem-solving team
3. Start tier 3 (PST)
4. Assess the system
5. Up and running

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POWERTH



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How **RTI** Works
in
**Secondary
Schools**

*Building a Framework
for Success*

**Holly Windram
Kerry Bollman
Sara Johnson**

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