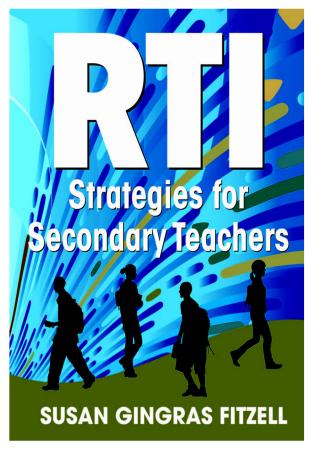
# **RTI Strategies For Secondary Teachers**

**Excerpted** from



by Corwin Press

Presented by Susan Fitzell M.Ed <u>www.SusanFitzell.com</u> sfitzell@SusanFitzell.com This book is an adapted excerpt of *"RTI Strategies for Secondary Teachers"* by Susan Fitzell and published by Corwin Press. Permission has been granted by Corwin Press to reproduce this material for seminars led by Susan Fitzell only. Any other use of this handbook is a violation of copyright law.

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# **Response to Intervention at the Classroom Level: Introduction**

The purpose of this book is to alleviate classroom teachers' stress and confusion regarding RTI at the Classroom level by providing practical, research-based strategies for intervention from Tier One through Tier Three. Response to Intervention is, in a sense, a misnomer. It should be called, "responding to the struggling learner with academic interventions that match the student's needs." These interventions are chosen from researched based strategies and, as a result of a problem solving process, are frequently monitored and adjusted as necessary.

# The most important concept to take away is: Response to Intervention is simply 'really good teaching.'

## The Three Tiers (Sometimes Four)

"RTI is the practice of providing high quality instruction/intervention matched to students needs and using learning rate over time and the level of performance to make important educational decisions to guide instruction " (National Reading Panel, 2000).

Typically, Response to Intervention is considered a three tier model. However, some school districts and some states, such as the state of Georgia, employ a four tier model (Bender & Shores, 2007). Whereas, tier four is not commonly referenced in most of the literature on Response to Intervention, this book will operate on the premise of a three-tier model.

For the sake of clarification, let's review the three-tier model:

Tier One of RTI requires consistent high quality classroom instruction which incorporates three nonnegotiable components:

- 1. A standards-based core curriculum
- 2. Differentiating instruction so that all students can learn
- 3. A variety of authentic assessments geared to monitoring student progress and driving instruction.

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## Tier One

Tier One of RTI requires the use of best practice, research-based teaching methods. Research-based strategies, as discussed in Robert Marzano's *Dimensions of Learning*, are implemented in the differentiated classroom to provide the best teaching practices for Tier One, thereby reducing the need for interventions.

Given my experience teaching at the high school level as both a special education teacher and a co-teacher who worked within the inclusion model, as well as my experience coaching in elementary, middle and high schools around the country, I have become convinced that every classroom needs to begin at Tier One: differentiating instruction so that all students can learn. When teachers differentiate instruction, 80-90% of students are successful in meeting achievement benchmarks. (Hanson, 2009)

- 1. The verbal linguistic, auditory delivery of information where students are expected to passively sit in their seats and take in information while trying to copy notes at rapid speed does not work for all students.
- 2. The students it does not work for are the students who are not responding to education and are doing poorly in the classroom as well as on their state tests. While this method may work for some teachers and some students, it does not work for the majority of our struggling student population.
- 3. A consequence of the lack of differentiation at the classroom level is a. Students that can be successful when shown 'another' way to learn will fail if forced to learn in the same time, in the same way, using the same materials as verbal linguistic learners. b. That students who move on to college, whether to engineering coursework or technical school, primarily learned only one mode of studying. When they become college students and are met with challenging coursework, they often lack the study skills to support them in the more rigorous academic environment. This is why we often find that our most successful high school students don't meet expectations at the college level.

#### The reality is that until we differentiate instruction at the classroom level, a basic requirement of Tier One RTI, we are shortchanging all our students: English-language learners, students with special needs, trade bound students, or students heading off to college.

How do we differentiate instruction?

- By using teaching strategies that support all intelligence styles and modes of learning, as well as challenging ourselves to implement center activities such as Fitzell Acceleration Centers<sup>™</sup>, station teaching, and flexible grouping within our pedagogy.
- 2. Rather than try to cover it all, teachers need to look critically at their standards-based core curriculum and focus on what's most important, thereby allowing time for meaningful teaching, repetition, and student practice.

3. Incorporate multiple modes of assessment. RTI requires authentic assessments; a variety of measures that clearly identify what the student knows and what a student doesn't know.

Again, the most important concept to take away in this chapter is that Response to Intervention is simply "really good teaching."

There are times when students will fail to learn despite the best efforts of the teacher. Master teachers who differentiate instruction and respond to student needs still encounter students who struggle to learn the content required for the curriculum. As teachers take note of the student who is failing to respond to the teaching methodology, they need to consider how to intervene so that students will become successful.

#### Tier Two

Using curriculum-based measurement practices, teachers determine where the student is lacking and then seek Tier Two interventions that might be appropriate for that student. Often, Tier Two interventions can be researched-based practices used in Tier One, but with three modifications.

- 1. Specific students receive more intense instruction and application of the strategies.
- 2. Students are given more time to practice and implement the strategies.
- 3. The intensity of implementation may increase.

# It may be appropriate, at times, to provide Tier Two interventions in a flexible grouping situation in the general classroom. This may prevent students from being pulled out of the classroom, which would cause them to miss critical instruction (Wright, 2007).

If teachers routinely implemented small group work, flexible grouping, or center teaching, then interventions in Tier Two would fall right into place in the lesson plan.

Challenges to implement Tier Two: Having adequate time to implement interventions is often the greatest challenge faced by schools at all grade levels, especially secondary.

- 1. "Double Dose" Class
- 2. After school support
- 3. Tutored study hall

An option that can work quite well is for students to have a tutored intervention session available to them. This is not a resource room, nor a special education resource; rather it is an intervention session where content area teachers, specialists, or support staff are available to implement interventions. This class can be built into the students' day just as a study hall would be at the secondary level.

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Providing students with a double dose of the intervention strategies increases the possibility that they ultimately will be successful (Shores & Chester, 2009).

### **Tier Three**

Tier Three is not as delineated as Tier One and Two in literature on Response to Intervention. School districts define Tier Three requirements in a few different ways:

- 1. More intensive interventions that are based on problem-solving models implemented through a combination of means including classroom instruction, outside of school instruction, or in-school instruction outside of the general classroom.
- 2. A combination of intensive interventions implemented in general education as well as including special education services.
- 3. Special education in some school districts is considered Tier Three.

For the purposes of clarity in this book Tier Three is considered a general education process that is implemented before students may be referred for special education services. Once a student is identified as special needs, that student is no longer considered part of the Response to Intervention protocol.

"In most schools, Tier Three is not special education but is more intensive intervention to try to improve the progress and avoid the necessity of placement in special education."(Hall, 2008)

Tier Three is the most intensive phase of the RTI three-tier system. At Tier Three, students receive intervention instruction for a longer period of time, with more:

- 1. Frequency
- 2. Intensity
- 3. Time

Students who have not responded to Tier One or Tier Two efforts and who have significant difficulty being successful in the general curriculum might receive:

- 1. One-to-one
- 2. One-to-two
- 3. Or small group intensive instruction

At the elementary level, Tier Three typically incorporates two 30 minute intervention periods every day. This schedule is logistically challenging if not impossible at the middle school and high school level. Intervention teams need to think outside the box in order to come up with realistic intervention schedules.

The general classroom teacher will rarely have time to implement Tier Three interventions. Rather, the general education teacher may choose to use intervention strategies in their lesson plans in tandem with the following:

- Intervention strategies are implemented by specialists, tutors, support staff
- Instructional labs/intervention sessions set up as part of the school schedule.
- Often, intervention schedules at the secondary level for Tier Two and Three must be General Education Versus Special Education and Responsible Inclusion

## Assessment? Well, I Quiz Every Friday...

How we assess students to determine their understanding of the content that we are teaching is critical to the Response to Intervention process. Schools are becoming more and more locked in to using

- Summative assessment
- Standardized measures of student achievement
- Multiple-choice tests
- And other traditional forms of written assessment

# Although one could make an argument that this must be the measure that teachers use because it is the measure required for state testing, it is truly an inaccurate and I would argue unethical, means of evaluating students.

The only true evaluation is authentic assessment. Authentic assessments incorporate a variety of measures into the evaluation process and focuses on formative assessment. Some types of authentic assessment include:

- 1. Rubrics
- 2. Exit cards
- 3. Curriculum-based measurement
- 4. Student self-evaluation
- 5. Documented observations

When assessing with a variety of measures, teachers build a portfolio of data that provides a more accurate picture of the student as a learner. With this authentic, data-driven student portrait, teachers have the necessary information to do the problem-solving and detective work required for determining appropriate interventions.

Use assessment for three different purposes. In RTI, three types of assessments are used:

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- 1. Universal screening to determine which students need closer monitoring, differentiated instruction or a specific intervention (3+times/year);
  - a) AIMSweb through grade 8
  - b) EdCheckup through grade 8
  - c) STEEP isteep.com/datatools.html -- through grade 12
  - d) Thinkgate.net (a framework for setting up assessments)
  - e) Alternate screening tools
    - i) Attendance records
    - ii) Grades failing core academics (especially freshman)
    - iii) Student absences: Missed 10 of the first 30 days of school
    - iv) Identify students who are over-age for their grade level.
  - f) State standardized assessments
- 2. Progress monitoring to determine if interventions are producing the desired results.
- 3. Diagnostics to determine what students can and cannot do in important academic areas.

## Curriculum Based Measurement (CBM)

Curriculum-based measurement is one form of a scientifically based method for monitoring progress. CBMs describe academic competence, track academic development, and improve student achievement. The three purposes of CBMs are screening, progress monitoring, and instructional diagnosis.

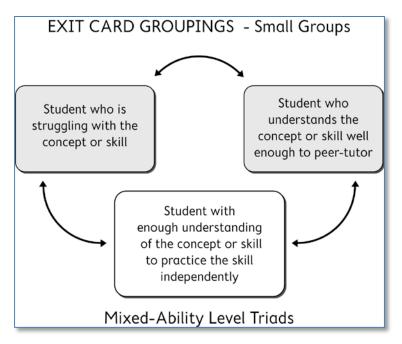
# Rubrics

Rubrics are performance-based assessment tools used to evaluate student performance on a task, a set of tasks, or a learning outcome. Rubrics use specific criteria, in the form of narrative descriptions, as a basis for evaluating student performance. Most rubrics use a tabular format that identifies the level of student achievement, from low-to-high or high-tolow, based upon the proficiency that the student is able to achieve. Rating scales may be numerical, qualitative, or both.

The sample lesson plans in this text employ rubrics in order to clearly illustrate performance goals and assist in identifying the level of intervention necessary for different students with each activity. They are also a valid example of a progress-monitoring tool.

### Exit cards

Exit cards are a simple assessment tool. Each card will have a set of just two or three questions for students to answer after you teach a lesson. Students answer the questions before the bell rings. It is the last thing they do in class. They must hand the card to the teacher before they walk out the door, hence the name *exit cards*. It's ongoing, immediate assessment in action. Exit cards (a.k.a. *tickets to leave*) are used to gather information on student readiness levels, understanding of concepts just taught, interests, and learning profiles.



Exit cards can be used to form intervention pairs, triads, and groups.

After a lesson, use exit cards to assess student understanding or interest. Keep the items on the cards short and to the point. Keep it simple!

When reviewing the cards that are implemented as an assessment tool, score them with a #1 if the student does not understand the concept, got the answer wrong, or needs reteaching. Score them with a #2 if the student understands but needs more practice. Score them with a #3 if the student understands the concept and is ready to move on. (Figure 1)

Then use the cards to group students.

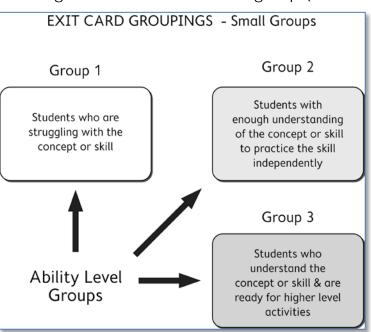
You might put all the students who received a 1 together and re-teach that group (or small

groups). Put those who received a 2 together (or in small groups) and give them a practice activity. Put those who got a 3 together and assign them an enrichment activity, or an investigation.

Alternatively, you might put a 1, a 2, and a 3 together in a triad to practice the skill. (Figure 2)

Additional quick assessments might include:

 High-fluency phrases from The Fluent Reader by Timothy V.
 Rasinski (Raskinski, 2003). Do an Internet search on a paper titled, "Phrases and Short Sentences for Repeated Reading Practice."



 Every-Day Edits are also effective as both an assessment and an intervention. Search for Every-Day Edits at <u>http://www.educationalworld.com</u>

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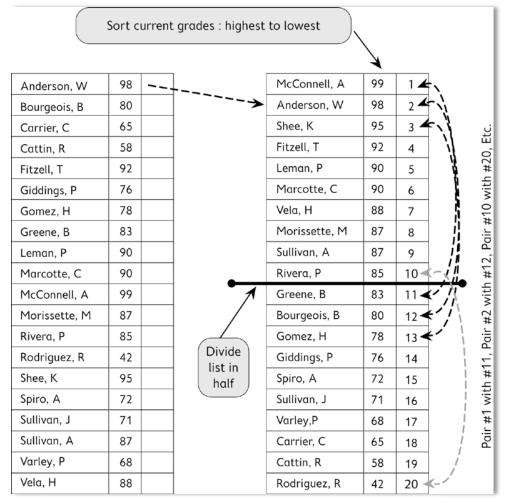


Figure 2: High Middle/Middle Low Grouping Example

# **Research Based Strategies Incorporated in this Book**

The requirement to solely use research-based techniques for interventions initially had me in a fury. Having spent years teaching and working directly with students, whether one-to-one or inclusive classrooms, I firmly believe that there are successful strategies that I use with students that do not have a research study to back them up. Consequently, when told that Response to Intervention required the use of research-based strategies I did some research on 'acceptable research' and in doing so discovered 'single subject experimental design'.

Single subject experimental design is the solution that alleviated my angst. I could use a strategy that I knew worked for many of the students that I've taught over the years as long as I collected data and used the protocol for single subject experimental design. (Brown-Chidsey & Steege, 2005)

# Use Vocabulary Mapping to Acquire New Vocabulary

### Background:

Moore, D. W., & Readence, J. E. suggests that gains in vocabulary knowledge following graphic organizer use may be even greater than gains in comprehension. The average effect size for the 23 studies reviewed was more than twice as large as that reported for comprehension. Thus, graphic organizers appear to be a very effective tool for improving vocabulary knowledge. (Moore, 1984)

#### Learning Objectives:

- 1. Acquire new vocabulary
- 2. Connect that vocabulary to themes and categories
- 3. Use appropriate questioning to gather information.

#### **Application to Response to Intervention Tiers:**

TIER ONE	TIER TWO	TIER THREE
Teacher uses strategy with entire class to differentiate instruction	Student(s) use a structured approach for studying vocabulary using graphic organizers. Student works with a peer tutor, specialist or in a coaching session with the classroom teacher at least twice per week until the study strategy is internalized.	Student works with a specialist one-to-one for an additional 60 to 90 minutes per week using this intervention as a strategy to facilitate reading recall, comprehension and analysis.

#### Addresses the following non-responder indicators:

- Auditory learning deficit
- Attention Deficit Disorder
- Difficulty connecting new information with previously learned knowledge
- Difficulty linking prior knowledge with new information
- Struggle to effectively use words to express organized and complete thoughts in writing
- Word usage skills below standard
- Difficulty recoding incoming information into meaningful information

#### **Materials Needed:**

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- 1. Markers
- 2. Paper
- 3. Ruler (Optional)

### Approximate time frame for completion:

15 minutes

# **Extension Learning:**

Time is variable

## Intervention procedure & scripts

Explain to students that vocabulary words are worth points depending on the number of syllables in the word.

Each syllable is worth one point.

Examples:

- Great = 1 point
- Immense = 2 points
- Enormous = 3 points
- And so on...

The groups that have words in their circle that add up to:

- 30 points = C
- 40 points = B
- 60 points = A

They may use a thesaurus.

#### Tier One/ Whole Group

- 1. Draw a large circle on the board and write the theme topic in the center of the circle.
- 2. Have students brainstorm a list of words that come to mind for that theme.
- 3. One student records the words in the circle.

Assign students to pairs: Use High with middle, middle with Low method of choosing pairs.

- 1. Explain to the students that they are going to work with a partner to each become an expert on one of the words.
- 2. Give each student a vocabulary word map (Error! Reference source not found.) and draw one on the board. Choose a word from the board and complete a vocabulary word map with the class to demonstrate how to complete one properly.

#### Tier One/Whole Group

1. Have one person from each group share their word-map with the class and then post their word map on the board. This way the students can use them during their writing if they need help with a word.

#### Tier Two/Small Group (May also be used at Tier One)

- 1. Put students in groups of 2 or 3, leveled appropriately.
- 2. Each group will need a thesaurus and a dictionary.
- 3. Assign each group one word from the lists the class brainstormed. (You might assign words appropriate to the pair/group's ability level.)
- 4. Students will work together to complete their word maps. Each person in the group will complete a word map.

#### Tier Three/One-on-One

Students work with a specialist or one-on-one with the teacher to master the skill.

## To Differentiate:

- Differentiate by readiness and Interest
- Include technology tools such as Inspiration Software, FreeMind, Compendium

#### Across the Curriculum:

Whether in Social Studies, Science, or Math teachers can use this approach to have their students use vocabulary word maps to introduce vocabulary related to new themes and to show connections within themes.

#### Additional Non-Linguistic Interventions:

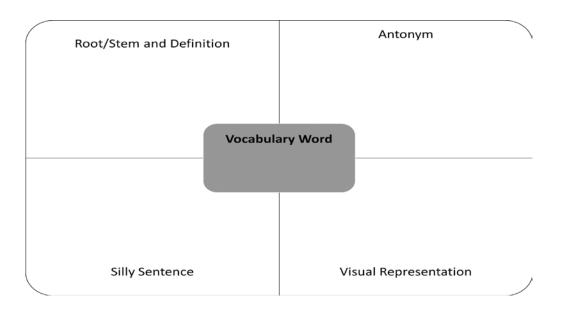
Many of the students in your class are Bodily-Kinesthetic learners. They learn through their bodies and they need to move. They wiggle and squirm. The following ideas can help make movement be a positive learning force in your classroom.<sup>1</sup>

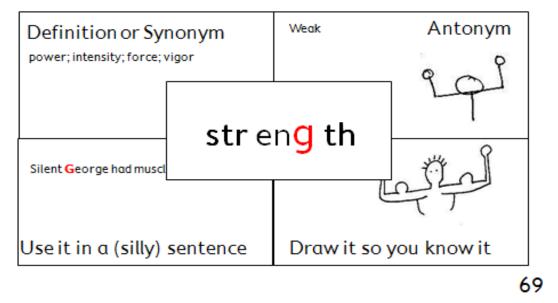
- 1. Have your students act out vocabulary words with their bodies. This will give them a visual picture to remember their words.
- 2. Have the class clap out the syllables in the names of their classmates or their vocabulary words. This is a great strategy for helping kids remember long and multisyllabic words.
- 3. Kinesthetic Alphabetizing: Put vocabulary words on individual cards and pass them out to the class. Then have them move around the room and, at a signal from you, form groups (of five or less, depending on grade level and vocabulary) and line up in alphabetical order.

<sup>&</sup>lt;sup>1</sup> 1-4 contributed by Fritz Bell author of *Total Body Learning: Movement and Academics.* 

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- 4. Kinesthetic Prepositions: Have students use an object such as a pencil and hold it in, under, over, next to, beside, or above their desk to act out prepositions.
- 5. Have students finger spell their vocabulary and spelling words (Koehler, 1986).<sup>2</sup>
- Form pictures to connect to vocabulary for visual vocabulary review cards, try www.makebeliefscomix.com – This site is a wonderful tool for teachers and students alike!
- 7. Building vocabulary skills at home: Suggest to parents that they turn on the closed captioning on TV.





<sup>&</sup>lt;sup>2</sup> Koehler, Linda J. S.; Lloyd, Lyle L., *Using Fingerspelling/Manual Signs to Facilitate Reading and Spelling*, 1986.

#### Assessment:

CATEGORY	1	2	3	4
Practice	Made no attempt at completing the vocabulary word map.	Correctly completed 3 steps.	Correctly completed 4 steps.	<ol> <li>Correctly completed all 5 steps.</li> <li>Wrote word in center box.</li> <li>Recorded synonyms or a definition.</li> <li>Recorded antonyms.</li> <li>Created an original sentence using the word.</li> <li>Drew a picture representing the word.</li> </ol>
Gives enough details and/or creativity in sentence	Sentences less than 4 words lack details or creativity.	Uses an adjective.	Uses an adjective and an adverb.	Uses adjectives, adverbs and or metaphors to create memory cue.
Gives enough details in picture	Almost no details or creativity.	Some details or creativity.	Imagery is creative and shows thought.	Very creative and shows thought behind imagery.
Acquisition (Vocabulary Assessment)	Scored below 70%.	Scored 70% or above.	Scored 80% or above.	Scored 90% or above.

# **Reading Comprehension Intervention: Reciprocal Teaching**

### **Cooperative Learning**

#### Background:

Reciprocal teaching (Lederer, 2000)is an instructional strategy involving discussion as well as using reading strategies (summarizing, question generating, clarifying, and predicting) to improve comprehension of text. Studies by (Palinscar and Brown 1985)(Palincsar, 2002) have proven that reciprocal teaching greatly influences student comprehension skills. They also found that students became readers that are more independent, better summarizers, predictors, and critical thinkers. As an additional benefit, they found that students who participated in reciprocal teaching groups displayed fewer behavior problems. (Lederer, 2000) also stated, "Reciprocal teaching, when used consistently, can produce rapid results and growth in comprehension for readers of all ages."

This lesson plan focuses on using reciprocal teaching to practice a questioning strategy. According to Lubliner (2001), students "automatically increase their reading comprehension when they read the text, process the meaning, make inferences, and connections to prior knowledge, and finally, generate a question."

#### Learning objectives:

- Identify the different types of questions.
- Formulate different types of questions.
- Work in cooperative groups to practice reading comprehension strategies.
- Synthesize information in order to respond to a variety of questions.
- Interpret text and demonstrate higher level thinking skills in creating various types of questions.
- Enhance comprehension through questioning.
- Apply questioning strategies in many curricular areas.

#### Application to Response to Intervention Tiers:

#### Addresses the following non-responder indicators:

- Attention Deficit Disorder
- Reading Difficulties
- Processing Disorders
- Gifted Students
- Difficulty linking prior knowledge to new information
- Difficulty processing information in a way that is meaningful to them.
- Difficulty organizing information
- Difficulty retaining information
- Difficulty finding text support
- Reading fluency

- Reading Difficulties
- Difficulty finding text support
- Difficulty determining what is important in a text
- Self-questioning techniques non-existent or not skilled enough to support understanding while reading.
- accuracy and pace of performance requires extensive effort in order to support reading
- gaps in instruction

#### Materials Needed:

Literature (magazine or newspaper articles, textbooks, poetry, novels, short stories, nonfiction and fiction texts, websites, blogs)

#### Approximate time frame for completion:

- 1. Whole group strategy Introduction and Practice 30-40 minutes
- 2. Whole Group/Small Group Practice 15-20 minutes (variable depending on article length and student participation)
- 3. Partner Work 20-30 minutes (variable depending on article length and student understanding)
- 4. Independent Practice/Peer Feedback 20-30 minutes (variable depending on article length and student understanding)

#### Intervention Procedure & Scripts

#### Tier One: Whole Group

#### <u>Activity#1</u>

The key to teaching students how to use a particular reading strategy is modeling. Through "think alouds," teachers can demonstrate how to ask questions throughout a reading. (James, 2007)

- 1. Teach students the <u>Question Answer Relationship (QAR) strategy</u> (Raphael 1986). According to the QAR strategy there are two kinds of questions:
  - 1) Questions in the book
  - 2) Questions in my head
    - a. There are two types of "In the Book" questions:
      - i. "Right There" questions are clearly answered in the text.
      - ii. "Think and Search" questions are answered within the text but the reader has to search for the answer and synthesize material to find it.
    - b. There are two types of "In my Head" questions:

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- i. "On My Own" questions can be answered by the reader by synthesizing prior knowledge.
- ii. "Author and Me" questions are those in which the answer is inferred within the text. The reader must use a combination of textual information and prior knowledge to answer the question.
- 2. Choose a book or article to use to model the questioning strategy.
  - a. Read the literature aloud and model your thinking. ("I wonder why the author included this."; "What is a \_\_\_\_?"; "How would I feel if this happened to me?" etc.).
  - b. Read another book or article with the class.
  - c. Create a **questioning web(See Figure 5 Questioning Web)** on chart paper to incorporate all of the students' questions.
- 3. Go over the **questioning web** and discuss what type of questions, according to the QAR method, each one exemplifies.

#### Tier One/Tier Two - Whole Group/Small Group

Role-play: Interviewing for QARs

This interviewing activity can be done either with the whole class or in smaller groups.

- After reading specified material, choose one to five students to be the "interviewee(s)". These students can take on the role of a character in the reading, an historical figure, or a scientist (whatever suits your purpose).
- 2. The rest of the class represents "the interviewers." Each student is to come up with at least four questions to ask the interviewee(s). Challenge them to ask one question from each QAR category. (They can do this in pairs if it is difficult for them.)
- 3. Have students take turns asking questions and eliciting responses from the interviewees. Interviewers should try to ask all different types of questions. Interviewees should try to "be their character" and use information from the reading to guide their responses.
- 4. Wrap-up the discussion. Have students give examples of questions that classmates asked to demonstrate each QAR classification.

#### Tier One/Tier Two - Partner Work

Role-play: Teacher and Student

In this intervention activity, students will practice being the "teacher" and the "student." The "teacher" will ask the "student" questions. This strategy not only emphasizes questioning ("teacher"), but also reinforces other comprehension strategies ("student" and "teacher") including summarizing, synthesizing, etc. depending on the types of questions the "teacher" creates.

1. Divide students into pairs.

- 2. Provide them with their reading materials (pages in a textbook, a literature chapter, an article, etc.) and have them read the material together.
- 3. As students read they should fill out individual question webs.
- 4. Appoint one student in each dyad the role of "teacher" and the other the role of "student".
- 5. The "teacher" asks the "student" questions. The "student" responds to the question using the text for support. When they are finished, they can switch roles. Challenge the "student" to think of questions the "teacher" did not ask.
- 6. The partners should then evaluate each question. They can tally how many times they used each type of QAR question. If they are having trouble creating certain types of questions, they can go back and work together to create new ones.

#### Tier Three: Specialist/Teacher and Student

Instead of the Teacher-Student Role-play outlined above, the activity is implemented with a student and classroom teacher, specialist or paraprofessional skilled in the QAR method.

Differentiating Instruction: Support Suggestions

- Provide students with a bookmark(See Figure 6 QAR Bookmarks) or a desk template to help them remember the different types of questions.
- Step One: Have students use a questioning web to brainstorm questions from a text/math problem. Step Two: Sort the questions according to the QAR model. This frees up the students' working memories to create questions without the added step of categorizing. Categorize according to QAR later.
- Mixed Ability QAR: Students can work in groups to create questions. Assign students who are experiencing the most difficulty formulating questions the "Right There" questions and the most advanced students the "Author and Me" questions.

#### For independent writing assignments:

Students can use the questioning strategy for independent writing assignments by using their questions to instigate research projects, journal, or essay writing.

#### For independent reading assignments (literature or content area):

Students can use the questioning strategy as a tool to check for understanding.

#### For group brainstorming and mind map creation:

The questioning strategy is ideal for cooperative learning. Students can challenge one another, help one another understand material, and develop discussions through questioning.

#### Extension:

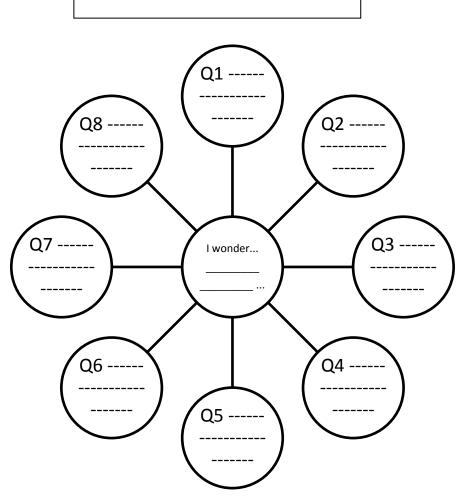
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Students may select their own articles in order to find material that meets their interest and academic ability level. They can create quizzes for one another. They can pose questions that lend to further research and investigation.

QAR Authentic Assessment Activity

- 1. Have students practice the QAR approach independently.
- 2. Read a piece of literature and write down their questions using a question web as they read.
- 3. Have them use the QAR graphic organizer (See Figure 7 QAR Graphic Organizer) to help categorize each of their questions.
- 4. Go back and add more questions to any categories that need more. Students should try to answer their own questions.
- 5. Exchange papers with a partner. Answer the questions AND provide feedback on the quality of questions.

**Questioning Web** 



# **QAR Graphic Organizer**

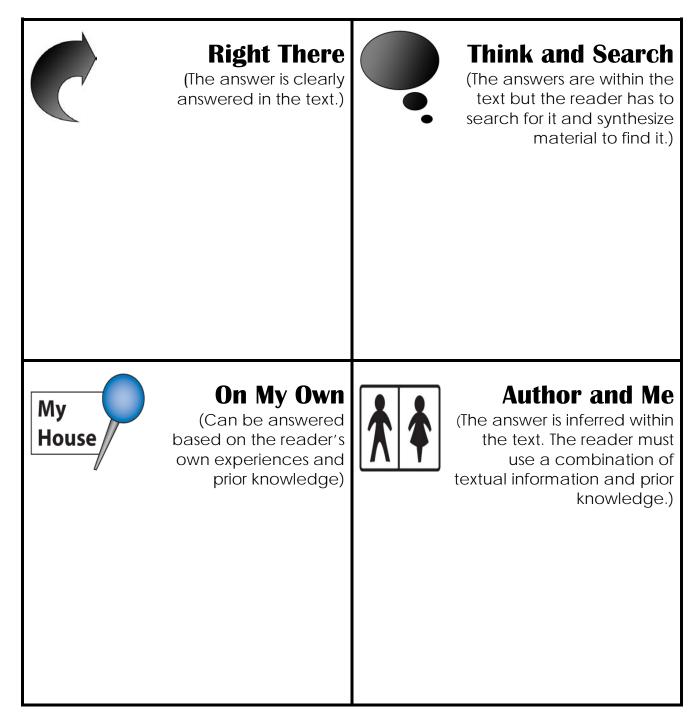


Figure 4 QAR Graphic Organizer

# **Picture Books: A Reading Intervention for K-12**

### **Research Background**

Lower elementary teachers reading this handbook are fully aware of the value of using picture books as a teaching tool. Upper elementary teachers as well as secondary educators may not realize that research indicates that picture books used in the upper grade levels may improve student comprehension as well.

In a study by Bridget Robinson at the University of North Carolina (Robinson, 2007), high school students who studied literary terms with picture books were 72% more successful on a test of literary terms than those who studied using traditional means. Students found it easier to understand and recall literary terms when picture books were used as a teaching tool.

Picture books help students create mental models (Bickmore, 2001) and help readers build schema. They are written at a reading level accessible to most readers, with content varying to meet individual needs. They help students understand complex ideas and vocabulary. Consider that although picture books typically are written for pre-K children, they are meant to be read aloud and therefore utilize high-level vocabulary. We are also finding more and more picture books with adult themes.

The shorter length of picture books permits students to practice their reading strategies and enhance their understanding of difficult content (Fox & Short, 2003). Picture books allow teachers to "bring up issues, problems, and concerns without deluging students with facts and information" (Harvey, 2007, p. 69). Another advantage to the shorter length of picture books is that student reading and response is plausible within the brief class periods educators face in secondary schools (Johnson Nancy J., 2007).

For the ELL student, picture books provide a nonthreatening tool with visual cues to support English language acquisition. In a research study focused on using picture books and literature-based instruction with high school ESL students, Nancy L. Hadaway and JaNae Mundy found that using picture books engaged students in the language learning process. Vocabulary increased, and reading comprehension skills were evident through class discussion and through writing about their reading experience through journaling, poetry, and research presentations (Hadaway & Mundy, 1999).

#### Learning objectives:

- Use picture books to improve comprehension.
- Identify factual information within picture books.
- Make connections to their self, other texts, and the world.
- Synthesize information and present it in a way that is meaningful to them.

#### Application to Response to Intervention Tiers:

TIER ONE	TIER TWO	TIER THREE
Teacher uses strategy with	Student(s) use both fiction	Student works with a
entire class to differentiate	and nonfiction picture books	specialist one-to-one for an
instruction in a multi-ability	to practice comprehension	additional 60-90 minutes per
classroom.	strategies until skills are	week using this intervention
	internalized.	until skills are internalized.

#### Addresses the following non-responder indicators:

- Reading fluency
- Reading Difficulties
- Difficulty finding text support
- Difficulty determining what is important in a text
- self-questioning techniques non-existent or not skilled enough to support understanding while reading.
- accuracy and pace of performance requires extensive effort in order to support reading
- gaps in instruction
- Attention Deficit Disorder
- Reading comprehension difficulties
- Processing disorders
- Poor reading fluency
- Difficulty linking prior knowledge to new information
- Difficulty finding text support
- Difficulty determining what is important in a text

#### Materials Needed:

• Picture books related to the topic being discussed

#### Useful websites: <u>http://www.uiowa.edu/~crl/bibliographies/pdf/picbooks\_print.pdf</u>

#### http://picturebooksforolderreaders.pbworks.com/

#### Approximate time frame for completion:

- Whole Group 30 minutes (variable depending on discussion)
- Small Group 20 minutes (variable depending on book length and student participation)
- Independent Practice 30 minutes (variable depending on book length and student understanding)

#### Intervention procedure & scripts

#### Tier One/Whole Group

Picture books can be used as a springboard for a new unit of study. They will capture the students' interest, provide some visual images and background information, and, if you choose a high-quality book, trigger questions and discussions that you can use to guide further instruction.

- 1. Choose a picture book that meets your instructional purpose.
- 2. Read the story aloud to the class. (Make sure all students can see the powerful pictures.)
- 3. Discuss the book. Some guiding questions may be:
  - What did you learn about (the subject) from this story?
  - What questions do you have about this topic?
  - What would you like to know more about?
  - What emotions did this story stir inside of you?
  - What facts did this story provide?
  - What impact did the illustrations have in the story?
  - What are the benefits of using picture books to understand this concept (If your students are skeptical about using picture books)?
  - How did (specific situation) impact (specific character)? How can you relate?

#### <u>Tier Three: One-on-one</u>

Picture book reading can be used as intensive interventions. The picture book strategy would be an intervention that could eventually be eliminated with skill mastery

#### Extension Activities:

- Have students find 10 different picture books on a specific topic and complete a graphic organizer for each book. They will choose the best book to present to the class.
- Have students write their own children's book about a specific topic either fiction or non-fiction.
- Complete a Venn diagram comparing/contrasting a picture book with a text book (or compare/contrast two picture books on the same topic).
- Use a picture books to frame a research project.

#### Application Example:

Picture books can be used to understand and support a thematic unit. For example, you may be doing a unit on "Tough Times." Each student can choose a different picture book that surrounds this theme. This is such a general theme that students may interpret it as war, poverty, death, etc.

1. Each student chooses a book to support the theme. For instance:

- Rose Blanc by Roberto Innocenti (WWII),
- Aunt Harriet's Underground Railroad in the Sky by Jeanette Winter (Slavery),
- <u>Fly Away Home</u> by Eve Bunting (Homelessness),
- <u>My Hiroshima</u> by Junko Morimoto (Hiroshima Bombing)

Students read their books and complete a graphic organizer.

- 2. Hold class discussions or assign writing prompts in which all students relate their book to the overall theme.
  - What situations in your own life can you relate to the situation in your book?
  - How does your book demonstrate "Tough Times"?
  - What lessons did you learn in your book that you can apply to any tough times you may face in your life?
  - What events/details in the story made it seem real to you? What feelings did it evoke?

#### To Differentiate:

Using picture books allows for infinite options for differentiation.

- Use picture books with no words and have students provide information based on the pictures.
- Vary the use of non-fiction and fiction picture books.
- Challenge students to find primary sources.
- Utilize creative grouping strategies.
- Make assignments as focused or broad as the individual student requires.

#### Across the Curriculum:

This strategy can be applied to many curricular areas.

In English, picture books can be used to teach literary devices. Here are some ideas:

- Alliteration (Chicken Little by Steven Kellog),
- Metaphor (The Stranger by Chris Van Allsburg)
- Irony (<u>The Frog Prince, Continued</u> by Jon Scieszka)
- Satire (The Happy Hocky Family by Lane Smith)
- Personification (Sylvester and the Magic Pebble by William Steig)
- Symbolism (Tar Beach by Faith Ringold)

In Social Studies, picture books can be used to help students relate to a character, time period, and situation.

- Civil War(<u>Nettie's Trip South</u> by Ann Turner)
- Holocaust (<u>The Butterfly</u> by Patricia Polcco)
- WWII (All Those Secrets of the World By Jane Yolen)

In Science, picture books can be used to help students understand complex scientific principles. Students might create their own illustrations to exemplify a concept or explain a concept in simplified terms as if teaching it to a young child. (Science Verse by Jon Scieszka)

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In Math, students can create picture books to break down the steps of solving a higher level mathematical problem. There are also many great picture books that teach mathematical concepts. (The "Sir Cumference" series by Cindy Neuschwander)

Picture books can be used to model writing traits. (<u>An Annotated Bibliography for Use with</u> the 6-Trait Analytic Model of Writing Assessment and Instruction by <u>Spandel and Culham</u> 1994)

#### For Independent Writing Assignments:

Picture books are excellent resources to guide writing. They teach grammar rules, sentence structure, sentence fluency, word choice, syntax, writing for specific purposes, organization, and creativity among other things. Students can find examples within picture books or create their own books.

#### Storyboards<sup>3</sup> as an Intervention

To make a storyboard, have students fold a piece of paper into squares and draw about what they read. They might do this while they read a story for the first time, as a review with a partner, or for homework after a reading assignment. The process of turning verbal information into a visual format reinforces the learning and helps keep the information in working memory longer.

#### Intervention for Difficulty Sequencing: Sequencing Strips

To remember information in sequence, such as a timeline in history, a cycle in science, or the chronology of a story, use adding machine tape or strips of paper and have students draw their storyboard in sequence. Now they can see the sequence of the storyline, timeline, or process literally in visual, sequential format.

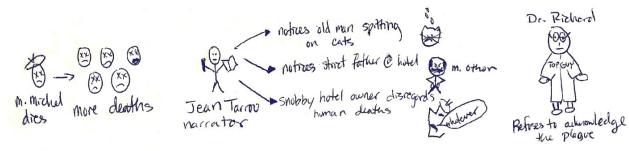


Figure 5 Sequencing Strip High School From Albert Camus' "The Plague"

<sup>&</sup>lt;sup>3</sup> Memorization and Test Taking Strategies for the Differentiated, Inclusive and RTI Classroom by Susan Gingras Fitzell, Cogent Catalyst Publications, 2010

# Model and Solve Equations Using Manipulatives

#### Background:

Using manipulatives provides students a meaningful context for mathematical knowledge and helps them understand fundamental relationships associated with the knowledge. Multiple embodiments – the use of many different models – allow students to focus on common characteristics and generalize to the abstract. ""Helping students make connections between the concrete (e.g., models and manipulatives) and the abstract (e.g. generalizations and symbolic representations) facilitates understanding, promotes success at learning, and helps relieve mathematics anxiety." (Reys, Lambdin, Lindquist, & Smith, 2009).

In regards to secondary math, such as Algebra, Henri Picciotti (Picciotto, 2010) writes:

Even though they cannot make algebra easy, manipulatives can play an important role in the transition to a new algebra course:

- They provide access to symbol manipulation for students who had previously been frozen out of the course because of their weak number sense.
- They provide a geometric interpretation of symbol manipulation, thereby enriching all students' understanding, and making a powerful connection to another part of mathematics.
- They support cooperative learning, and help improve discourse in the algebra class by giving students objects to think with and talk about. It is in the context of such reflection and conversation that learning happens.

There are four main commercial versions of algebra manipulatives. In order of their appearance on the market, they are Algebra Tiles (Cuisenaire), the Lab Gear (Creative Publications), Algeblocks (Southwestern Publishing), and Algebra Models (Classroom Products). All four provide a worthwhile model of the distributive law. However, note that only the Lab Gear and Algeblocks allow work in three dimensions.

#### What helps students with math difficulties

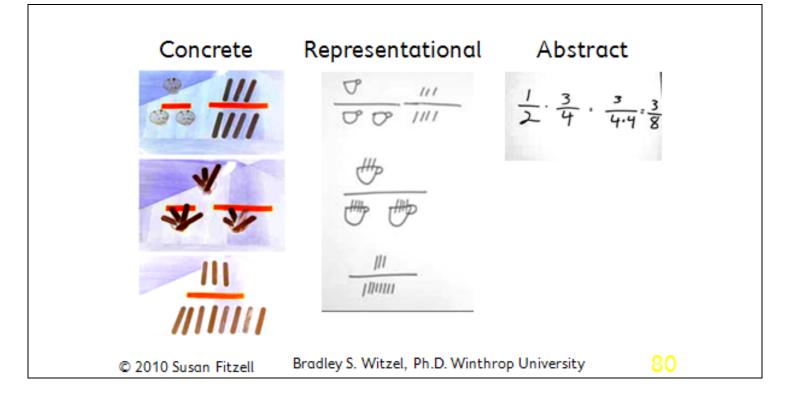
Procedural Instruction (Bryant, Hartman, & Kim, 2003)

- Explicit instruction
- "The [NMP, 2008] recommends that struggling students receive some explicit mathematics instruction regularly" dedicated to foundational skills and conceptual knowledge.

B 🔨 Strategy Instruction (Maccini & Hughes, 2000)

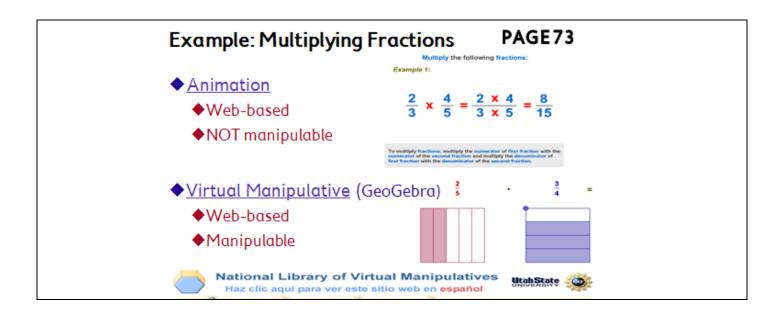
Representations, such as CRA (Maccini & Hughes, 2000; Maccini, Mulcahy, & Miller, 2007; Witzel, 2005; Witzel, Mercer & Miller, 2003)

Witzel & Allsopp, 2007 with Mathematics Teaching in the Middle School



# Tier Three:

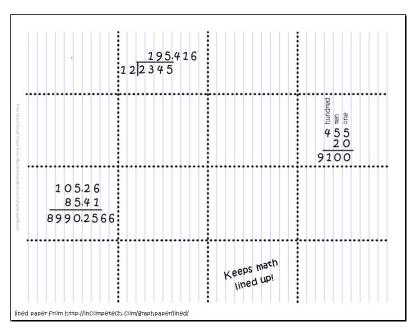
- Intense instruction one-on-one with a math intervention specialist
- Activities from the <u>manipulative center</u> critical to enabling struggling students gain an understanding of math concepts



#### De-Clutter the Math<sup>4</sup>

One thing we must address when discussing math is that disorganized workspaces clutter up working memory. (Levine, 2003)This is because students are too busy trying to make order out of chaos to focus on the actual math problem. One of the best ways we can help students with math is to help them organize their workspace.(Levine, 2003)

- Write down the steps to the problem before solving it.
- Avoid mental arithmetic: Use a scratch pad or scrap paper.
- Use graph or lined paper to complete math problems
  - a. Give your students grid paper or have them turn their lined paper sideways.
  - b. Fold their lined paper into squares and do one problem in each square.
  - c. Have students work their problems by lining the numbers up in the columns.
  - d. When testing or doing math worksheets on plain paper, put a piece of dark lined paper or grid paper under the math page. Students will be able to see the lines through the page and will keep their math organized.
  - e. If they become overwhelmed by looking at the entire test page, have students use blank paper to cover up everything but the problem they are working on so they don't become stressed. When they don't have to look at everything at once, they can focus more productively.



When students are working to organize their workspace or trying to decipher their work, they are using up working memory on organization rather than the math process. These strategies allow them to focus on the math.

<sup>&</sup>lt;sup>4</sup> Memorization and Test Taking Strategies for the Differentiated, Inclusive and RTI Classroom by Susan Gingras Fitzell, Cogent Catalyst Publications, 2010

# Mind Mapping / Graphic Roadmaps / Visual Organizers

#### Background:

Developing cognitive maps and using advance organizers increases critical thinking skills. (Barba and Merchant 1990; Snapp and Glover 1990; Tierney, et al. 1989).

Long-term memory files information in the brain through patterns, procedures, categories, pairs, and rules. A mind map uses at least three of these five ways to store information. A classic mind map begins with a word, phrase, or idea typically placed in the center of a piece of paper. Then, as the author of the mind map expands upon the word or phrase in the middle, the mind map expands to include various ideas that come to mind when considering that center prompt.

Mind maps enable the brain to categorize information. A mind map is a non-linguistic representation method of organizing information that enables students to file information away in long-term memory in multiple modes or memory packets.



Figure 6 Visual Organizers

Students learn and remember mind maps better if they create them out of their own mental images and patterns. As a parent who has spent my children's lifetimes trying to teach them how to learn, I was very excited when I walked into my daughter's college apartment and found mind-maps, mnemonics, color, etc. all over one of her walls. Now, it's not unusual to find mandalas on her door or on her walls, or flash cards scattered about, but this was a huge mind-map made from recycled 8.5 X 11 inch pieces of paper. (See

Figure 12 Visual Organizers) I had to take a picture. I had no idea what it all meant, but I do know it helped her to get an A in the course. My daughter, Shivahn, co-wrote a book with me, *Umm...Studying? What's That?* So it's reassuring to know that she didn't 'just' write the book, she also uses the strategies and shares them with other teens.

#### For independent writing assignments:

- 1. Ask students:
  - to contribute words that come to mind when they think of \_\_(the topic)\_\_\_ to be written about;
  - what images come to mind when they think about \_\_\_(the topic)\_\_\_.
- 2. Tell students to list their ideas around the topic using the mind map format to create logical connections.
- 3. Enhance the mind map with stick figure images, color, and meaningful symbols.

#### For independent reading assignments (literature or content area):

- 1. Ask students:
  - to pull key words from their reading: events, characters, dates tied to something meaningful (list both together), places, cause & effect, etc.;
  - what images come to mind when they think about these key words.
- 2. Tell students to list their ideas around the topic using the mind map format to create logical connections.
- 3. Enhance the mind map with stick figure images, color, and meaningful symbols.

#### For group brainstorming and mind map creation:

Break into groups of three and continue with steps 2-4 above. Avoid groups of more than four.

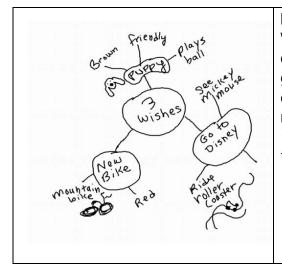
#### Extension - making more of the mind map

Students may illustrate the ideas on their mind map by placing photographs, illustrations, and links to relevant websites.

For example, they can:

- Take photographs to illustrate their ideas using the digital camera and upload them.
- Scan photographs and pictures out of books and magazines.
- Copy quotes from literature, magazines or newspapers, which are relevant to the topic.
- Write up quotes from the class discussion.

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Note:

When students make spelling errors at this phase of the creative process, note them, but let them go. Correcting students' spelling while they are creating will cause them to clutter their working memory with rules and not allow enough "space" for coming up with ideas. So, correct the difference between 'add' and 'ad' later.

#### Application Example:

#### Writing in the content area: Social Studies

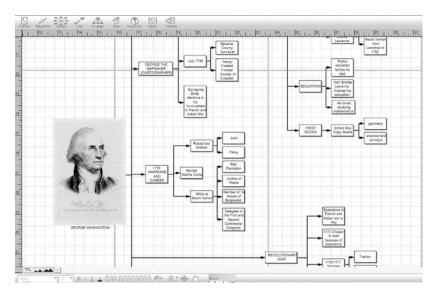
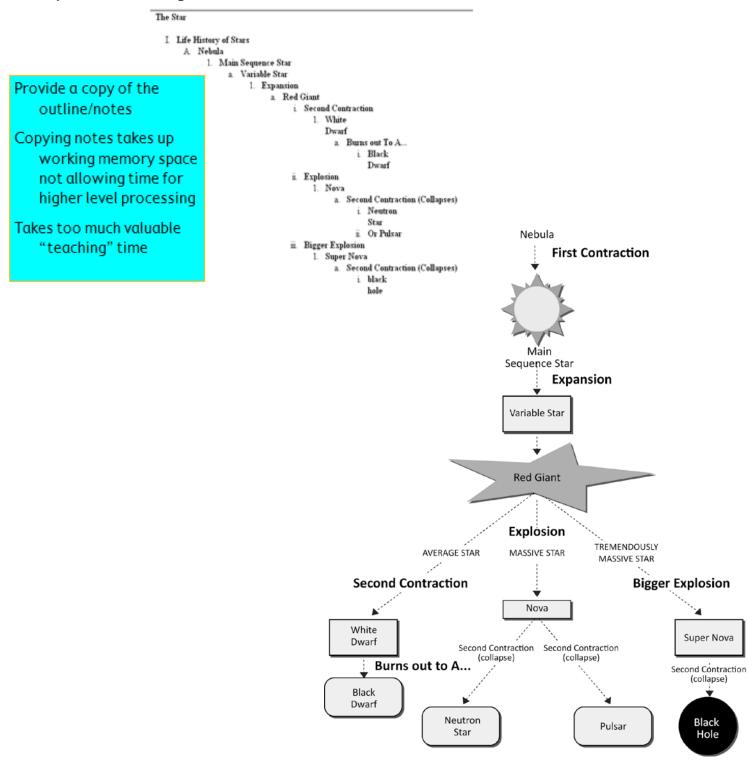


Figure 7 Social Studies Mind Map

A student created the above mind map as the 'outline' of his paper and presentation on George Washington's life and accomplishments.

#### Application example:

Independent reading in the content area: Science



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# Strategy to Remember Sequences

Some students struggle to remember sequences. They cannot remember a time line in history, the storyline in a short story, the steps to solve a geometric proof, or the sequence of a cycle in science. (Levine, 2003)How might we support students in recalling sequences? One approach is to make the sequence visually concrete.

#### Application to Response to Intervention Tiers:

TIER ONE	TIER TWO	TIER THREE
Teacher uses strategy with entire class to differentiate instruction	Student(s) use sequencing strategy as they read assigned text. Student works with a peer tutor, specialist or in a coaching session with the classroom teacher at least twice per week until the study strategy is internalized.	Student works with a specialist one-to-one for an additional 60-90 minutes per week using this intervention as a strategy to facilitate reading comprehension, sequencing and recall.

#### Intervention procedure & scripts

Explain what a sequence strip is. See Figure 15 Example of a Sequence Strip

#### Phase One:

- 1. Give students adding machine or cash register tape.
- 2. Choose text, note, timeline, or process that students will be sequencing.
- Provide instruction (read aloud, review notes, present new information, etc.) to students and when a key fact, event, cause and effect, vocabulary word, date, etc. is presented:
  - a. Stop
  - b. Tell students to take their writing utensil and paper tape in hand
  - c. Ask them what was important in what you just presented or read
  - d. Verify the correct information, and then summarize it into a KEY WORD which will become the label for that information on the paper tape
  - e. Draw a stick figure representation of that information on the board
  - f. Students should copy the teacher's drawing on their paper strip, or they may create their own image (what is critical is that the image is meaningful to the student)
  - g. Students should have a picture with a label. (See Figure 15 Example of a Sequence Strip

h. Continue this process until students have a completed sequence strip highlighting the most important concepts, connections, cause and effect situations, etc. outlined on their paper tape

#### Phase two:

After students become familiar with the technique and competent in using the strategy independently, advance to the following options:

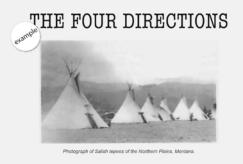
#### Option 1:

- a) While providing instruction in class, repeat steps a-d above, however, ONLY write down the KEY WORD or phrase (label).
- b) Have students draw a picture for each label for homework or independent practice. This ensures that they will have to revisit the information again. Do not allow too much time between the verbal component and the drawing component. Ideally, students will draw pictures approximately 3-6 hours later. This gap in time is the first step to moving the information from short-term memory to working memory.

#### Option 2:

- a) Students work independently, in pairs, or in triads.
- b) As students are reading a textbook or story, instruct them to draw pictures of the important information (characters, historical figures, places, events, etc.) in the order that they appear in the information source (text, sequence, instructions, timeline, process, etc.) on adding machine tape starting at the beginning of the tape and working left to right.
- c) Have models available as visual reminders for students.

#### Application example:



In the past, directions were part of the native way of life. the lakota (luh-KO-tuh), a tribe from the plains, faced their teppes to the east. Some tribes in Montana were taught to sleep by laying their heads to the north. These tribes were known as the Salish (SAY-lish). To get from one place to the next has been part of native living for a long time.

#### MEDICINE WHEELS

The circle has great part of the culture in the Northwest. Tribes of the plains had a type of circle called a **medicine wheel**. This wheel is a spiritual symbol to the tribes of the plains. It was used to teach the four cardinal direction.

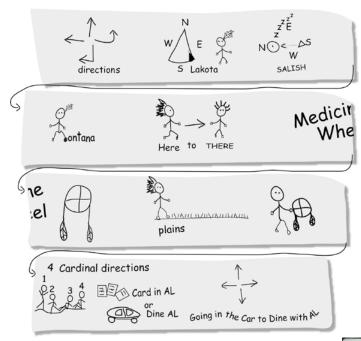
The Lakota tribe used another kind of medicine wheel, too. Rocks were placed in a huge circle to form an outer rim. Stones were then lined up from the center to the circle's edge in many directions.

Social Studies:

While your students read about how the Lakota Indians used directions for navigation, they draw a picture of the key points on the tape.

The chapter continues to describe what types of information was recorded by Native Americans such as the position of the sun and the moon, neighboring sites, etc.

Students draw and label that information in the same sequence/order that it is listed or described in the textbook. See the following example Figure 15 Example of a Sequence Strip



When complete, the student has a "time line" or "story line," in sequential order, of the events in the textbook or story. This visual memory tool will help them to remember the information in the order that it "happened".

Story board Brave Little To an adventur

If you don't have cash register or adding machine tape, you might use copy paper folded into sections to form a sequential story board.

- a. Students can create written memory models in which they elaborate on the similarities and differences involved.
- b. Student find physical object that can be used as an analogy.

#### To differentiate:

- Ask higher level students to brainstorm an original analog and its resulting connections.
- Provide a specific analogy to lower level students and ask them to brainstorm connections between the new concept and the analogy.

#### **Application Example:**

Social Studies: Read short bio article on the current United States President (<u>http://www.whitehouse.gov/about/presidents</u>).

- 1. List 5-8 characteristics of the President. (*i.e.* ambitious, won election to become president, helps develop laws).
- 2. Create list of 5-8 characteristics of the person being compared (Principal, Parent, etc.).
- 3. Create a Venn diagram to show similarities and differences between the two people.

#### Across the Curriculum:

Science teachers can use analogies to help students understand the system of the body. Some examples:

Poper lung Poper lung		Flap inside = epiglottis Filter = cilia Canister = lung	Mini-maze = Alveoli (demonstrating the exchange of $O_2$ and $CO_2$ )
Diagram used to teach the respiratory system	Corrugated hose = trachea Ribbing in hose = cartilage	Sponge = Lung tissue	Line up 'models' in the order they would be in the respiratory system.

# **2011** RTI : Powerful and Practical Interventions and Strategies

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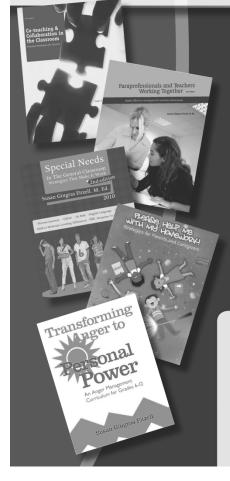
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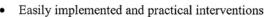


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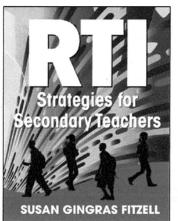


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