

## Visible Learning

*We should not make the mistake, however, of thinking that because students look engaged and appear to putting forth effort they are necessarily achieving; this is one of the myths that is held in too many classrooms—busy work in classrooms does not make the difference.*

(Quoted from Hattie, J. , 2009, p. 49)

<b>Think about the VISIBLE LEARNING Criteria...</b>		
<ul style="list-style-type: none"> <li>• Uses manipulatives and technology.</li> <li>• Engages in making decisions and choices.</li> <li>• Applies cognition strategies: make connections, question, summarize, infer, synthesize, visualize, big ideas.</li> <li>• Engages in reading.</li> <li>• Engages in writing.</li> <li>• Engages in discussing text.</li> <li>• Engages in problem solving or creates products.</li> <li>• Engages in peer tutoring, cooperative learning, reciprocal teaching, and other cooperative structures.</li> <li>• Creates/uses advanced/graphic organizers, concept mapping, logs, interactive notebooks, and foldables.</li> <li>• Engages in relevant, real-world learning experiences that advance 21<sup>st</sup> century skills.</li> </ul>		
<b>Examine the Crosswalk to Influences Identified by Hattie with Medium to High Effect Sizes...</b>	<b>Effect Size</b>	<b>Read about It in Hattie (2009)</b>
Reciprocal teaching	d = .74	p. 203-204
Spaced vs. massed practice	d = .71	p. 185-186
Metacognitive strategies	d = .69	p. 188-189
Creativity programs	d = .65	p. 155-156
Problem solving teaching	d = .61	p. 210
Cooperative vs. individualistic	d = .59	p. 213-214
Study skills	d = .59	p. 189-192
Concept mapping	d = .57	p. 168-169
Peer tutoring	d = .55	p. 186-187
Cooperative vs. competitive	d = .54	p. 213
Concentration/engagement	d = .48	p. 49
Cooperative learning	d = .41	p. 212-214
Behavioral/advance organizers	d = .41	p. 167-168

## Summary of Visible Learning

Visible learning is the essence of high yield student engagement. Student engagement is crucial for learning. So much so, that Hattie (2009) highlights research by stating, “no manner of school reform will be successful until we first face and resolve the engagement problem—and they note that this is not merely an educational problem, but is *a more general barometer of adolescent malaise*” (Hattie, 2009, p. 32 in citing research by Brown & Dornbush, 1997, p. 63). Students must be active in the learning process and their engagement must be such that it increases their ability to understand and apply essential knowledge and 21<sup>st</sup> century skills.

The strategies that yield results are those where “students reach the state where they become their own teachers, they can seek out optimal ways to learn new material and ideas, they can seek resources to help them in this learning, and when they can set appropriate and more challenging goals. Students need to be involved in determining success criteria, setting higher expectations, and being open to experiences relating to differing ways of knowing and problem solving” (Hattie, 2009, p. 37). Numerous studies point to the success of cooperative learning for increasing achievement. Reciprocal teaching, a structured form of cooperative learning that incorporates metacognitive strategies, is especially successful. Moreover, studies indicate that cooperative learning is more successful than individualistic or competitive learning. Cooperative learning strategies are especially powerful because they enhance interest and problem solving and incorporate high levels of peer involvement. Peer tutoring is so effective that it is highlighted in both the visible assessing and visible learning categories of the *Visible Teaching, Assessing, Learning, and Leading* model.

Metacognition is a key idea that is shared by many of the visible learning strategies. Metacognition is characterized by:

- Knowledge of one’s thinking and learning processes,
- Awareness of feelings and attitudes,
- Awareness of what one does and how one does it,
- Awareness and regulation of one’s cognitive processes and
- Thinking about thinking.

Metacognitive strategies promote high-level thinking. Good readers use seven cognition strategies fundamental to comprehension in *all* content areas. These cognition strategies are strategies FOR learning:

- Make connections,
- Ask questions,
- Infer,
- Determine importance/summarize,
- Visualize,
- Synthesize, and
- Monitor/clarify understanding.

Creativity programs also are metacognitive in nature and have a large positive effect on achievement as they, “are grounded in a common idea that training, practice, and encouragement in using creative thinking skills can improve and individual’s ability to use creative thinking techniques such as thinking with fluency, flexibility, and with an element of the unusual in responses to questions or problems” (Hattie, 2009, p. 155). Similarly, problem solving teaching is effective in that it teaches and engages students in thinking throughout four phases:

- Understand the problem,
- Obtain a plan of the solution,
- Carry out the plan, and
- Examine the solution obtained.

Study skills programs, “can be classified as *cognitive, meta-cognitive, and effective*” interventions (Hattie, 2009, p. 189). Cognitive programs target task-related skills. Meta-cognitive programs address self-management learning skills. Affective interventions concentrate on non-cognitive aspects of learning such as motivation and self-concept. It should be emphasized that all of the types of study skills programs that promote deeper levels of understanding combine the study skills *with* content; the study skills are not taught in isolation. The table on the next page summarizes meta-cognitive strategies with high influence on student achievement.

Two additional high-yield visible learning strategies are concept mapping and behavior/advanced organizers. Concept mapping involves students in developing, “graphical representations or conceptual structure of the content to be learned”. (Hattie, 2009, p. 168). This strategy incorporates powerful cognition strategies, summarizing the main idea(s), synthesizing, and analyzing interrelationships and is particularly helpful for students who struggle with these skills. Behavioral objectives/advance organizers facilitate visible learning because the link old with new information. These strategies inform students of learning intentions and the pathway to achieving identified objectives.

Another important aspect of visible learning has to do with practice and application. The frequency of practice opportunities influences learning to a greater extent than spending “more” time on a task. Deliberative practice increases opportunities to enhance mastery and fluency. Hattie provides a note of caution that spaced, deliberative practice is not the same as “drill and practice.” Deliberative practice involves feedback, provides multiple different experiences, is contextual, and embeds deeper, conceptual understandings.

The research is clear about what characterizes high-yield student engagement. As summarized by Hattie (2009), “clear learning intentions, transparent success criteria, and making learning visible to the student are the key elements of engaging students” (p. 49).

Strategy	Definition	Example	Effect Size
Organizing and transforming	Overt or covert rearrangement of instructional materials to improve learning	Making an outline before writing a paper	d = .85
Self-consequences	Student arrangement or imagination of rewards or punishment for success or failure	Putting off pleasurable events until work is completed	d = .70
Self-instruction	Self-verbalizing the steps to complete a given task	Verbalizing steps in solving a mathematics problem	d = .62
Self-evaluation	Setting standards and using them for self-judgment	Checking work before handing in to teacher	d = .62
Help-seeking	Efforts to seek help from either a peer, teacher, or other adult	Using a study partner	d = .60
Keeping records	Recording of information related to study tasks	Taking class notes	d = .59
Rehearsing and memorizing	Memorization of material by overt or covert strategies	Writing a mathematics formula down until it is remembered	d = .57
Goal-setting/planning	Setting of educational goals or planning subgoals and planning for sequencing, timing, and completing activities related to those goals	Making lists to accomplish during studying	d = .49
Reviewing records	Efforts to reread notes, tests, or textbooks to prepare for class or further testing	Reviewing class textbook before going to lecture	d = .49
Self-monitoring	Observing and tracking one's own performance and outcomes, often recording them	Keeping records of study output	d = .45
Task strategies	Analyzing tasks and identifying specific, advantageous methods for learning	Creating mnemonics to remember facts	d = .45
Imagery	Creating or recalling vivid mental images to assist learning	Imagining the consequences of failing to study	d = .44
Time management	Estimating and budgeting use of time	Scheduling daily studying and homework time	d = .44

Table 3. Metacognitive study skill strategies and the effect sizes (Lavery, 2008, as adapted from Hattie, 2008, p. 190)

## Sample Professional Growth Opportunities for Visible Learning

### 1. Review the research on Visible Learning

#### *Objectives:*

- To analyze pertinent research on visible learning
- To reflect on research in light of current practices

#### *Materials:*

- Copies of the crosswalk between the visible learning criteria and pertinent research on high-yield strategies and the *Summary of Visible Teaching* (guide pages 71-74)
- One reflection journal for each participant
- One slide of the In Shape Thinking questions (guide page 76)
- One copy of the book *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement* per participant (optional)

#### *Procedure:*

- a) Distribute copies of the crosswalk and summary.
- b) Ask participants to read and analyze the crosswalk and summary.
- c) Present reflection stems.
  - Something that squares off with my beliefs...
  - Something that is circling around in my head...
  - Important points for me to apply...
- d) Ask participants to share reflections with team or pair
- e) Process reflections with the whole-group
- f) Ask participants to reflect on the extent to which they are implanting visible learning practices.
- g) Optional: Jigsaw reading about the influences identified in Hattie's book. Create teams of 4 to 5 members. Each team member can be assigned to read about 2-3 influences and share with team.

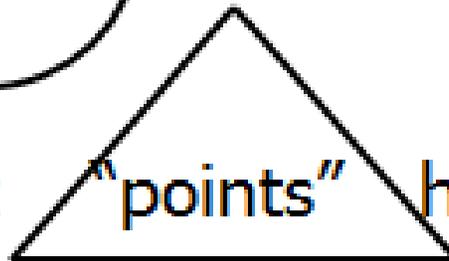
# "IN SHAPE" THINKING

Reflect on Visible Learning Influences.

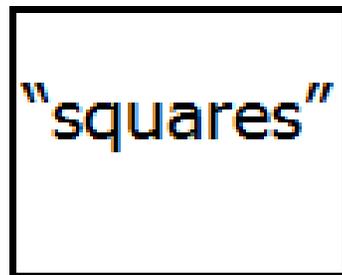
What is "circling" around in your mind?



What important "points" have been made?



What "squares" off with your beliefs?



2. Read and discuss an article pertinent to visible learning practices.

*Objectives:*

- To investigate how to strengthen student engagement
- To establish a commitment to strengthening student engagement

*Materials:*

- One copy of the article *Strengthening Student Engagement* (Richard Jones, Nov., 2008. International Center for Leadership in Education )for each participant (guide pages 78-82)
- One copy of the *Golden Lines* graphic organizer for each participant (guide page 83)
- Document camera or overhead projector

*Procedure:*

- a) Distribute the article *Strengthening Student Engagement* and the reflection graphic organizer.
- b) Model how to use the *Golden Lines* graphic organizer using a portion of text in the article. Explain that the graphic organizer can be used to aid students in making connections to comprehend text.
- c) Ask participants to read article. As they read, use the Golden Lines Graphic organizer to capture notes.
- d) Ask staff to share their notes with their team or in pairs.
- e) Ask participants to complete the last prompt on the graphic organizer establishing a goal for increasing student engagement.

# STRENGTHENING STUDENT ENGAGEMENT\*

Excerpts by Dr. Richard D. Jones, Author and Senior Consultant,  
International Center for Leadership in Education  
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## ENGAGEMENT-BASED LEARNING AND TEACHING

Simply telling or encouraging students to engage themselves in their class work is seldom enough. All members of the school community can join forces to develop schoolwide practices that cultivate student engagement beliefs, values, feelings, motivation, behavioral habits, and skills that are at the crux of high levels of student engagement.

## KEY ELEMENTS OF ENGAGEMENT-BASED LEARNING AND TEACHING

1. **Cultivate one-on-one relationships.** The one-on-one relationship between student and teacher is the critical element that can lead to increased student motivation and higher levels of engagement in academics and school life.
2. **Learn new skills and habits.** Teachers can learn new skills and habits that help them to develop, polish, and enhance their already natural inclination to motivate and engage students.
3. **Incorporate systematic strategies.** Teachers can learn systematic strategies that facilitate student engagement. Students can develop behavioral skills and habits that lead to increased academic achievement and greater involvement with school life.
4. **Take responsibility for student engagement practices.** It is primarily the teacher's responsibility to engage the students, as opposed to the teacher expecting students to come to class naturally and automatically engaged.
5. **Promote a schoolwide culture of engagement.** The best way to promote high levels of student engagement is to develop and maintain a schoolwide initiative that is dedicated to creating a culture of student engagement, involving students in school activities, and providing a rigorous and relevant education program for all students.
6. **Professional development is an important part of increasing student engagement.** Staff development, combined with staff ownership and recognition, is critical to developing and maintaining a culture of effective student engagement.

## LAYING THE FOUNDATION FOR STUDENT ENGAGEMENT

Educators should become familiar with the two basic elements that together provide the roadmap for teachers to focus on and facilitate student engagement. These elements are 1) preconditions and 2) pedagogy.

### 1. PRECONDITIONS

Preconditions are the factors that must be in place even before classroom instruction begins. The factors are:

- **Learning relationships.** Most students will not do their best in classes when they feel that teachers do not have an interest in them or care about their future. Students can sense whether the teacher cares or is simply “going through the motions.” All of the characteristics that we know about building relationships are essential to contributing to highly engaged classroom instruction. Students show increased effort in classroom activities when teachers take an

interest in students as individuals, get to know them by name, and talk to them not only in the classroom but during other activities in the school as well.

- **Creating the ideal classroom environment.** Good instruction can take place in a variety of settings. However, there is no question that well designed and well maintained classroom facilities have a positive impact on student engagement. Classrooms should be physically comfortable for students with respect to temperature, space, furniture, and structural organization. Classrooms also need to be mentally stimulating, with attractive displays that include samples of student work and colorful designs. Good teachers pay attention to the physical learning environment and do not make changes to that environment that could become obstacles to student learning.
- **Rewards and incentives.** Many schools need to reexamine grading policies both at the schoolwide and classroom level to ensure that this reward system provides a situation in which students are encouraged to work hard. In general, teachers need to reflect on the appropriate use of rewards in the classroom. The goal should be to build a stronger student perspective on intrinsic motivation as an incentive for student work and student learning, such as the pride of completing a difficult task or the satisfaction that comes from a job well done. There is no perfect grading system or time to give or withhold rewards. However, schools and teachers need to examine current practices constantly and consider changes that will increase the level of student engagement with respect to using incentives and rewards.
- **Guiding principles.** These are positive character attributes and appropriate behaviors for achieving in school and becoming good citizens as adults. Schools with the highest levels of student achievement do not sidestep the issue of character education. They embrace it. These schools acknowledge that their success is due in large measure to their attention to guiding principles, through which they have been able to create the supportive learning environment that is essential for students to achieve high standards. Some guiding principles used by many schools include: adaptability, compassion, contemplation, courage, honesty, initiative, loyalty, optimism, perseverance, respect, responsibility, and trustworthiness
- **Habits.** These are the routines and procedures that teachers create in the classroom. Habits include the way that students enter a classroom or engage in an activity at the start of every class period. Other habits include the ways that students open and organize materials that they need for the day, move from large to small groups for various activities, and work on individual problems. Teachers can create improved classroom environments and higher levels of student engagement if they focus on appropriate procedures and have students practice those procedures until they become habits. When students fail to follow the procedures, teachers need remind them of the rules and ways in which they can practice them. Good habits help to make effective use of instructional time and reduce the disruption that distracts students from the learning process. It is through practices that these procedures become powerful habits and keep students engaged in learning.
- **Fundamental skills.** These are the basic proficiencies that all students need to be able to participate in class and complete their work. Student need basic reading skills, for example, to be able to understand directions and materials used in any subject area. Students also need to

acquire the skills to facilitate discussions and to learn how to listen to the teacher as well as other students in group discussions. They also need basic skills in technology for doing Internet research or preparing PowerPoint presentations. In addition, students need to learn basic social skills. To function in the classroom and workforce and as responsible citizens, they have to learn how to greet others, respect space, resolve conflicts, and ask questions. Teachers should ensure that students have these skills through pre-assessment and by constantly monitoring student engagement levels.

## 2. PEDAGOGY

The following key aspects of pedagogy help teachers create an environment in which rigorous and relevant learning can take place.

- **Designing for rigorous and relevant learning.** One of the barriers to high levels of student engagement is the lack of rigorous and relevant instruction. While it is essential that students acquire fundamental skills before they proceed to more complex work, teachers should not keep students hostage by requiring that they complete all the isolated basics before they have the opportunity to engage in challenging and applied learning experiences. Relevance is just as critical as rigor. Relevance can help create conditions and motivation necessary for students to make the personal investment required for rigorous work or optimal learning. Students invest more of themselves, work harder, and learn better when the topic is interesting and connected to something that they already know.
- **Personalized learning.** Each student brings a unique set of characteristics to the classroom: different background knowledge, a unique learning style, a variety of interests, and varied parental support and expectations. To anticipate that each student will learn in the same way, at the same speed, and using the same material is an unrealistic expectation. Some teachers fall into the false assumption that the student is responsible when he or she fails to demonstrate adequate achievement. But often it is the lack of personalizing learning that is the source of failure. Teachers can create a more engaging classroom situation by getting to know their students and using examples during instruction that relate to students' backgrounds, cultures, and prior experiences. Parent involvement also is a part of personalizing learning. Students also need to experience differentiated instruction instead of constant large group instruction moving at the same rate of speed.
- **Active learning strategies.** While it may sometimes be efficient to have students listen to a short lecture, view video material, or read a textbook, doing these types of isolating, sedentary activities on regular basis becomes mind-numbing rather than mind-engaging. For example, cooperative learning strategies in which students are organized into structured discussion groups and play specific roles in analyzing problems and seeking solutions are more engaging than listening to a lecture. Moreover, varying instructional strategies adds interest and increases engagement.

- **Focus on reading.** Many successful schools emphasize the importance of focusing on literacy instruction for continuous learning in all subjects. Having a literacy focus means that all teachers, regardless of subject area, know the reading levels of the materials that they are using, whether that material is incorporated in textbooks, classroom directions, Internet-based resources, or other reading sources. They also know the reading levels of their students. They are able to match reading materials with individual students and identify where there are significant gaps that might require a change in instructional strategy. Teachers also need to incorporate vocabulary strategies as part of their individual course instruction. Paying attention to specific terms related to a topic of discussion and using strategies to gradually introduce and reinforce the vocabulary leads to comprehension and better student engagement in every subject. Teachers need to use comprehension strategies such as pre-reading and summarization that provide an opportunity for students to be more engaged in the required reading for a particular instructional activity.
- **Learning Relationships.** Strong positive relationships are critical to the education process. Students are more likely to make a personal commitment to engage in rigorous learning when they know teachers, parents, and other students care about how well they do. They are willing to continue making the investment when they are encouraged, supported, and assisted. Building good relationships complements rigor and relevance. For students to engage fully in challenging learning, they must have increased levels of support from the people around them.
- **Classroom Management vs. Learning-Based Relationships.** Perhaps one of the changes schools should make is to abandon the term “classroom management” and replace it with “relationship building.” Teachers need to create a climate for learning in the classroom. However, this is not a process to be managed. The classroom is made up of a group of students who desire and deserve high-quality personal relationships with adults and peers. It is the quality of these relationships that drives their behavior and leads to learning. Relationships in school always can be improved. Schools can engage in specific practices to improve the quality of those relationships that influence student learning and the operation of a school. These practices fall into three categories.

**1. Supportive behaviors** are ways in which teachers act and interact with students to support learning and good relationships. Some examples of adult and peer **behaviors** that influence learning relationships in a positive manner

- |                                            |                                        |                               |
|--------------------------------------------|----------------------------------------|-------------------------------|
| • Showing respect                          | • Avoiding “put-downs”                 | • Exhibiting enthusiasm       |
| • Being there” for students                | • Writing encouraging notes            | • Using positive humor        |
| • Active listening                         | • Students praising peers              | • Serving as a role model     |
| • One-on-one communication                 | • Displaying students’ work            | • Celebrating accomplishments |
| • Encouraging students to express opinions | • Identifying unique talents/strengths |                               |

**2. Supportive initiatives** are school initiatives that contribute to learning and good relationships. Following are examples of supportive **initiatives** that influence learning relationships in a positive way.

- Social activities to start the year
- Team building
- Mentoring
- Rewards, recognition, incentives
- Extracurricular and co-curricular activities
- Advisory programs
- Peer mediation
- Students as teachers
- Character education
- Service learning/community service
- Business-community partnerships
- Parent partnerships
- Sports programs
- Student advocacy

**3. Supportive structures** constitute major organizational changes that contribute to learning and good relationships.

- Small learning communities
- Alternative scheduling
- Team teaching
- Teaching continuity
- School-based enterprises
- Professional learning communities

### Golden Lines Template

Golden Lines	Connections	Nonlinguistic Visual Representation
My commitment for improving student engagement...		

Adapted from Rozzelle & Scaerce (2009). *Power tools for adolescent literacy*, p.

### 3. Investigate the magnificent seven cognition strategies.

#### *Objectives:*

- To investigate the *Magnificent Seven* cognition strategies
- To analyze and apply modeling and thinking aloud for explicit teaching

#### *Materials:*

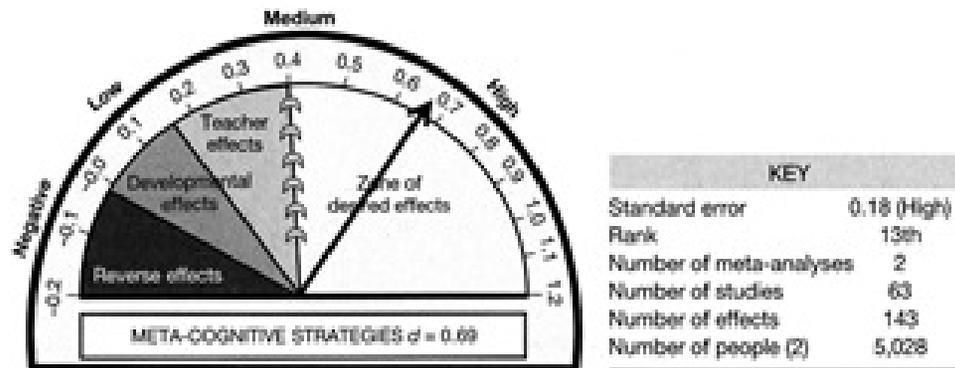
- An enlarged copy of Hattie's barometer on metacognition (guide page 85)
- Slide on Mentioning Study (guide page 86 )
- Slide about Magnificent Seven comprehension strategies (guide page 87)
- Slide on Explicit Comprehension Instruction (guide page 88)
- Slide on Think-Aloud for Comprehension (guide page 89 )
- A piece of text that will be used to model a think aloud
- Slides on Preparing Your Text for Explicit Teaching (guide page 90-91)
- One copy of the *Magnificent Seven Comprehension* handout per participant (guide pages 92-95)
- LCD projector/document camera/overhead projector and screen

#### *Procedure:*

- a. Show Hattie barometer on metacognition.
- b. Use slides on comprehension research to emphasize the need for comprehension strategy instruction.
- c. Use slide to introduce *Magnificent Seven Compression Strategies*,
- d. Distribute handout on *Magnificent Seven Comprehension Strategies* and ask participants to review the first page of the handout.
- e. Use slide to introduce steps for explicit comprehension strategy instruction.
- f. Use slide to introduce steps for modeling; divide group in half and ask half to read every other row.
- g. Model a think aloud using a piece of text.
- h. Use slide to ask participants to prepare to identify a text and comprehend strategy to model/think aloud. Teachers should use sticky notes to designate what they will think aloud for specific sections/pages of text.
- i. Designate a date for returning to share experiences.

# Metacognitive Strategies

"Thinking about thinking—the most effective metacognitive strategies are awareness of textual inconsistency and the use of self-questioning."



Education is more than teaching people to think – it is also teaching people things that are worth learning.

***Visible Learning, Hattie***

# Mentioning Study

(Durkin, 1979)

- Observed 4,469 minutes of reading instruction in grade 4.
- Found only 20 minutes of the time were spent teaching students *how* to comprehend.
- Found Teachers spent almost all of the time asking questions but spent little time teaching students comprehension strategies they could use to answer the questions.

# Magnificent Seven

	Making Connections
	Making Inferences & Predicting
	Asking Questions
	Determining Importance/Summarizing
	Visualizing
	Synthesizing
	Monitoring and Repairing

# Explicit Comprehension Instruction

1. Choose piece of text with 3-4 paragraphs.
2. Name and describe the strategy.
3. Tell when to use the strategy.
4. Model/think aloud the strategy in action.
5. Analyze the process modeled.
6. Provide time for collaborative application.
7. Allow time for guided practice.
8. Promote independent practice.

## Think-Aloud for Comprehension

What is a think - aloud?	The process of reading aloud and verbally describing steps used to think and questions as we make meaning from oral, written, or visual text.
	It is orally describing the thinking going on inside the reader's head to make sense of the text. Think-alouds make the reader's thinking visible.
Why use think-alouds?	Think-alouds make thinking "visible" and provide models of how to use comprehension strategies. Think-alouds model what good readers do to comprehend and make sense of text.
	When students do a think-aloud, it gives them opportunities for practice and reflect on the comprehension strategies. Think-alouds provide assessment information.

## Preparing Your Text for Explicit Teaching

- Identify the comprehension strategy and what the teacher will say to students concerning: 1) what, 2) why, 3) how and 4) when to use the strategy (see graphic organizer)
- Develop the “think aloud” to model strategy, using the actual text to note what teacher would say (marginalia, marking the text, etc).
- Identify two paragraphs for partner practice.
- Identify independent practice text.

## Preparing for Explicit Teaching

*Text to be Used:*

*Learning Objectives/Intentions:*

*What comprehension strategy will you explicitly teach?*

*What will you say about how you use the strategy when reading?*

## THE MAGNIFICENT SEVEN COMPREHENSION STRATEGIES

Strategy	Description	Student Thinking Tips
<b>Making Connections to prior knowledge</b>	<ul style="list-style-type: none"> <li>• Noting what the text reminds you of while reading</li> <li>• Making connections to personal experiences</li> <li>• Connecting one text to another text</li> <li>• Making connections between what you read and world events, people, or issues</li> <li>• Connecting the information in the text to prior knowledge and personal experiences, other texts, world events, people or issues.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>This reminds me of...</i></li> <li>• <i>This is different from...</i></li> <li>• <i>This made me remember when...</i></li> </ul>
<b>Asking questions</b>	<ul style="list-style-type: none"> <li>• Interacting with the text</li> <li>• Thinking while reading</li> <li>• Asking questions before, during, and after reading</li> <li>• Asking questions of the author, yourself, and the text</li> <li>• Monitoring comprehension and clarifying confusion</li> </ul>	<ul style="list-style-type: none"> <li>• <i>What is the author trying to say?</i></li> <li>• <i>What is the most important message here?</i></li> <li>• <i>What is this part really saying?</i></li> <li>• <i>What is the big idea?</i></li> <li>• <i>Does this make sense?</i></li> </ul>
<b>Inferring and predicting</b>	<ul style="list-style-type: none"> <li>• Reading between the lines to find answers to questions</li> <li>• Drawing conclusions based on background knowledge</li> <li>• Using clues in the text to make sense of what the author is saying</li> <li>• Interpreting while reading</li> <li>• Generating hypotheses</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Think about what you already know about the content.</i></li> <li>• <i>Ask questions: I wonder why, how, if...</i></li> <li>• <i>Think about how background knowledge helps to answer questions.</i></li> </ul>
<b>Determining important ideas</b>	<ul style="list-style-type: none"> <li>• Identifying the big ideas and themes</li> <li>• Extracting essential information from less important ideas</li> <li>• Summarizing</li> </ul>	<ul style="list-style-type: none"> <li>• <i>The big idea is...</i></li> <li>• <i>The big ideas so far are...</i></li> <li>• <i>This is important because...</i></li> <li>• <i>So what?</i></li> <li>• <i>In can use this information to...</i></li> <li>•</li> </ul>
<b>Visualizing</b>	<ul style="list-style-type: none"> <li>• Creating pictures in your mind</li> <li>• Using your senses—taste, hear, feel, touch, and smell</li> <li>• Inferring with visual images</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Generate mental images.</i></li> <li>• <i>Draw a picture or construct a graph.</i></li> <li>• <i>Create a Mind Map.</i></li> <li>• <i>Act it out or engage kinesthetically.</i></li> <li>• <i>Produce a graphic organizer.</i></li> </ul>
<b>Synthesizing and retelling</b>	<ul style="list-style-type: none"> <li>• Experiencing an Aha! or “light bulb” moment</li> <li>• Combining information from different sources to produce a new idea</li> <li>• Making sense of ideas during reading to create a new perspective after reading</li> <li>• Getting the gist of the story or text</li> <li>• Summarizing information</li> <li>• Applying ideas and information to yourself</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Read multiple sources on the same topic</i></li> <li>• <i>Find elements in common.</i></li> <li>• <i>Include your prior knowledge.</i></li> <li>• <i>Use graphics to organize.</i></li> <li>• <i>Seek additional sources.</i></li> <li>• <i>Use visualization and senses—I can picture, see, taste, hear, feel, smell, etc.</i></li> </ul>
<b>Monitoring and clarifying understanding of text</b>	<ul style="list-style-type: none"> <li>• Thinking about your thinking while reading</li> <li>• Realizing when you don’t understand what you’re reading</li> <li>• Using strategies to solve your comprehension problem</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Make notes of your thinking.</i></li> <li>• <i>Set purposes for reading.</i></li> <li>• <i>Make connections to yourself, texts, and the world.</i></li> <li>• <i>Make predictions.</i></li> <li>• <i>Stop and reread to clarify.</i></li> <li>• <i>Retell.</i></li> <li>• <i>Skip and read ahead to clarify.</i></li> <li>• <i>Mark confusing parts.</i></li> <li>• <i>Ask questions.</i></li> <li>• <i>Change your reading rate—slow down or speed up.</i></li> </ul>

Adapted from Rozzelle, J. & Scarce, C. (2009). *Power Tools for Adolescent Literacy*. Bloomington, IN: Solution Tree, pp. 185-191

## Steps for Explicit Comprehension Instruction

(Adapted from Rozzelle, J. and Scarce, C., 2009, p. 44-45)

1. Choose piece of text with 3-4 paragraphs. Choose an easy, short passage that you are confident every student can read.
2. Name and describe the strategy. For example, in describing the strategy “Make Connections,” tell the students this strategy involves:
  - Noting what the text reminds you of while reading
  - Making connections to prior knowledge and personal experiences
  - Connecting one text to another text
  - Making connections between world events, people, or issues
3. Tell when to use the strategy. If teaching “Make Connections,” tell students that good readers use this strategy *before* they start reading to think about what they already know about the topic and *during* the reading to help them stay focused and make sense of what they are reading.
4. Model/think aloud the strategy in action. This is a key step—show students how to do it.
5. Analyze the process modeled. Ask students what they observed and discuss their observations.
6. Provide time for collaborative application. Pair students to practice the strategy with another easy piece of text that you have duplicated for this purpose.
7. Allow time for guided practice. Have each student practice the strategy using sticky notes so that you can observe his/her use of the strategy.
8. Promote independent practice. Remind students to use the strategy that was modeled.

## Think-Aloud for Comprehension

(Adapted from Rozzelle, J. and Scarce, C., 2009, p. 51-52)

### What is a Think-Aloud?

A think-aloud is the process of reading aloud and verbally describing steps used to think and questions as we make meaning from oral, written, or visual text. It is orally describing the thinking going on inside the reader's head to make sense of the text. Think-alouds make the reader's thinking visible.

### Why use Think-Alouds?

Think-alouds make thinking "visible" and provide models of how to use comprehension strategies. Think-alouds model what good readers do to comprehend and make sense of text. When students do a think-aloud, it gives them opportunities for practice and reflect on the comprehension strategies. Think-alouds provide assessment information.

### How do I use Think-Alouds?

1. Use in a variety of formats.
2. Select a short piece of text for the Think-Aloud; three or four paragraphs. Prepare ahead of time by reading through the text and jotting down comments you will make based on the comprehension strategy to be modeled.
3. Explain to the students what a Think-Aloud is and why it is important for them to listen.
4. Read a small part of the passage, pause, and model thinking by inserting comments from notes. To make this more concrete for students, write in the margins of the enlarged text.
5. After demonstration, engage the class in a discussion to analyze the process. Encourage students to ask questions.
6. After modeling Think-Alouds a number of times, teach students how to prepare a Think-Aloud, and have them practice with a partner.

## Preparing your Text for Explicit Teaching

- Identify the comprehension strategy and what the teacher will say to students concerning: 1) what, 2) why, 3) how and 4) when to use the strategy (see graphic organizer)
- Develop the “think aloud” to model strategy, using the actual text to note what teacher would say (marginalia, marking the text, etc).
- Identify two paragraphs for partner practice.
- Identify independent practice text.

<i>Text to be Used:</i>
<i>Learning Objectives/Intentions:</i>
<i>What comprehension strategy will you explicitly teach?</i>
<i>What will you say about how you use the strategy when reading?</i>

College of William and Mary, School University Research Network (SURN)

#### 4. Investigate and apply reciprocal teaching.

##### *Objectives:*

- To investigate defining characteristics of reciprocal teaching
- To observe and apply reciprocal teaching process while leading teacher teams to read a selected article

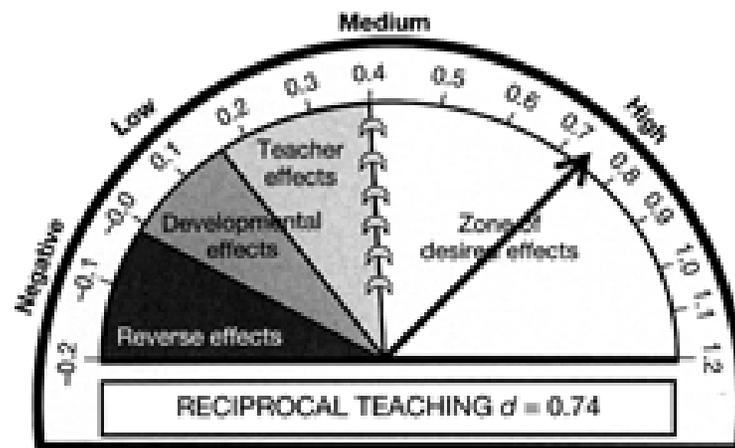
##### *Materials:*

- An enlarged copy of Hattie's barometer on reciprocal teaching (guide page 97 )
- A slide with instructions for reading the *Overview of Reciprocal Teaching* (guide page 98)
- One *Overview of Reciprocal Teaching* handout for each participant (guide pages 99-104 )
- One set of Reciprocal Teaching Role Cards for each group of four (guide page 102 )
- Slide of Determining Reciprocal Teaching Roles guide page 105)
- One *The Legacy of Little Rock* article for each participant (may choose to prepare and use an alternative article) (guide pages 106-107)
- One slide with completed *Somebody Wanted But So* graphic organizer (guide page 108 )
- One slide of incomplete *Somebody Wanted But So* graphic organizer (guide page 109)
- An overhead projector/document camera/overhead projector and screen

##### *Procedure:*

1. Form teams of four.
2. Show Hattie barometer on reciprocal teaching.
3. Distribute the handout describing reciprocal teaching handout (guide pages )
4. Use slide asking participants to read the handout and use sticky notes to write down questions they have and connections they make while reading.
5. Provide time for teams to discuss what was read and pose questions.
6. Process team comments and questions.
7. Explain that you will model a reciprocal teaching lesson using an article entitled, *The Legacy of Little Rock*.
8. Distribute the article and ask participants to find RT g graphic organizer on guide page ?.
9. Give each team a set of the four reciprocal teaching role cards and ask each team member to assume a role.
10. Use the article title and first paragraph/chunk of the article following steps ? on the reciprocal teaching overview.
11. Ask participants to work as a team reading the next paragraph of the article and allow time for teams to apply roles to discussing text.
12. Ask teams to continue reading the designated chunks of the article, stopping at the stop signs to apply roles for discussing article until article is completely read.
13. Demonstrate how to use the Somebody-Wanted-But-So (SWBS) graphic to complete a final summary of the article.
14. Ask each team to complete the SWBS and share with whole group.
15. Process the Reciprocal Teaching lesson.

# The Power of Reciprocal Teaching .74

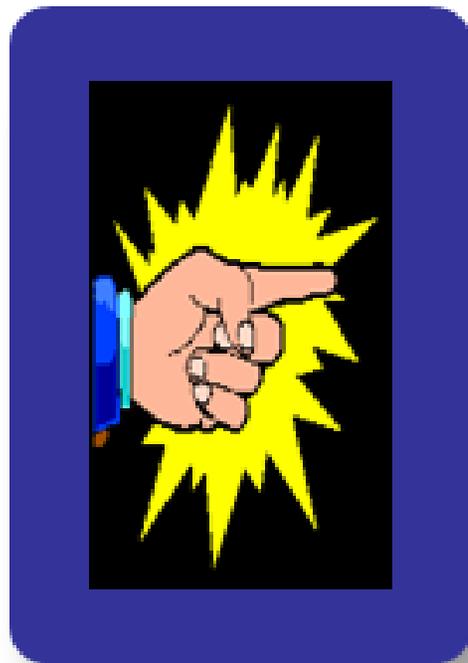


KEY	
Standard error	na
Rank	9th
Number of meta-analyses	2
Number of studies	38
Number of effects	53
Number of people (1)	677

The more the student becomes the teacher and the teacher becomes the learner, then the more successful are the outcomes.

*John Hattie, Visible Learning*

# It's Your Turn...



- Read the handout *Overview of Reciprocal Teaching.*
- Use sticky notes to write down questions you have and connections you make while reading.
- Be prepared to share.

## Overview of Reciprocal Teaching

Adapted from Rozzelle, J. & Scarce, C. (2009). *Power Tools for Adolescent Literacy*, p. 56-60 and the North Central Regional Educational Laboratory—  
[www.ncrel.org/sdrs/areas/issues/students/atrisk/at6lk38.htm](http://www.ncrel.org/sdrs/areas/issues/students/atrisk/at6lk38.htm)

### What is Reciprocal Teaching?

Reciprocal teaching (Palinscar & Brown, 1984) is a framework for talking about text or books, facilitated by the teacher and students, or by small cooperative groups. The dialogue is structured by the use of four comprehension strategies: 1) summarizing, 2) question generating, 3) clarifying, and 4) predicting. The teacher and students take turns assuming the role of teacher in leading this dialogue. Visual text such as select art and photographs that align with a content area can be used to promote visual literacy.

### What is the Purpose of Reciprocal Teaching?

The purpose of reciprocal teaching is to facilitate a group effort in bringing meaning to text by applying four comprehension strategies. The table below summarizes the purpose of each strategy.

Summarizing...	Provides the opportunity to identify and integrate the most important information in the text. Text can be summarized across sentences, across paragraphs, and across the passage as a whole. When first beginning RT, students' efforts may begin at the sentence and paragraph levels.
Question Generating...	Reinforces the summarizing strategy and aids in comprehension. When students generate questions, they identify significant information, form a question, and self-test to determine if they can answer their own question. Students can be taught to generate many different types of questions.
Clarifying...	Is particularly important when working with students who have comprehension difficulty; they may believe the purpose of reading is saying the words correctly—not making sense of the text. When clarifying, students become aware of many reasons for why text is difficult to understand (e.g., new vocabulary, unclear reference words, unfamiliar/difficult concepts). They are taught to be alert to these obstacles.
Predicting...	Occurs when students hypothesize what the author will discuss next in the text. To do this students must activate relevant background knowledge; students then have a purpose for reading—to confirm/disprove their hypotheses. Moreover, students can link the new knowledge they will encounter with prior knowledge. The predicting strategy also facilitates use of text structure as students learn that headings, subheadings, and questions in text are useful in anticipating what might occur next.

## Why Use Reciprocal Teaching?

No Child Left Behind recommends Reciprocal Teaching (RT) as a research-based approach for promoting student-directed learning. Additionally, Hattie's (2009) synthesis of over 800 meta-analyses relating to achievement found that RT ninth in influence out of over 130 research-based influences.

Reciprocal teaching is effective because it aids students in applying and practicing comprehension strategies (summarizing ideas, asking questions, clarifying ideas and vocabulary, and predicting/infering), improves oral language and discussion skills, involves cooperative learning with peers and increases active student engagement. The use of photographs and art presents a "level playing field" for learning and practicing comprehension strategies, because all students regardless of reading ability can respond to a picture.

## How Do I Use Reciprocal Teaching?

Choose text selections carefully to be certain that they lend themselves to all four comprehension strategies used in Reciprocal Teaching. Before students can use RT successfully, they need to have been taught and had time to practice each of the four strategies in isolation. As with cooperative learning, students need to see roles and behaviors modeled before they are assigned roles. Vary how you use Reciprocal Teaching based on three elements: 1) what works best for your teaching style, 2) the format of the selected text, and/or 3) the learning styles of your students.

- a) Choose a text to model the RT roles, and enlarge the text for a whole-class demonstration lesson. Pre-read the text to identify segments to model the four comprehension strategies, marking or using sticky notes to note places that show prediction, clarification, question, and summary.
- b) Form groups of four students.
- c) Distribute a reciprocal teaching role card to each member of the group. Use role cards as provided on guide pages ? or create your own. Note that one option is to substitute the clarifier role with a connector role.
- d) Give the students a four-column graphic organizer, or ask students to draw a four-column chart with column headings for the different comprehension strategies.
- e) Model Reciprocal Teaching. Read aloud the title of the text and any headings on the first page; make a prediction of what the text will be about. Ask students to write their prediction in the *Prediction* column. Continue to read aloud a chunk of text and model application of the four RT strategies. Ask students:

*Does anyone need to have anything clarified?*

*Does anyone have a question to ask?*

*What predictions do you have?*

*How would you summarize?*

- f) Discuss clarifications, questions, predictions, and summaries, allowing time for students to record these on their graphic organizers.
- g) Continue guided practice over several additional text chunks until students are ready to use RT independently.
- h) Have students read a few paragraphs or a chunk of text and use the graphic organizer to record role responses.
- i) Stop students at the end of reading the paragraphs/chunk and ask students to assume their role in responding to the text. Students will take notes in the appropriate column as their team mates share their role responses.

*The summarizer will summarize*

*The questioner/interrogator will ask questions about the selection*

*The clarifier will address confusing parts and attempt to answer questions that were posed*

*The predictor will offer guesses about what the author will tell the group next.*

- j) Consider asking students to switch roles in the group and asking them to repeat the process with another chunk of text.

## Reciprocal Teaching Role Cards

<p><b>Summarizer</b> <i>Summarize the information.</i></p> <ul style="list-style-type: none"><li>• Tell your group what the main ideas are for the chunk of text</li><li>• Select one big idea that you connect with or relate to.</li><li>• Say: “I think this page is about...”</li></ul>	<p><b>Interrogator/Questioner</b> <i>Ask questions.</i></p> <ul style="list-style-type: none"><li>• Ask your group: “What is the author trying to say?”</li><li>• “What if...”</li><li>• “I wonder why...”</li><li>• “What might have happened before this?”</li><li>• “What might happen next?”</li></ul>
<p><b>Clarifier</b> <i>Clarify important ideas and words after everyone has finished reading.</i></p> <ul style="list-style-type: none"><li>• Ask your group: “Is there anything anyone does not understand?”</li><li>• “Does anyone need clarification about what we read? About the meaning of a word?”</li><li>• “Does this make sense?”</li><li>• “What evidence in the text supports our earlier prediction that...? Confirm or revise our prediction with evidence.”</li></ul>	<p><b>Predictor</b> <i>Predict what’s next.</i></p> <ul style="list-style-type: none"><li>• Say to your group: “I think this next paragraph/chunk/page is going to be about...”</li><li>• Use the whole paragraph/chunk/page: Headings, pictures, what you already know.</li><li>• Make a prediction.</li><li>• Support your prediction with evidence from the page.</li><li>• Tell your group to read the paragraph/chunk/page silently.</li></ul>

Rozzelle & Scaerce (2009). *Power tools for adolescent literacy*, p. ?

## Alternative Reciprocal Teaching Role Cards

<p><b>Summarizer</b>  <i>Identify the <u>three most important details</u> in the text. <u>Explain why they are important and how they are connected.</u></i></p> <ul style="list-style-type: none"> <li>• Are there some parts of the text that are more important than others?</li> <li>• What words, sentences, ideas, or themes stood out as especially important? Why?</li> <li>• If you were to tell a friend about the text in a few sentences, what would you tell them?</li> </ul>	<p><b>Interrogator/Questioner</b>  <i>Create at least three questions about the reading:</i></p> <ul style="list-style-type: none"> <li>• What questions did you have <b>before</b> you read the text?</li> <li>• What did you wonder about <b>while</b> you read the text?</li> <li>• What questions did you have <b>after</b> you read the text?</li> <li>• What did you want to ask the author?</li> <li>• What questions do you have now?</li> </ul>
<p><b>Connector</b>  <i>Make <u>at least three connections</u> between ideas in the reading to <u>yourself</u>, the <u>world</u> around you, or <u>other texts</u>.</i></p> <ul style="list-style-type: none"> <li>• Did the text remind you of anything you know about?</li> <li>• Did you make any connections to your own life or to the world?</li> <li>• Did you make any connections to another text?</li> <li>• Did you make connections from one part of the text to another?</li> </ul>	<p><b>Predictor</b>  <i>Identify <u>at least three text-related predictions or inferences</u>.</i></p> <ul style="list-style-type: none"> <li>• What predictions did you make during the reading?</li> <li>• What interpretations did you make?</li> <li>• Did you combine background knowledge and explicit information in the text to answer questions?</li> <li>• Did you make judgments or conclusions not explicitly stated in the text?</li> </ul>

Rozzelle & Scaerce (2009). *Power tools for adolescent literacy*, p. ?

Name: \_\_\_\_\_

## Reciprocal Teaching Graphic Organizer

**Directions:** You are responsible for reading the assigned text using one of four reading strategies. Use this organizer to take notes based on your assigned strategy during reading. Be prepared to share your notes and help your group use your strategy as your group discusses the text. Also use this graphic organizer to write down notes from your team mates' responses to text.

Summarizing	Interrogator/Questioner	Clarifying/Connecting	Predicting

# Determine Reciprocal Teaching Roles



- 1. Summarizing**
- 2. Questioning**
- 3. Clarifying**
- 4. Predicting**

Thursday, Sep. 20, 2007

# The Legacy of Little Rock

By Juan Williams

☺ The 50th anniversary of the Little Rock school crisis is a powerful lesson in the complicated calculus of social change. People on all sides of the civil rights issues in 1957 were shocked by the sight of white mobs and the Arkansas National Guard, under orders from Governor Orval Faubus, blocking nine black children from entering the city's Central High School. When President Dwight Eisenhower sent in the 101st Airborne to protect the students, some feared this and other efforts to desegregate the nation's schools might signal the start of a second civil war. But the Governor backed down, and on Sept. 25 the nine became the first blacks to enroll at the high school.



☺ Earlier this year the U.S. Mint issued a silver dollar commemorating the event, and throughout the anniversary's week there will be other observations marking this turning point in U.S. history. But the joy will be somewhat muted, for American schools are still nearly as segregated as they were 50 years ago. Almost three-quarters of African-American students are currently in schools that are more than 50% black and Latino, while the average white student goes to a school that is 80% white, according to a 2001 study by the National Center for Education Statistics. Similarly, a 2003 study by the Civil Rights Project at Harvard found that 27 of the nation's largest urban school districts are "overwhelmingly" black and Latino, and segregated. The percentage of white students going to school with black students is "lower in 2000 than it was in 1970 before busing for racial balance began," the report said.



☺ And public education in the U.S. is not only separate, it is often unequal. In 2005 the New York Times reported that the average black or Latino student graduating from high school "can read and do arithmetic only as well as the average eighth-grade white student." At the same time, on average, white elementary-school-age children go to schools in which about a third of the students qualify for free or low-cost lunches, while the typical black or Latino grade-schooler attends one in which two-thirds of children are in the reduced-price lunch program.



☺ The clear evil of racism explained the gaps in opportunities and achievement between black and white children back in 1957. But that kind of open malice is harder to find today, and the reasons for current discrepancies are more complicated and more challenging. At the time of Little Rock, no one could foresee that Hispanics would become the nation's largest minority and perhaps its most segregated group, but both are true today. It is also true that white flight and now the exodus of middle-class black families fleeing to the suburbs to escape crime have continued to take good students and active parents away from city schools. But an even larger factor in early 21st century America is the declining number of school-age white children and increasing number of school-age minorities. Such demographic shifts are making it even more difficult to integrate American schools by race or class.



Elizabeth Eckford ignoring the insults of Hazel Bryan (2nd from the L), one in the crowd of jeering whites hard on her heels as she heads to Little Rock Central High School where Natl. Guardsmen prevented her entry as 1 of 9 black students trying to attend all-white school.



These realities have become an issue in recent court decisions. Judges point to high levels of residential segregation as the root cause of school segregation and question the wisdom of using children and schools to remedy adults' preferences for isolating themselves by income and race. This year the Supreme Court ruled that voluntary school-integration plans in Seattle and Louisville, Ky., violated the rights of students to be judged on individual merit even if the ruling means that many schools remain segregated by race and class. It was a sad decision, acknowledging the defeat of the ideals and aspirations of Little Rock and the 1954 Brown v. Board of Education decision that made segregation illegal. But it should also be hailed for acknowledging new realities: first, even as we celebrate what happened 50 years ago in the glory days of the civil rights movement, the political will to integrate schools in this country is long gone. So, too, is the desire to fix every economic inequity before delivering quality education to all children.



white
minority
Statistics



But there is hope. Fifty years after critics charged one Republican President with risking a civil war by sending federal troops into a Southern city to enforce integration, a Republican President is taking on the problem of underperforming big-city schools and what he calls the "bigotry of low expectations." President George W. Bush is seeking renewal of the No Child Left Behind law, which holds schools accountable for teaching every student and narrowing the achievement gap regardless of a child's color, income or family background. Despite its shortcomings, like training students how to pass standardized tests instead of instructing them how to think critically, the President's plan is worthy simply for insisting that all children can learn. Fifty years after U.S. troops had to escort nine black children to school in Little Rock, the issue is still how to take race out of the equation when it comes to educating every American child.




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Williams is a senior correspondent for NPR, an analyst for Fox News and the author of Enough

## Somebody-Wanted-But-So (SWBS)

Somebody	Wanted	But	So
Harriett Tubman	to help her people to escape slavery	The route to freedom was dangerous	Tubman created the Underground Railroad.

Summary Sentence: Harriett Tubman wanted to help her people to escape slavery in the South, but the route to freedom was dangerous. So, Tubman created the Underground Railroad and helped many slaves.

Gregory & Rozzelle (2004). *The learning community guide to improving reading instruction*.

# Work with Your Team: Create and Share Your Summary

Somebody	Wanted	But	So

Summary Sentence: \_\_\_\_\_