On Target:

More Strategies to Guide Learning

Grades 4 - 12

Dear Educator:

Throughout the series of *On Target* booklets, featured strategies have focused on providing teachers with tools that will engage students with content reading and comprehension. The strategies featured in this booklet, *On Target: More Strategies to Guide Learning*, continue with that theme. This booklet considers additional strategies that you might use to motivate student readers to actively improve their text comprehension.

The booklet begins with a section on connections students make as they read. Following that discussion are several strategies that help students make connections in various ways. Each strategy suggests that teachers first model and practice before directing students to work independently. Best practice tells us that the process of modeling and class practice prior to assigning students to work independently results in more successful utilization of a strategy in the long run.

As we've worked on these booklets, the editors have received comments from teachers lamenting that so many students have inadequate note-taking skills. Frequently, students write too little or copy randomly out of a source. As a result, we've included several options that teachers can use to encourage students to develop their note-taking skills.

On Target: More Strategies to Guide Learning is the sixth in a series of booklets developed by Technology and Innovation (TIE), a division of Black Hills Special Services, with support from the South Dakota Department of Education.

On Target booklets include the following titles:

- *On Target: Reading Strategies to Guide Learning*
- *On Target: Strategies to Help Struggling Readers*
- *On Target: Strategies to Improve Student Test Scores*
- *On Target: Strategies to Help Readers Make Meaning through Inferences*
- *On Target: Strategies to Build Student Vocabularies*
- *On Target: More Strategies to Guide Learning*
- *On Target: Bringing Writing into Content Area Classrooms*
- *On Target: Strategies That Differentiate Instruction, Grades K-4*
- *On Target: Strategies That Differentiate Instruction, Grades 4-12*

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The Educator's Task: Find Ways to Help Students Develop the Comprehension Habit

Josephine Hartmann
TIE Reading Consultant

How do we develop enduring habits of comprehension in our older students? That question is probably what motivated you to read this book. Well, we have bad news and good news for you; but first, the bad news. There are no quick-fix, silver-bullet answers that have ever been discovered. Sorry!

Unfortunately we can't put a quarter in the Harry Potter strategy machine and have the magic gumball pop out to solve all our problems. However, the good news is that there are many strategies we **can** teach and habits we **can** foster to help our students construct deep meaning from the reading material or content they are studying.

Comprehension and subsequent learning are the result of thousands of invisible thought processes all working together at lightning speed. As we look at 25 pairs of glazed eyes staring at us on a hot Friday afternoon, it may be difficult to believe there's anything going on in there. But the first step we need to take is to fathom the complexity of learning and the brain. The glassiness develops as thought processes are diverted to less taxing tasks. Comprehension is hard work for amateurs. The key is to practice, practice, practice the vast array of strategies that most of us engage in automatically—until that same automaticity is developed in our students.

Over the years, we developed into good learners. What are some of the habits we employed while we read millions of pages, heard multi-millions of words, and discussed a vast universe of content and ideas?

Jeff Zwiers suggests the following six habits of comprehension that are basic but not exclusive:

1. Organizing information by constructing the main idea and mentally summarizing
2. Connecting new information to background knowledge
3. Making inferences and predictions about what comes next
4. Generating and answering questions
5. Understanding and remembering word meanings
6. Monitoring one's own comprehension

These concepts guided the writing of *More Strategies to Guide Learning*.The secret is to engage students in exciting material that young people can connect with, teach them strategies relating to Zweirs' basic principles (and others), and then practice.

Anyone who plays a musical instrument can attest to the thousands of hours of practice it took in order to draw real music from the printed manuscript. Reading and learning take even more practice time. We don't play the piano after one lesson, do we? So persevere with some of the strategies in your toolkit until your students say, "I try not to predict what's going to happen, but I can't help it. It just pops into my head." That's success!

Source:

Zwiers, Jeff. *Building Reading Comprehension Habits in Grades 6-1: A Toolkit of Classroom Activities.* Newark, DE: IRA, 2004, 3.

Making Connections

When good readers approach texts, they are likely to connect what they read to their background knowledge and previous experiences. Making these connections helps them to better understand what they are reading. On the other hand, struggling readers tend to move through the text without processing the material or making connections.

Strong readers make three basic types of connections as they read:

- **Text-to-self**
  - Personal connections are the ones readers make to experiences they've had in their lives that remind them of or connect them to a piece of text.
  - *Example:* This story reminds me of the time my cousins came to visit because we went swimming at the creek, and my youngest cousin got lost.
  - It reminds me of the time I. . .because. . .(text-to-self)
- **Text-to-text**
  - Text-to-text connections occur when students read material and are reminded of previous learning that has occurred.
  - *Example:* Students studying the Civil War in an 8th grade history class, may easily make connections to events from the children's novel *Shades of Gray* that they read during an earlier learning experience.
  - It reminds me of when I read. . .because. . .(text-to-text)
- **Text-to-world**
  - The text-to-world connections are the connections readers bring to the text based on experiences that go beyond their personal experiences. Students learn from movies, television shows, magazines, and newspapers.
  - *Example:* In a health class, students are studying the use of steroids by athletes. One student recalls listening to ESPN and hearing a news story about baseball player Barry Bond's alleged use of steroids.
  - It reminds me of something I heard about . . .because. . .(text-to-world)

The link between making connections and improving comprehension has been examined by several authors and has evolved into a variety of strategies teachers can use to help students improve their comprehension skills. The links and sources below provide detailed steps and adaptations for helping students make connections as they read.

Additional links for resources on Making Connections

- u46teachers.org/mosaic/tools/tools.htm
  Mosaic Listserv Tools includes *Mosaic of Thought* tools used by teachers.
- ayr.ednet.ns.ca/vis_strategies.shtml
  This site includes information on making connections with sample activities.
- geocities.com/smilecdg/comprehe.html
  This site contains downloadable posters and bookmarks on making connections

Making Connections

Sources:

Buehl, Doug. "Yeah, That Reminds Me of…" Wisconsin Literacy Education and Reading Network Source. *WiLearns.* 6 Oct. 2004. 30 May 2006 wilearns.state.wi.us/apps/default.asp?cid=710

Dennis-Shaw, Sarah. "Guided Comprehension: Making Connections Using a Double Entry Journal." *Read, Write, Think.* IRA, NCTE, MarcoPolo. 30 May 2006 readwritethink.org/lessons/lesson_view.asp?id=228

Education Oasis Staff. "Text-to-Self Connection." *Education Oasis*. 30 May 2006 educationoasis.com/curriculum/LP/RE/text-to-self_connection.htm

Harvey, Stephanie, and Anne Goudvis. *Strategies That Work: Teaching Comprehension to Enhance Understanding.* Portland, ME: Stenhouse, 2000.

"Making Connections." Florida Online Reading Professional Development: Reading Strategy of the Month. Florida Dept. of Education and Just Read, Florida! Oct. 2004. 30 May 2006 itrc.ucf.edu/forpd/strategies/stratText.html

"Making Connections." *Reading Workshop*. Springfield Public School District 186, Springfield, IL. 30 May 2006 springfield.k12.il.us/resources/languagearts/readingwriting/connections.htm

McLaughlin, Maureen, and Mary Beth Allen. *Guided Comprehension: A Teaching Model for Grades 3-6.* Newark, DE: IRA, 2002.

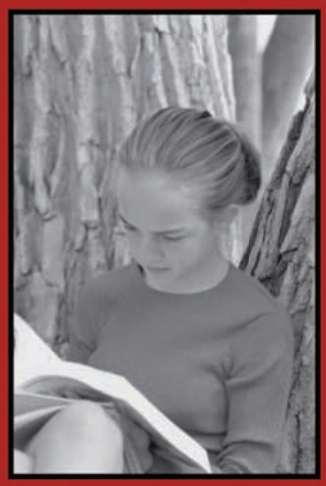
Tovani, Cris. *I Read It, But I Don't Get It: Comprehension Strategies for Adolescent Readers.* Portland, ME: Stehnouse, 2000, 63-78, 125-126.

"Using Connections." *The Reading Lady.* 30 May 2006 readinglady.com/Comprehension/Strategy_Posters/making_connections.pdf

Zimmerman, Susan, and Ellin Oliver Keene. *Mosaic of Thought: Teaching Comprehension in a Readers Workshop.* Portsmouth, NH: Heinemann, 1997, Chapter 4.

Making Connections

Text-to-Self Connection



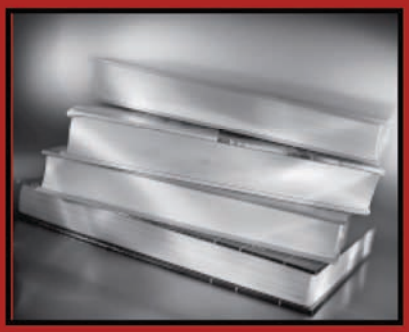
A connection between the text and something in your own life experience

(Adapted from the Read, Write, Think website: readwritethink.org/)

Making Connections

Making Connections

Text-to-Text Connection



A connection between the text and another story or text that you have read previously

(Adapted from the Read, Write, Think website: readwritethink.org/)

Making Connections

Text-to-World Connection

A connection between the text and something that is occurring or has occurred in the world

(Adapted from the Read, Write, Think website: readwritethink.org/)

Taking Notes

Skim through a book on reading strategies in content area classrooms, and you are likely to find at least one—and usually considerably more—strategies focusing on helping students improve their note-taking skills. The reason is simple. Effective note takers are a step ahead when it comes to learning content material. In *Classroom Instruction That Works,* Marzano, Pickering, and Pollock identify summarizing and note taking as essential skills students need to develop. They suggest that research on note taking provides the following indicators for educators:

- Verbatim is the least effective way to take notes.
- Notes should be considered a work in progress.
- Notes should be used as study guides for tests.
- The more notes that are taken, the better.

Like so many other reading strategies, the skill of taking notes does not come to students without explicit instruction from the teachers. The authors suggest that teachers provide students with a framework for note taking that they can use consistently. Furthermore, they indicate the need for teachers to practice taking notes with students and to model the process. When teachers neglect to teach the fundamentals of taking notes, students tend to simply write down words or phrases verbatim without thinking about the content and meaning of the words.

The Northwest Regional Educational Laboratory provides the following suggestions for teaching note-taking skills:

- Students benefit from using their notes as a document of their learning.
- Teachers should prompt students to review and refine their notes, particularly when it is time to prepare for an exam, write a research paper, or complete another form of summative assessment.
- Notes can be written in a variety of formats including idea webs, outlines, sketches, word combinations, schematics. Teachers should encourage students to personalize their notes in a way that is meaningful to their learning.

The following strategies in the booklet focus on a variety of note-taking methods. (For more information on writing summaries, see *On Target: Bringing Writing into Content Area Classrooms.)*

Sources:

Marzano, Robert J., Debra Pickering, and Jane E. Pollock. *Classroom Strategies That Work: Research-Based Strategies for Increasing Student Achievement.* Alexandria, VA: 2001.

"Research-Based Strategies." *Focus on Effectiveness.* Northwest Regional Educational Laboratory, Portland, OR. 2005. 30 May 2006 netc.org/focus/strategies/summ.php

Cornell Notes

The Cornell Notes system helps students organize their notes. Students can use notebook pages to create their own writing frames.

Steps:

1. Show students that they need to divide their notebook into three sections. On an overhead or other projection device, create an example.
2. Go over the format for completing Cornell Notes:
   - In the large column labeled Notes and Ideas, students record information from lectures or their readings. Suggest that students remember to write important words, symbols, headings, and topics. They can add quotes, examples, and details. If desired, they can use an outline format.
   - After reading or listening, students should review the material as soon as possible and pull out the key words, phrases, dates, and people. These ideas should be placed in the narrow column labeled Key Words.
   - After reviewing the material, students should write a summary of the information at the bottom of the page.
3. With the class, consider material previously covered and create a class example before asking students to independently try the format.

Key Words	Notes and Ideas
Summary	

Sources:

Burke, Jim. "Q Notes." *englishcompanion.com.* 30 May 2006 englishcompanion.com/pdfDocs/cornellintro.pdf

"Cornell Notes." *The Learning Toolbox.* James Madison University, Harrisonburg, VA. 30 May 2006 coe.jmu.edu/LearningToolbox/cornellnotes.html

"Cornell Note-Taking System." *Learning Strategies.* Brigham Young University, Provo, UT. 30 May 2006 byu.edu/ccc/learning/note-tak.php

"Note-Taking Formats." Counselling and Developing Centre, York University, Toronto, Ontario, Canada. 30 May 2006 yorku.ca/cdc/lsp/notesonline/note4.htm#The

Pauk, Walter. *How to Study in College.* 6th ed. Boston: Houghton Mifflin, 1997.

Known/New/Next

Good note takers integrate their prior knowledge with their note-taking skills. The Known/New/Next model, adapted from Amy Benjamin's *Writing in the Content Areas,* encourages students to access and build upon their prior knowledge as they listen to a lecture or read information on a topic.

Steps:

1. Instruct students to divide a notebook page (or provide them with a template). Students label the following elements:
   - Known (top quarter of the page)
   - New (middle section of the page)
   - Next (bottom quarter of the page)

   Refer to template on page 11.
2. Tell students the topic of the lecture and ask them to jot down details and ideas they already know about the topic. For example, if you are going to discuss the possibility of a pandemic resulting from the avian flu threat, ask students to write under the Known category all that they already know about the avian flu, its origins, its pattern of transmission, its fatality rates, or any other ideas they might have.
3. Direct students to record new information as they listen to the lecture or read information. Remind them that they don't need to use complete sentences. They can, for example, abbreviate or use symbols. Suggest that they write down categories of information, names, and specific details.
4. Explain that they are now ready to fill in the final row with additional questions or points of interests. This section can also be used to elaborate on details they mentioned in either the Known or New sections.

Adaptations:

- Color coding, instead of rows, can be used to differentiate the categories.
- The template can be varied by placing the columns across the top of the page rather than down the side:

Known	New	Next

Source:

Benjamin, Amy. *Writing in the Content Areas.* Larchmont, NY: Eye on Education, 1999, 136.

Known/New/Next

Known

New

Next

Double Entry Journals

Double Entry journals (sometimes called diaries) are note-taking frameworks that help students construct meaning as they interact with a text (Calkins, 1986). The journals become a place for students to easily record thoughts and ideas as they read.

Steps:

1. Select a piece of text. Read the text aloud and model the process using the following framework as a model. (Use an overhead or projection device.):

Passage	My Reaction

2. As you read aloud, model your thinking. For example, if reading an article on a tornado that touched down in a nearby city, you might make connections to other tornadoes that have occurred in the area. Or, you might ask "I wonder" statements. You might summarize the information.
3. Model for students the connections you make as you read. (See Making Connections, pages 5-7.)
4. In *I Read It, But I Don't Get It*, Cris Tovani suggests keeping the process simple as you teach students this Double Entry method. By focusing on one area of comprehension, you help students hone in on particular aspects of their thinking as they read. After students become more proficient at using the journals, they can broaden the ideas and reactions they record in the second column. Tovani suggests the following headings:
   - Direct Quote/Page # This reminds me of. . .
   - Direct Quote/Page # I wonder. . .
   - Direct Quote/Page # I visualize. . .
   - Direct Quote/Page # I'm confused because. . .
   - Interesting Details Summary of my learning

Adaptations:

- Responses can include questions, experiences, surprises, disagreements (Wood & Harmon).
- Adapt the format for struggling readers and writers by encouraging these students to use pictures with labels and brief descriptions (Wood & Herman).
- Consider adding a third column where students record their thoughts and ideas after reading and thinking about a quote, a passage, or a unit. Calkins suggests the format on the following page.

Double Entry Journals

Text Quote	Immediate Reaction	Reaction After Reflection

(Adapted from Lucy Calkins *Art of Teaching Writing*, Heinemann, 1986)

Sources:

Buehl, Doug. "Double, Double Your Learning." *Wisconsin Literacy Education and Reading Network Source.* WiLearns. Oct. 2001. 30 May 2006 wilearns.state.wi.us/apps/Default.asp?cid=707

Calkins, Lucy M. *Art of Teaching Writing.* Portsmouth, NH: Heinemann, 1986, 263.

Joyce, Marilyn. *Double Entry Journals and Learning Logs*. Maine Educational Media Assn. Oct. 1997. 30 May 2006 maslibraries.org/infolit/samplers/spring/doub.html

Tovani, Cris. *I Read It, But I Don't Get It: Comprehension Strategies for Adolescent Readers.* Portland, ME: Stenhouse, 2000, 30-32, 115-120.

Wood, Karen D. and Janis M. Harmon. *Strategies for Integrating Reading and Writing in Middle School and High School Classrooms.* Westerville, OH: NMSA, 2001, 120-123.

Q Notes

Author Jim Burke prefers the compound word "notemaking" over "taking notes." He explains that "taking notes" seems to be a passive concept to him rather than an active one of creating or making meaning. "Just as we must make meaning, so we must make notes—in our head, on the page, and in our notebooks."

Burke offers Q Notes as one "notemaking" method that encourages students to hone their comprehension skills and deepen their understanding of a topic. The Q Notes method combines the more traditional approaches of Cornell Notes (page 9) and SQ3R (Study, Question, Read, Write, Review). Burke calls the strategy Q Notes because students can only write **Q**-uestions in the left-hand column. The questions help students as they prepare for a **Q**-uiz. They also serve as **CUES** or reminders of what they need to know.

Steps:

1. Model the process by reading a content-related selection.
2. As you read, turn the titles, subheadings, and topic sentences into questions that you write in the left-hand column of the template.
3. Write answers to your questions as you comprehend the text.
4. Create a summary paragraph at the bottom of the page.
5. Provide another practice selection and pair students so they can practice the strategy before applying it independently.

Adaptations:

- The Q Notes can easily be used as a study guide. Students should fold the notes to hide their responses. Then students can use the questions to quiz themselves.

Sources

Burke, Jim. "Q Notes." *englishcompanion.com.* 30 May 2006 englishcompanion.com/pdfDocs/qnotesblank.pdf

—. *Tools for Thought: Graphic Organizers for Your Classroom.* Portsmouth, NH: Heinemann, 2002.

Q Notes

Name	Date
Subject Area	**Period**

Directions: Turn the titles, subheadings, and topic sentences into questions.	**Directions:** Answer your questions. Use bullets and dashes to organize ideas. Use symbols and abbreviations for efficiency.

Review, retell, or reflect on the material you have read.

Adapted from Jim Burke, 2000. For more information on this and other such *Tools for Thought*, visit englishcompanion.com

Visualizing and Guided Imagery

Visualizing is a comprehension strategy that allows readers to make the words real, like playing a movie of the text inside your head.
~ Keene and Zimmerman, 1997

When students visualize as they learn, they also increase their conceptual understanding of a text (Wood & Harmon). Studies indicate that struggling readers frequently neglect to create visual pictures of the material they are studying. On the other hand, higher achieving students tend to use visual images as they read. Although these students tend to create the pictures as a habit of mind, with the help of explicit and direct instruction, struggling students can be trained to create the pictures as they read.

Traditionally, language arts and literature teachers have encouraged students to visualize characters and events as they read novels and stories. However, this strategy is particularly effective in other content areas. In *Keeping Mozart in Mind,* author Gordon Shaw emphasizes that the ability to turn abstract concepts into visual images is a skill that is vital to the understanding of many mathematics and science concepts.

The strategy of visualization provides opportunities for students to use their imaginations to facilitate both vocabulary development and comprehension across the curriculum.
~ Tate, 2003

Perhaps one of the greatest advantages to using visualization and guided imagery in classrooms, is that the strategy is great fun. In today's world, students are bombarded with images and rarely have the opportunity to create their own pictures. Students who create pictures also build vivid imaginations. In her book, *Worksheets Don't Grow Dendrites,* Marcia Tate provides a variety of suggestions for helping students create mental pictures:

- Expand vocabulary: Working in groups, students create visual images that link words to definitions. The images can be humorous and creative.
- Following steps in a lab experiment: Students read though the lab steps, visualize them, and then illustrate each step to show their understanding. (Adapted from Ogle, 2000.)
- Comprehend a passage read: Students read an excerpt from a novel or content-area passage. They visualize the scene by using their senses: What do you see? What do you hear? What do you taste? What do you touch? What do you smell? Students use as many of their senses as possible to create an image.

Visualizing and Guided Imagery

Steps:

Author Doug Buehl, *Classroom Strategies for Interactive Learning,* suggests the following steps for teachers wanting to encourage students to create images as they learn:

1. Introduce students to guided imagery by asking them first to imagine objects in their minds. Pair students with a partner. Give students an image to visualize and then ask the students to describe to each other what they see in their mind's eye.
   - a winter storm
   - an attacking animal
   - a favorite meal or dessert
   - a friend or relative
   - a sporting event
2. Once students get the hang of creating mental pictures, move them toward a descriptive piece of text. Buehl suggests reading aloud an excerpt of text for students to imagine. For example, if students are studying fungi in science, read a portion of the text to the students. Ask the students to imagine the fungi. Then ask the students to compare their mental pictures to a photograph you provide or an illustration in the textbook.
3. When reading text, read slowly. Buehl suggests stopping after each sentence to give students time to formulate images.
4. When using visualization activities, take the time to encourage students to close their eyes, relax, and take deep breaths before actually creating the pictures.
5. Make sure you give students the opportunity to share and describe their mental pictures.
6. Occasionally, extend the activity by asking students to write descriptive paragraphs or summaries.

Sources:

Buehl, Doug. *Classroom Strategies for Interactive Learning.* 2nd ed. Newark, DE: IRA, 2001, 59-60.

Gambrell, L.B, and Bales, R.J. "Mental Imagery and the Comprehension-Monitoring Performance of Fourth and Fifth Grader Poor Readers. *Reading Research Quarterly,* 21 (4), 454-464.

Keene, Ellin, and Susan Zimmerman. *Mosaic of Thought: Teaching Comprehension in a Reader's Workshop.* Portsmouth, NH: Heinemann, 1997.

Ogle, Donna M. "Make It Visual: A Picture is Worth a Thousand Words." Eds. MaryEllen Vogt and Maureen McLaughlin, *Creativity and Innovation in Content Area Teaching.* Norwood, MA: Christopher-Gordon, 2000.

Shaw, Gordon. *Keeping Mozart in Mind.* San Diego: Academic Press, 2000.

Tate, Marcia L. *Worksheets Don't Grow Dendrites: 20 Instructional Strategies That Engage the Brain.* Thousand Oaks, CA: Corwin, 2003, 101-105.

Wood, Karen D., and Janis M. Harmon. *Integrating Reading and Writing in Middle and High School Classrooms.* Westerville, OH: NMSA, 2001, 61-68.

Somebody Wanted But So

The Somebody Wanted But So strategy goes by many names, depending upon the genre or content being studied. As originally introduced by Macon, Bewell and Vogt in their 1991 booklet *Responses to Literature,* the strategy helps students understand the various plot elements of conflict and resolution. Either during reading or after reading, students complete a chart that identifies a character, the character's goal or motivation, problems that character faced, and how the character resolved (or failed to resolve) those problems. The strategy helps students generalize, recognize cause and effect relationships, and find main ideas.

Somebody	Wanted	But	So
Cinderella	to go to the ball	her wicked stepsisters and mother didn't want the beautiful Cinderella at the ball	her fairy godmother waved her wand and a carriage, a gown, carriage men appeared

The strategy can be adapted to other content areas. The Greece Central School District, North Greece, NY, offers an adaptation called the Conflict Dissection. (See below.)

Somebody	Wanted/Because	But	So
The Senate candidate	to get elected because she disagreed with the incumbent on many issues	the incumbent had more political clout and money	she was soundly defeated.

Somebody Wanted But So

Steps:

1. Model the strategy extensively before asking students to create their own charts. Explain the basic definitions for the categories depending on which variation of the chart you are using.
   - Somebody/Someone = main character or a group of people
   - Wanted/Because = main events or a group's motivation
   - But = the conflict or problem
   - So = the resolution of the problem
2. Practice using a sample text where you provide students with the information for the Somebody/Someone column.
3. After practicing as a class, allow students to work independently.
4. Follow up the lesson by asking students to write summary paragraphs based on their charts.

Adaptations:

- When working with a longer text, add connecting words so students can add additional characters or events.
- A science class might use the Concept Relationship Chart below as developed by the Greece Central School District, North Greece, NY:

Problem	Hypothesis	Testing	Conclusion
Is tongue rolling inherited?	When both parents can't roll their tongues, their kids won't be able to either.	Parents and kids try tongue rolling.	Testing supports the theory. When both parents are unable to roll their tongues, neither can their kids.

Sources:

Beer, Kylene. *When Kids Can't Read What Teachers Can Do: A Guide for Teachers 6-12.* Portsmouth, NH: Heinemann, 2003.

"Conflict Dissection." *Tools for Reading, Writing, & Thinking.* Greece Central School District, North Greece, NY. 30 May 2006 greece.k12.ny.us/instruction/ela/6-12/Tools/Index.htm

Macon, James M., Diane Bewell, and MaryEllen Vogt. *Responses to Literature.* Newark, DE: IRA, 1991.

"Reading Strategies." *Reading Skills and Strategies.* Greece Central School District, North Greece, NY. 30 May 2006 greece.k12.ny.us/instruction/ela/6-12/LRG/Reading.pdf

"Strategy: Somebody Wanted But So." *Adolescent Literacy: Instruction.* North Central Regional Educational Laboratory/Learning Point Association, Naperville, IL. 30 May 2006 ncrel.org/litweb/adolescent/strategies/butso.php

3-2-1 Strategy

The 3-2-1 Strategy gives students the opportunity to pause and review. The strategy requires students to consider what they've learned and to process the information they've been exposed to during a lesson. In addition, when students apply this strategy to their learning, they automatically synthesize information and formulate questions they still have regarding a topic of study.

Steps:

1. Create a 3-2-1 chart that details key elements from a day's lesson or a unit. The chart can be generic—one you use over and over again—or it can specific to a particular lesson.
   - Generic example:
     - 3 things you found out
     - 2 interesting things
     - 1 question you still have
   - Specific lesson example:
     - 3 differences between feudalism and nation-states
     - 2 effects of feudalism on economy
     - 1 question you still have about the topic
2. Ask students to fill out the cards at the end of the lesson; collect the cards and use them for the basis of the next day's class discussion.

Adaptations:

- Use student journals or learning logs to record 3-2-1 observations. After a lesson, ask students to record their impressions. Author Rachel Billmeyer suggests the following options:
  - Option One: 3 important facts, 2 interesting ideas, 1 insight about yourself as a learner
  - Option Two: 3 key words, 2 new ideas, 1 thought to think about
- The Greece Central School District in New York suggests students keep a 3-2-1 log as they read:
  - Write 3 questions about the text (unfamiliar words, confusing passages or ideas)
  - Write 2 predictions based on the text (what will happen next based on the reading)
  - Make one connection based on the text (connect to something you know or have experienced)

Sources:

"3-2-1 Strategy." *FOR-PDs Reading Strategy of the Month.* 06 Feb. 2004. 30 May 2006 itrc.ucf.edu/forpd/strategies/strat321.html

Billmeyer, Rachel. *Strategies to Engage the Mind of the Learner: Building Strategic Learners.* Omaha: Dayspring, 2003, 230.

Jones, Raymond. "3-2-1." *ReadingQuest.org: Making Sense in Social Studies.* 25 Oct. 2002. 30 May 2006 curry.edschool.virginia.edu/go/readquest/strat/321.html

"Reading Strategies." *Reading Skills and Strategies.* Greece Central School District, North Greece, New York. 30 May 2006 greece.k12.ny.us/instruction/ela/6-12/LRG/Reading.pdf

3-2-1 Strategy

3

2

1

ReadingQuest: Making Sense in Social Studies
readingquest.org

From an idea shared by Penny Juggins
Fairfax County, Virginia

3 THINGS YOU FOUND OUT

2 INTERESTING THINGS

1 QUESTION YOU STILL HAVE

ReadingQuest: Making Sense in Social Studies
readingquest.org

From an idea shared by Penny Juggins
Fairfax County, Virginia

Thick and Thin Questioning

Author and educator Doug Buehl points out that "asking questions is our particularly human way of narrowing our understanding, of making sense. Asking questions is how we zigzag our way between knowing and not knowing—questions are the way we navigate our personal learning."

Unfortunately, according to Buehl, many students would disagree. For our students, questioning is often synonymous with interrogating. Questioning is something others—especially parents and teachers—do to them. Rarely, is questioning something they choose to do for themselves. However, research indicates that students who question as they read are students who are more likely to gain a deeper level of understanding and learning.

The goal of Thick and Thin Questioning is to help students reach a point where they are not only responding to questions but generating their own questions. We can help students develop the skill of asking questions as they learn. We can encourage students to look beyond the superficial yes and no questions to a higher level of questioning that requires them to synthesize, analyze, and evaluate as they learn. Thick and Thin Questioning is a strategy that requires learners to differentiate between global questions (thick questions) and clarification questions (thin questions).

Steps:

1. Introduce the idea of thick and thin questions. Explain the differences inherent in the two kinds of questions.

   Traits of Thick Questions:
   - Often begin with Why? How Come? I wonder. . .
   - May address large content areas
   - Require answers that are often long and involved
   - Frequently require further discussion and research

   Traits of Thin Questions:
   - Are often asked to clarify information and ideas
   - Are specific to the text
   - Are related to key vocabulary and can be answered with a short definition
   - Can usually be answered with a number, a yes or no, a single word, or a short sentence

2. Model with a short piece of text. Share a newspaper article, a short story, or a section of a textbook chapter.

3. As you read aloud, stop and share with students the thin questions that come to mind as you read. For example, share a newspaper article on the outbreak of mumps in several Midwestern states during the spring and summer of 2006.
   - Where are most of the cases?
   - How old are most of the people who became ill with the mumps?
   - Have most of the victims received MMR shots?
   - When was the last mumps outbreak?

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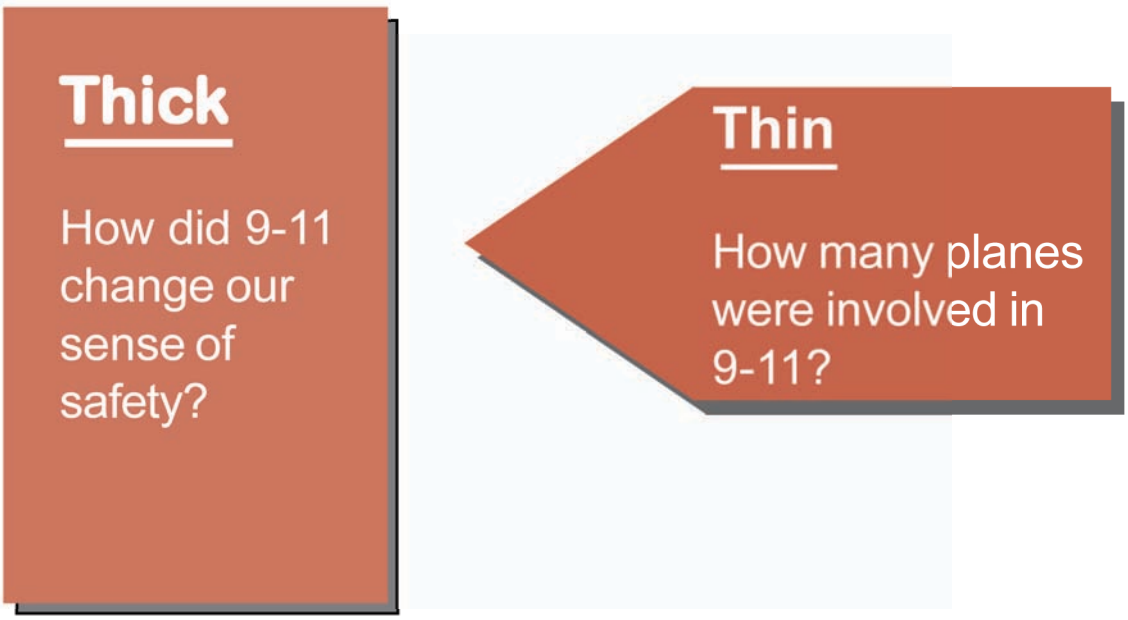
4. Point out that although most thin questions can be answered from information in the text, some thin questions may require students to make inferences or think beyond the text. For example, the text may not define MMR, requiring students to look up or search for the acronym's meaning.

5. As you read aloud, also demonstrate thick questions that come to your mind. These questions should go beyond the text and expand your thinking.
   Thick Questions:
   - What has caused the mumps to reappear at this point in time?
   - In what ways, besides an MMR shot, can people protect themselves?
   - Why are so many of the mumps cases among people who actually received two MMR shots?
   - As a nation, what additional steps should be taken to help prevent the spread of this virus and other viruses?

6. Provide students with a content area reading. Assign them to work in pairs or groups, generate questions, and code questions as they read.

Adaptations:

- As you begin the process of Thick and Thin Questioning, consider providing examples of questions to guide students' reading.
- Code for thick and thin questions when reading a textbook. Ask students to record their thick questions on large sticky notes marked with the word Thick on one side with the question below it. For thin questions, students use skinny, sticky flags. On the back side students try to answer the questions.



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- Encourage students to recognize that a thick question can sometimes be inadequately answered with a thin response—however, depth of understanding will be lacking. This is especially important when students are answering essay questions, which inevitably require "thick" answers. Frequently, student responses are lacking depth because they fail to develop answers with details and examples. The following example was developed by the Maine Department of Education.
  Thick Question: Why is the ocean salty?
  Thin Answer: The rocks in the ocean have salt on them.
  Thick Answer: The ocean is salty because the rocks in or near the ocean have salt on them. The rocks are worn down by the waves, and the salt then gets into the water. For rocks that are not near the ocean, there are still ways the salt from them gets into oceans. When it rains, the salt on rocks dissolves, and rivers bring it to the oceans.

- When assigning students to conduct research, require them to develop several thick questions that will serve as a framework for their investigations.

Thick

What do you believe were the motives for the 9-11 attacks on the U.S.?

Thin

What was the name of the terrorist organization behind the 9-11 attacks?

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literacy.uconn.edu/compre.htm

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englishcompanion.com

NCTE: Adolescent Literacy
ncte.org/collections/adolescentliteracy

Middle Web: The Reading Wars
middleweb.com/Reading.html#anchor5515939

Reading Quest.org: Making Sense in Social Studies
curry.edschool.virginia.edu/go/readquest/strat/

Strategic Reading Resource Center
3.iptv.org/pd/strategicReading/default.cfm

An Internet Hotlist on Reading Strategies
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eMints National Center: Teaching Tips: Reading in the Content Areas
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