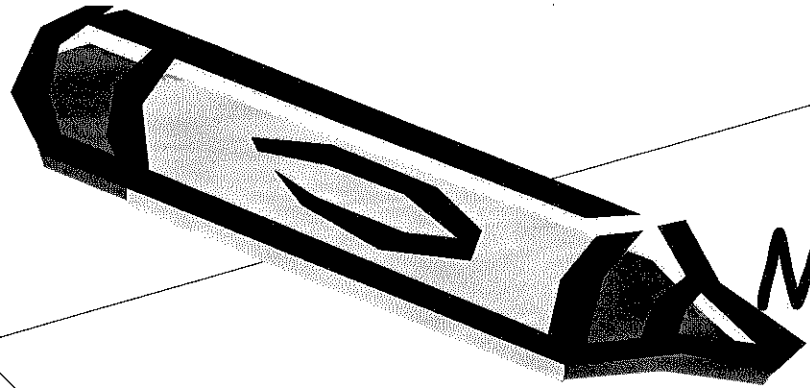

Mosaic of Thought:

What is Essential in Teaching Comprehension

Susan Zimmermann

Coauthor *MOSAIC OF THOUGHT*
& *7 KEYS TO COMPREHENSION*

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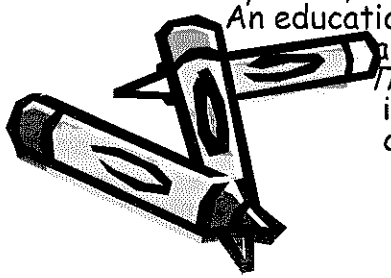
ORA CONFERENCE
PORTLAND, OREGON, FEBRUARY 7, 2009

Books by Susan Zimmermann
www.susanzimmermann.com

- *MOSAIC OF THOUGHT (2007)- 10TH anniversary edition. 70% new material*

- *7 Keys to Comprehension, How to Help Your Kids Read It and Get It*, **Susan Zimmermann & Chryse Hutchins** (July,2003, Three Rivers Press, $15.00). ***7 Keys*** demystifies reading and gives parents practical, thoughtful advice about what they can do to help their children understand what they read *and* love reading. It outlines what is involved in the process of reading, shows parents that phonics is only one piece of the reading puzzle, and focuses on the importance of not just teaching children to decode words, but teaching them to deeply understand and care about what they read. Each chapter includes a **classroom connections** section for teachers.

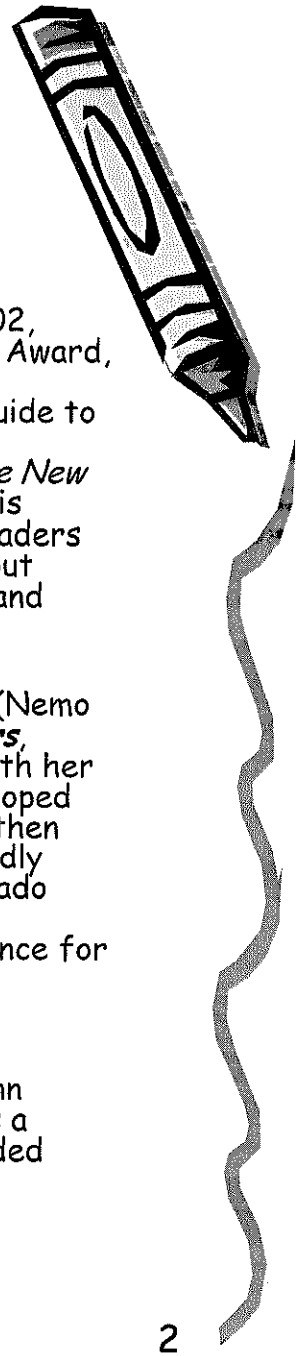
- ***Mosaic of Thought,*** **Ellin Oliver Keene & Susan Zimmermann** (Heinemann 1997, $29.00). ***Mosaic of Thought*** is a journey into the thought processes of proficient readers. These processes help children become more flexible, adaptive, independent, and engaged readers. Through vivid portraits of remarkable, workshop- oriented classroom environments, we see how instruction looks in dynamic, literature-rich reader's workshops. An educational best seller that has sold over a quarter million copies, *Mosaic of Thought* is changing the way reading is taught in thousands of classrooms across the country.



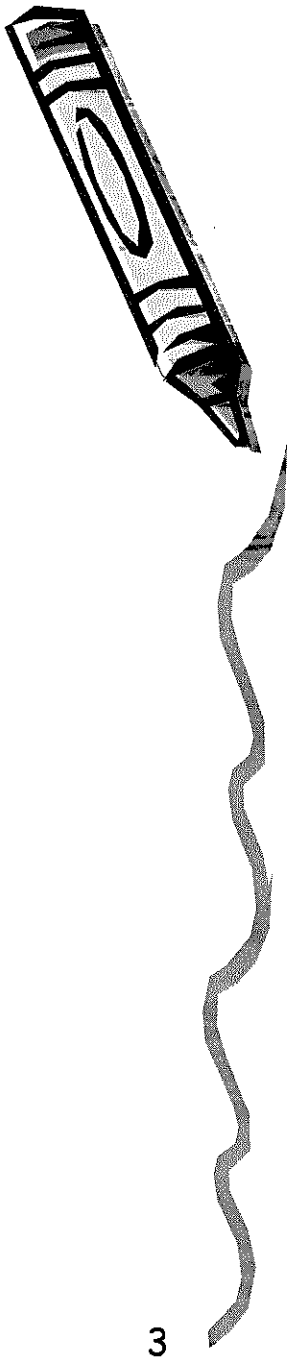
- ***Writing to Heal the Soul,*** **Susan Zimmermann** (Three Rivers Press 2002, $13.00).Winner of the Colorado Book Award, ***Writing to Heal the Soul*** is a warm, empathetic, but highly motivational guide to using writing to transcend life's most devastating burdens. According to *The New York Times Writing to Heal the Soul* is "Inspiring... Ms. Zimmermann gives readers who have suffered loss some simple but rewarding exercises aimed at easing and ultimately healing sorrow."

- ***Grief Dancers,*** **Susan Zimmermann** (Nemo Press 1996, $15.00). In ***Grief Dancers,*** Zimmermann tells the story of life with her daughter Katherine, a child who developed normally until she was a year old and then drifted into the world of the profoundly handicapped. A finalist for the Colorado Book Award, *Grief Dancers* won the Exceptional Parent Symbol of Excellence for its "profound contribution to human understanding and dignity."

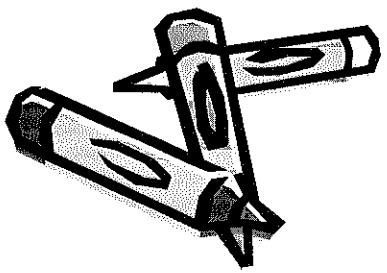
- ***Keeping Katherine,*** Susan Zimmermann (Three Rivers Press, 2005, $13.00) is a recently released updated and expanded version of *Grief Dancers*.



THINKING STRATEGIES
The "*7 KEYS TO COMPREHENSION*"

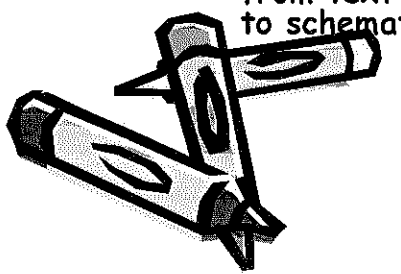


- Using background knowledge (schema)
- Creating mental images
- Questioning
- Inferring
- Determining importance
- Synthesizing
- Monitoring for meaning ("fix-ups")



1) BACKGROUND KNOWLEDGE (SCHEMA): KEY CONCEPTS

- Proficient readers spontaneously and purposefully recall their relevant background knowledge (schema) before, during, and after they read.
- Proficient readers assimilate information from text and other learning experiences into their background knowledge and make changes in it to accommodate new information.
- Proficient readers adapt their background knowledge as they read, talk, and learn, deleting inaccurate information, adding to existing schema, and connecting to other related knowledge, opinions, and ideas.
- Proficient readers purposefully use background knowledge to enhance their comprehension in all forms of text.
- Proficient readers connect information from text and other learning experiences to schemata in long-term memory. Information is learned, remembered and reapplied because it is linked to prior knowledge.



Proficient readers use background knowledge to make:

Text-to-self connections: applying personal life experience to what they read.

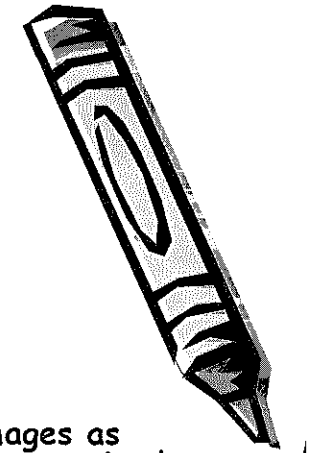
Text-to-text connections: applying knowledge about other texts (movies, videos, television programs) to what they read.

Text-to-world connections: applying their general world knowledge to what they read.

- Proficient readers ACTIVATE (recall relevant background knowledge) and BUILD (create background knowledge on a given topic, author, text structure, etc.) background knowledge.

"THAT REMINDS ME OF..."
"I REMEMBER..."
"I HAVE A CONNECTION..."

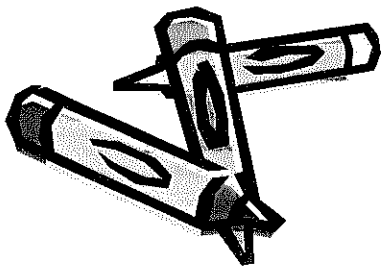
2. Mental Images: The Mind's Motion Picture



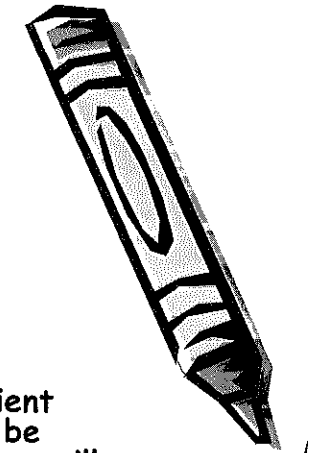
- Proficient readers spontaneously and purposefully create mental images while and after they read. The images emerge from all five senses, as well as emotions, and are anchored in readers' background knowledge.
- Proficient readers use images to immerse themselves in rich detail as they read. The detail gives depth and dimension to the reading, engaging the reader more deeply, making the text more memorable.
- Proficient readers use images to draw conclusions, to create distinct and unique interpretations of the text, to recall details significant to the text, and to recall a text after it has been read. Images from readers' personal experience frequently become part of their comprehension.
- Proficient readers adapt their images as they continue to read. Images are revised to incorporate new information revealed through the text and new interpretations as they are developed by the reader.
- Proficient readers understand and articulate how creating images enhances their comprehension.
- Proficient readers change and modify their images in response to images that other readers share.

"WHAT DO YOU HEAR, FEEL, TASTE, SMELL, PICTURE?"

"WHAT DO YOU SEE IN YOUR MIND?"

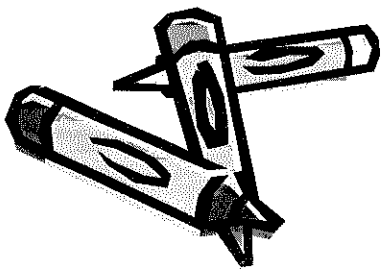


3) QUESTIONING: KEY CONCEPTS



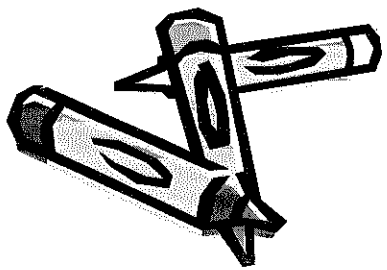
- Proficient readers spontaneously and purposefully generate questions before, during, and after reading.
- Proficient readers ask questions to:
  - clarify meaning
  - speculate about text
  - determine an author's intent, style, content
  - Answer a specific question
  - consider rhetorical questions inspired by the text.
- Proficient readers use questions to focus their attention on important components of the text.
- Proficient readers understand that many of the most intriguing questions are not answered explicitly in the text but left to the reader's interpretation.
- When an answer is needed, proficient readers determine whether it can be answered by the text, whether they will need to infer the answer from the text and their background knowledge, or whether they will need to seek the answer elsewhere.
- Proficient readers understand how the process of questioning is used in other areas of their lives.
- Proficient readers understand how asking questions deepens their comprehension.
- Proficient readers are aware that as they hear others' questions, new ones are inspired in their own minds.

"I wonder..."
"Why...?"
"What...?"



4) INFERRING: KEY CONCEPTS

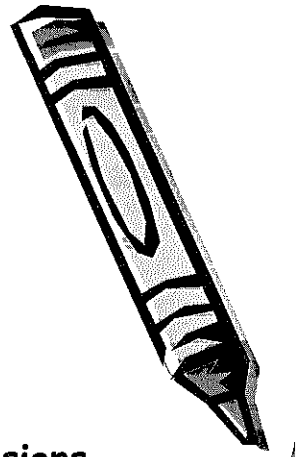
- Inferring is the process of creating a personal meaning from text. The reader combines what is read with relevant prior knowledge (schema).
- When proficient readers infer, they create a meaning that is not stated explicitly in the text.
- Inferring may cause the reader to slow down, reread sections, talk, write or draw to better understand the content.
- When proficient readers infer, they are more able to remember and reapply what they have read; create new and revise existing prior knowledge; analyze text and authors; and engage in reflective dialogue about what they read.
- A wide variety of interpretation is appropriate for fiction and poetry; a narrower range is typical for nonfiction.



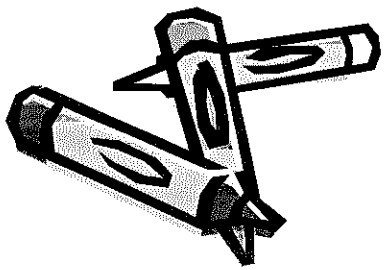
- Teachers should allow great latitude for inferences as long as the reader can support the inference with specific text and prior knowledge.
- When they infer, proficient readers:
  - draw conclusions;
  - make reasonable predictions;
  - create dynamic interpretations;
  - use their background knowledge and explicitly stated information from the text to answer questions they have as they read;
  - make connections between their conclusions and other beliefs or knowledge;
  - make critical or analytical judgments about what they read.

I think that...
I predict...
My guess is...
My conclusion here is...

5) DETERMINING IMPORTANCE IN TEXT



- Decisions about importance in text are made based on:
  - the reader's schema -- ideas most closely connected to the reader's background knowledge will be considered most important;
  - the reader's purpose;
  - the reader's beliefs, opinions, and experiences related to the text;
  - the reader's knowledge of text format. Particularly in nonfiction text, titles, headings, subheadings, graphs, pictures, quotes give clues about what is important.
  - key words, sentences, concepts
  - concepts another reader mentions prior to, during or after reading.



- Students should be able to articulate how they make decisions about what is important in a given context and how those decisions enhance their overall comprehension of the piece.
- Interesting discussion emanates from disagreement about what is most important. Children need to work to defend their positions, but there is rarely a true set of most important ideas.
- Pointing out non-examples (what isn't important) can help students distinguish importance more clearly.

I think this is really important, because...

6) SYNTHESIS: KEY CONCEPTS

The process of synthesizing occurs during reading:

- Proficient readers monitor the overall meaning and themes in the text as they read and are aware of the ways text elements "fit together" to create that overall meaning.
- Proficient readers are aware of text elements in fiction and non fiction and understand that text elements provide clues to help them predict and understand the overall meanings or themes.
- Proficient readers pay attention to character, setting, conflict, sequence of events, resolution, and theme in fiction and to text patterns such as chronology, cause and effect, and problem/solution in non-fiction, and use their knowledge of these elements to make decisions about the overall meaning of a passage, chapter, or book.
- Proficient readers actively revise their synthesis as they read.

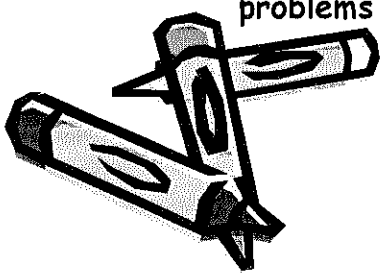
The process of synthesizing occurs after reading:

- Proficient readers are able to express, through a variety means, a synthesis of what they have read. The synthesis includes ideas and themes relevant to the overall meaning from the text and is cogently presented;
- A synthesis is the sum of information from the text, other relevant texts and the reader's background knowledge, ideas, and opinions produced in an original way;
- Proficient readers use synthesis to share, recommend, and critically review books they have read;
- Proficient readers can articulate how using synthesis helps them better understand what they have read.

What does this really mean to you?

7) FIX-UP STRATEGIES (MONITORING FOR MEANING): KEY CONCEPTS

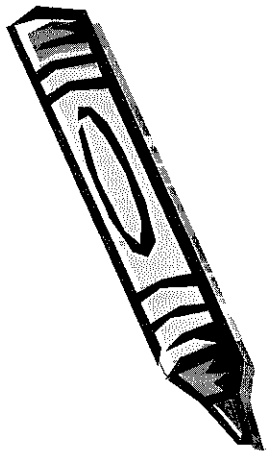
- Proficient readers monitor their comprehension during reading. They know when the text they are reading or listening to makes sense and when it doesn't.
- Proficient readers identify difficulties they have in comprehending at the word, sentence, and whole text level. They are flexible in their use of tactics to solve different types of comprehension problems. They monitor, evaluate, and make revisions to their evolving interpretation of the text while reading.
- Proficient readers can "think aloud" about their reading process. They can describe strategies they use to comprehend.
- Proficient readers can identify confusing ideas, themes, and/or surface elements (words, sentence or text structures, graphs, tables, etc.) and can suggest a variety of different means to solve the problems they have.



Possible "Fix-Ups"

- Go back and reread. Often, that's enough.
- Read ahead to clarify meaning.
- Identify what it isn't understand: word, sentence, concept.
- If it is a word, read beyond it and see if its meaning is clarified later in the text; or think about the content so far and predict what word might make sense. If those approaches don't work, ask someone what it means or look it up in a dictionary.
- If it is a sentence in a picture book, look at the pictures and think about what has happened so far; then reread and read ahead. If still confused, talk with a friend, parent, or teacher about it.
- If it is a concept, try to summarize the story up to the confusing spot. See if that clears up the confusion. It may be necessary to build more background knowledge. That means going to an encyclopedia, checking out the Internet, having a conversation with someone who knows about the topic or researching in the library.

Effective Instructional Practices: "Cultivate Awareness & Engagement"

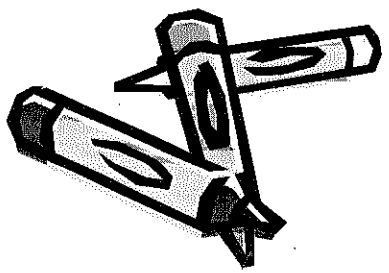


TEACHER'S ROLE:

- **Thinking Aloud**: Disclosing your thinking as you read to students
- **Modeling**: Showing that you are a reader and value reading
- **Practicing** in a wide variety of text genres and levels
- **Conferring**: Talking with individual students about their reading and use of the thinking strategies
- **Discussing**: Creating time for students to share their thinking with one another
- **"Going Public"**: Displaying student's thinking around room on butcher paper, on lists, etc.
- **Writing**: Getting students to write about their reading

KEY POINTS: THINK ALOUDS

- **Select text with attention to modeling options**
- **Preview text to locate possible think-aloud points**
- **Be precise about why you're thinking aloud**
- **Be precise about when you're thinking aloud vs. reading aloud**
- **Limit think aloud focus to one strategy**
- **Be clear about how being aware of your thinking (metacognitive) helps you comprehend**
- **Be clear that your students will be expected to be metacognitive in their own texts**

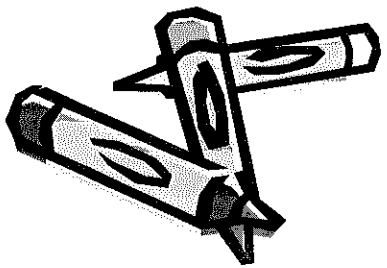


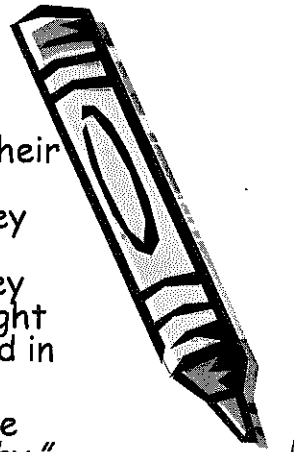
The dress I wore was lavender taffeta, and each time I breathed it rustled, and now that I was sucking in air to breathe out shame it sounded like crepe paper on the back of hearses.

As I'd watched Momma put ruffles on the hem and cute little tucks around the waist, I knew that once I put it on I'd look like a movie star. (It was silk and that made up for the awful color.) I was going to look like one of the sweet little white girls who were everybody's dream of what was right with the world. Hanging softly over the black Singer sewing machine, it looked like magic, and when people saw me wearing it they were going to run up to me an say, "Marguerite [sometimes it was 'dear Marguerite'], forgive us, please, we didn't know who you were," and I would answer generously, "no, you couldn't have known. Of course I forgive you."

Just thinking about it made me go around with angel's dust sprinkled over my face for days. But Easter's early morning sun had shown the dress to be a plain ugly cut-down from a white woman's once-was-purple throwaway. It was old-lady-long too, but it didn't hide my skinny legs, which had been greased with Blue Seal Vaseline and powdered with the Arkansas red clay. The age-faded color made my skin look dirty like mud, and everyone in church was looking at my skinny legs.

From *I Know Why The Caged Bird Sings*
by Maya Angelou





Their hands were tied or handcuffed, yet their fingers danced, flew, drew words. The prisoners were hooded, but leaning back they could see a bit, just a bit, down below. Although they were forbidden to speak, they spoke with their hands. Pinio Ungerfeld taught me the finger alphabet which he had learned in prison without a teacher:

"Some of us had bad handwriting," he told me. *"Others were masters of calligraphy."*

The Uruguyan dictatorship wanted everyone to stand alone, everyone to be no one: in prisons and in barracks and throughout the country, communication was a crime.

Some prisoners spent more than ten years buried in solitary cells the size of coffins, hearing nothing but clanging bars or footsteps in the corridors. Fernandez Huidobro and Mauricio Rosencof, thus condemned survived because they could talk to each other by tapping on the wall. In that way, they told of dreams and memories, fallings in and out of love; they discussed, embraced, fought; they shared beliefs and beauties, doubts and guilts, and those questions that have no answer.

When it is genuine, when it is born of the need to speak, no one can stop the human voice. When denied a mouth, it speaks with the hands or the eyes, or the pores, or anything at all. Because every single one of us has something to say to others, something that deserves to be celebrated or forgiven, by others.

Eduardo Galleano, *The Book of Embraces*

II. The Language of Thinking

Monitoring for Meaning

Students' Reader Voice

'I'm confused here/I'm clear here . . .'
'I don't get it/I get it . . .'
'This doesn't make sense/I understand . . .'

Teacher Prompts

'What makes sense?'
'What's confusing?'
'Where are you 'clue-full'? 'clueless'?'
'What will you do now to restore meaning?'

Activating, Utilizing and Building Background Knowledge (Schema)

Students' Reader Voice

'This is just like . . .'
'This reminds me of . . .'
'A connection I made to this piece is . . .'
'This matches the ideas/information in my brain's file folder . . .'
'A cousin text for this book would be . . .'

Teacher Prompts

'What does this remind you of?'
'What can you connect this to?'
'How does this *link* help you understand more deeply?'
'Where would you file this information?'
'How is this text like . . .?'

Asking Questions

Students' Reader Voice

'My question is . . .'
'I'm wondering . . .'
'How . . . what . . . why . . . when . . . who . . .'
'I wonder . . . and I found out . . .'

Teacher Prompts

'What are you wondering?'
'What questions do you have?'
'In what ways will those questions help you understand this?
'What are you curious about?'

Drawing Inferences

Students' Reader Voice

'I'm thinking that . . .'
'I predict . . .'
'Even though the text doesn't say so, I think . . .'
'I bet . . . I knew it . . .'
'I am guessing that . . .'

Teacher Prompts

'What are you thinking?'
'What conclusions can you draw?'
'How does this thinking beyond the text help you make deeper meaning of your reading?'

Determining Importance

Students' Reader Voice

'I think this is really important . . .'
'This is essential . . . This is extra . . .'
'When I sort all this out, these things seem to stick . . .'
'I'll remember . . .'
'I learned . . .'
'The big ideas here are . . .'

Teacher Prompts

'So, what's essential here?'
'Is that important to understand?'
'How does the author show us what s/he thinks is important?'
'What are the main ideas/messages in this text?'
'What does the author want us to learn from this piece?'

Creating Sensory Images

Students' Reader Voice

'In my mind, I can see/hear/smell/feel/taste . . .'
'My image is . . .'
'The movie in my head . . .
'The picture is on/off . . .'
'Painting a portrait of my reading, I saw . . .'

Teacher Prompts

'When you read that, what did you see/hear/smell/feel/taste?'
'What words led you to that image?'
'How does that image help you understand this text?'

Synthesizing Information and Ideas

Students' Reader Voice

'At first I thought . . . but now I'm thinking . . .'
'Now I understand that . . .'
'My have really changed . . .'
'Like putting a puzzle together, the pieces of my reading are . . .'

Teacher Prompts

'Now what are you thinking?'
'What's changed about your ideas/ thinking?'
'Tell me about the *quilt* of your thinking.'

Problem Solving

Students' Reader Voice

'I think I'll reread to make better sense . . .'
'I'm going to slow down here . . .'
'What a minute, I'm not making sense here . . .'

Teacher Prompts

'So, what did you do to repair meaning?'
'Now what are you going to do?'
'Knowing that it doesn't make sense is only part of the work. Now you have to fix it up to make better sense.'

adapted from L. Benson, *Colorado Reads*

Created by Conrad, PEBC

I. Thinking Strategies Used By Proficient Learners

Monitoring for Meaning

at a text level, readers . . .

- pause to reflect on their growing understandings
- recognize when they understand the text, and when they don't
- identify when and why the meaning of the text is unclear
- identify the ways in which a text becomes gradually more understandable by reading past an unclear portion and by rereading text
- decide if clarifying a particular confusion is critical to overall understanding
- explore a variety of means to remedy confusion
- consider, and sometimes adjust, their purpose for reading
- check, evaluate and make revisions to their evolving interpretation(s) of text

at a word level, readers . . .

- identify confusing words
- employ a range of options for reestablishing meaningful reading (e.g., rereading, reading on, using words around the unknown word, using letters and sounds, using a meaningful substitution)

at a text level, writers . . .

- monitor their own writing during the composition process to insure that it makes sense
- pay close attention to the needs of their intended audience
- pay close attention to their purpose, making word choices and style decisions based on that purpose
- read and reread their writing so they can listen for clarity, organization, voice, and impact
- share their work so others can help them check for clarity and impact
- make conscious decisions about when to turn a small piece into a larger project, when revisions are complete, or when to abandon a piece altogether
- see places for revision in their own texts as well as those they are reviewing for other writers

at a word level, writers . . .

- pay close attention to their writing's surface-level conventions (i.e., spelling, grammar, punctuation, capitalization) so their ideas can be clearly understood by their readers
- see places for editing in their own texts as well as those they are reviewing for other writers

mathematicians . . .

- check to make sure answers are reasonable
- use manipulatives/charts/diagrams to help them make sense of the problem
- understand that others will build meaning in different ways and solve problems with different problem solving strategies
- write what makes sense to them
- check their work in many ways (e.g., working backwards, redoing problems)
- agree/disagree with solutions and ideas
- 'think aloud' about what's going on in their head as they work through a problem
- are metacognitive, continually ask themselves if each step makes sense
- discuss problems with others and write about their problem solving process to clarify their thinking and make problems clearer
- use accurate math vocabulary and show their work in clear, concise forms so others can follow their thinking without asking questions

researchers . . .

- recognize what they need to find and learn
- identify when they comprehend and take steps to repair comprehension when they do not

- pause to reflect and evaluate information
- choose effective ways of organizing information – notetaking, webbing, outlining, etc.
- use several sources to validate information and check for accuracy
- revise and edit for clarity, accuracy, and interest
- check sources for appropriate references and copyrights

Activating, Utilizing and Building Background Knowledge (Schema)

at a text level, readers . . .

- activate relevant, prior knowledge before, during and after reading
- build knowledge by deliberately assimilating new learning with their related prior knowledge
- clarify new learning by deleting inaccurate schema
- relate texts to their world knowledge, to other texts and to their personal experiences
- activate their knowledge of authors, genre, and text structure to enhance understanding
- recognize when prior knowledge is inadequate and take steps to build knowledge necessary to understand

at a word level, readers . . .

- apply what they know about sounds/letter relationships and word parts to make sense of unknown words

at a text level, writers . . .

- generate, select and narrow topics they care about
- plan their writing in a way that capitalizes on what they know and what they want to share
- take steps to build schema when what they know about a topic or text structure is inadequate for the writing they hope to do
- use their knowledge of their audience to make content and structure decisions
- use what they know about the content, genre, text format and conventions as they write

at a word level, writers . . .

- make word choices based on their understandings
- use their knowledge of sound/letter relationships and word patterns to spell unknown words
- make decisions about surface structures in light of what they know about how written language should look and sound

mathematicians . . .

- use current understandings as first steps in the problem solving process
- use their number sense to understand a problem
- add to schema by trying more challenging problems and hearing from others about different problem solving methods
- build understanding based on prior knowledge of math concepts
- develop purpose based on prior knowledge
- use their prior knowledge to generalize about similar problems and to choose problem solving strategies
- develop their own problems

researchers . . .

- choose topics about which they know and care
- launch investigations and ask questions based on previous interests and experiences
- consider what they already know to decide what they need to find out

Asking Questions

at a text-level, readers . . .

- generate questions before, during and after reading about the text's content, structure and language

- ask questions for different purposes including clarifying their own developing understandings, making predictions, and wondering about the choices the author made when composing
- realize that one question may lead to others
- pursue answers to questions
- consider rhetorical questions inspired by the text
- distinguish between question s that lead to essential/deeper understandings and 'just curious' types of questions
- allow self-generated questions to propel them through text
- contemplate questions posed by others as inspiration for new questions

at a word level, readers . . .
- pose self-monitoring questions to help them understand unknown/unfamiliar words (e.g., 'What would make good sense?', 'What would sound like language?', 'What would sound right and match the letters?', 'Is this a word I want to use as a writer? If so, how am I going to remember it?')

at a text-level, writers . . .
- monitor their writing progress by asking themselves questions about the choices they are making in terms of content and structure
- compose in such a way that leads their readers to generate their own questions
- invite other writers to question their composition decisions in order to confirm their writing decisions and to find areas in need of revision
- wonder whether they are creating quality writing that has deep meaning, is well organized and meets their purpose and the needs of their readers

at a word level, writers . . .
- wonder if the words they select meet their purpose and the needs of their intended audience
- extend what they know about writing conventions by asking themselves questions like "If I can spell _____, what else can I spell?"

mathematicians . . .
- ask questions (e.g., Could it be this? What happens if? How else could I do this? Have I seen this problem before? What does this mean?) before, during, and after doing a math problem
- test theories/answers/their hypothesis by using different approaches to a problem
- question others to understand their own process and to clarify problems
- extend their own thinking by asking themselves questions for which they don't have answers

researchers . . .
- narrow a search and find a topic
- clarify meaning and purpose
- evaluate their work by considering: What are the most effective resources, and how will I access them? Do I have enough information? Have I used a variety of sources? What more do I need? Does it make sense? Have I told enough? Is it interesting and original thinking? Does my writing have voice?

Drawing Inferences

at a text level, readers . . .
- draw conclusions about their reading by connecting the text with their schema
- make, confirm, and/or revise reasonable predictions
- know when and how to infer answers to unanswered questions
- form unique interpretations to deepen and personalize reading experiences
- extend their comprehension beyond literal understandings of the printed page
- make judgments and create generalizations about what they read
- create a sense of expectation as they read

at the word level, readers . . .

- use context clues and their knowledge of language to predict the pronunciation and meaning of unknown/unfamiliar words

at a text level, writers . . .

- compose text that allows, even encourages readers to make thoughtful inferences and draw meaningful conclusions
- consider their audience when making decisions about what to describe explicitly and what to leave to their readers' interpretation
- *show* what they mean in their writing instead of simply *telling* what they mean
- consider far more detail than they actually put in their writing so their readers can draw conclusions, make predictions and make connections of their own

at the word level, writers . . .

- provide enough print support and contextual structure so their readers can infer the meaning and importance of the words in their text

mathematicians . . .

- predict, generalize and estimate
- make problem-solving decisions based on their conceptual understanding of math concepts
- compose (like writers) by drawing pictures, using charts, and creating equations
- solve problems in different ways and support their methods through proof, number sentences, pictures, charts and graphs
- use reasoning and make connections throughout the problem solving process
- conjecture (i.e., infer based on evidence)
- use patterns (i.e., consistencies) and relationships to generalize and infer what comes next in the problem solving process

researchers . . .

- think about the value and reliability of their sources
- consider what is important to a reader or audience

Determining Importance

at a text level, readers . . .

- identify key ideas, themes and elements as they read
- distinguish between important and unimportant information using their own purpose(s) as well as the text structures and word cues the author provides
- use text structures and text features to help decide what is essential and what is extraneous
- use their knowledge of important and relevant parts of text to prioritize what they commit to long-term memory and what they retell and/or summarize for others
- consider the author's bias/point of view
- use the filter of essential/other to clarify usefulness when applying other cognitive strategies to their reading

at a word level, readers . . .

- determine which words are essential to the meaning of the text
- know when choosing to skip words/phrases of text will or will not impact their overall understanding
- make decisions about when unknown/unclear words need clarification immediately and accurately, and when substitutions can be used to maintain meaning and fluency

at a text level, writers . . .

- pay attention to the world around them and record what they believe is significant
- decide what ideas and/or information to include in their writing based on their own purposes and the needs of their intended audience

- select the genre and text structure that best communicates their ideas and/or information
- provide only essential details necessary to reveal their intended meaning or to produce their desired effect
- study other authors' techniques for highlighting important points in their texts

at a word level, writers . . .
- select the specific words that most accurately convey their intended meaning given their purpose and audience
- understand the importance of surface-level conventions when communicating in writing

mathematicians . . .
- look for patterns and relationships
- identify and use key words to build an understanding of the problem
- gather text information from graphs, charts, and tables
- decide what information is relevant to a problem and what information is irrelevant

researchers . . .
- evaluate and think critically about information
- sort and analyze information to understand it better
- make decisions about the quality and usefulness of information
- decide what is important to remember and what is not
- choose the most effective reporting format

Creating Sensory Images

at a text level, readers . . .
- immerse themselves in rich detail as they read
- create images connected to the senses of sight, hearing, taste, touch and smell to enhance and personalize understandings
- attend to 'heart' images – feelings evoked while reading
- revise their images to incorporate new information and new ideas revealed in the text
- adapt their images in response to the images shared by other readers

at a word level, readers . . .
- use visual, auditory and kinesthetic modes when learning how words work
- use what they know about a word's appearance (e.g., length, spacing above and below the line) to understand unknown words
- ask themselves 'Does that look right?' and 'Does that sound right?' when cross-checking unknown words

at a text level, writers . . .
- consciously create strong images in their writing using strategically placed detail
- attend to their own images while drafting text
- select words that create strong images for their readers
- create impact through their use of strong nouns and verbs
- match their illustrations and text format (e.g., spacing, font, paragraphing) with the 'visual impression' they have in mind for their writing
- study the ways other authors use 'image-evoking' language

at a word level, writers . . .
- use what they know about letter/sound relationships and spelling patterns to compose words that look and sound 'right'

mathematicians . . .

- use mental pictures/models of shapes, numbers, and processes to build understanding of concepts and problems and to experiment with ideas
- use concrete models/manipulatives to build understanding and visualize problems
- visually represent thinking through drawings, pictures, graphs, and charts
- picture story problems like a movie in the mind to help understand the problem
- visualize concepts in their head (e.g., parallel lines, fractions)

researchers . . .

- create rich mental pictures to understand text better
- interweave written images with multisensory (auditory, visual, kinesthetic) components to enhance comprehension.
- use words, visual images, sounds and other sensory experiences to communicate understanding of a topic

Synthesizing Information

at a text level, readers . . .

- continually monitor overall meaning, important concepts and themes while reading
- recognize ways in which text elements fit together to create larger meaning
- create new and personal meaning
- develop holistic and/or thematic statements which encapsulate the overall meaning of the text
- capitalize on opportunities to share, recommend and criticize books
- attend to the evolution of their thoughts across time while reading a text, and while reading many texts

at a word level, readers . . .

- select specific vocabulary from the text(s) to include in their synthesis because they know that specific language is highly meaning-laden
- know when certain vocabulary is critical to the text's overall meaning, and therefore, must be understood if comprehension is to be achieved

at a text level, writers . . .

- compose in such a way that their readers can create new meaning from their writing
- use what they know about the authoring process, genre and text structures to compose meaningful, engaging texts
- include cues in their text to help readers determine essential themes and ideas that would need to be included in any synthesis statement
- study the work of other writers they find compelling in order to create vision for their own writing

at a word level, writers . . .

- combine what they know about surface conventions when composing to create meaningful, easy to read text

mathematicians . . .

- generalize from patterns they observe
- generalize in words, equations, charts, and graphs to retell or synthesize
- synthesize math concepts when they use them in real life applications
- use deductive reasoning (e.g., reach conclusions based on known information)

researchers . . .

- utilize information from a variety of resources
- construct meaning about a topic
- enhance their understanding of a topic by considering different perspectives, opinions and sources

Problem Solving

at a text level, readers . . .

- know that once meaning has broken down, that any of the other cognitive behaviors can be employed to repair understanding
- use information from the three deep surface structure systems to repair text meaning

at a word level, readers . . .

- use information from the three surface structure systems to solve word issues
- select from a wide range of word strategies (e.g., skip and read on, reread, use context clues, use the letters and sounds, speak to a peer reader) to help make sense of unknown words
- develop reading fluency

at a text level, writers . . .

- revise their writing to make it clearer and more meaningful by adding details, eliminating unnecessary/unclear ideas or information, or rearranging text
- use what they know about writer's craft to enhance the meaning of their writing

at a word level, writers . . .

- edit the surface-level conventions of their writing to make it easier to read, easier to understand
- develop writing fluency

mathematicians . . .

- listen to others' strategies and adjust their own
- use estimation to determine if their answer is reasonable
- use trial and error to build thinking
- cross check by using more than one way to do a problem (e.g., check subtraction by adding)
- use tools (e.g., manipulatives, graphs, calculators) to enhance meaning

researchers . . .

- revise and edit for clarity and accuracy
- check sources for updated copyrights and reliability