



Improving Reading Comprehension with Collaborative Strategic Reading (CSR)

Janette Klingner
University of Colorado at Boulder

What is reading comprehension?

- The “Sine Qua Non of Reading” (Beck & McKeown, 1999)
- “Acquiring meaning from written text” (Gambrell, Block, & Pressley, 2002)
- “The process of extracting and constructing meaning through interaction and involvement with written language” (Sweet & Snow, 2002)
- “Thinking guided by print” (Perfetti, 1985)



Collaborative Strategic Reading



CSR: Teachers' Views

- "CSR is an excellent technique for teaching students reading comprehension and building vocabulary and also working together cooperatively. I think it is wonderful. We have been using it with the science text and it's turned out beautifully (Lucille Sullivan, 5th grade teacher)."
- "CSR is great for kids with LD because they contribute to their groups and feel successful, and they get the help they need with their reading (Sallie Gotch, Inclusion Specialist)."




ACTIVITY





¿Por que es importante enseñar estrategias de comprensión?

Las Estrategias de Comprensión reflejan los procesos o tácticas mentales utilizados por lectores de gran habilidad cuando están activamente envueltos con el texto. La instrucción de las estrategias de comprensión está basada en la premisa de que aún los estudiantes que tienen dificultades entendiendo el texto se les puede enseñar con éxito a aplicar las estrategias usadas por los lectores de gran habilidad, y de que cuando los lectores que tienen dificultades aprenden a aplicar estas estrategias, su comprensión de la lectura mejorará. Las estrategias de comprensión benefician a todos los lectores, pero son esenciales para los estudiantes con problemas del aprendizaje.



Collaborative Strategic Reading

- Collaborative Strategic Reading (CSR) combines cooperative learning (e.g., Johnson & Johnson, 1989) and reading comprehension strategy instruction (e.g., Palincsar & Brown, 1984).
- CSR was designed to promote content learning, language acquisition, and reading comprehension in diverse classrooms that include English language learners and students with learning disabilities (Klingner, Vaughn, & Schumm, 1998).

CSR: Overview



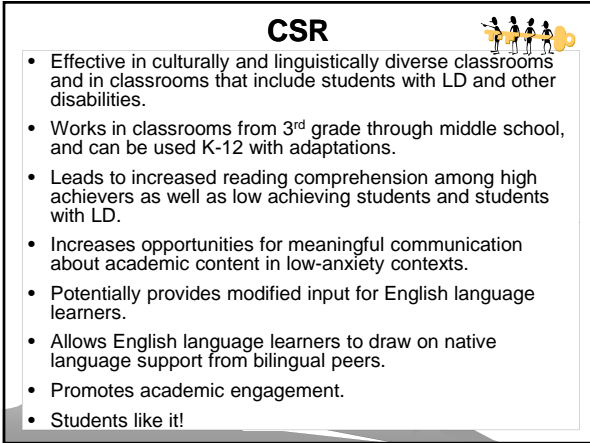
- Students of mixed achievement levels apply comprehension strategies while reading content area text in small cooperative groups.
- Initially, the teacher presents the strategies (preview, click and clunk, get the gist, and wrap up) to the whole class using modeling, role playing, and teacher think-alouds.
- After students have developed proficiency applying the strategies through teacher-facilitated activities, they are then divided into heterogeneous groups where each student performs a defined role as students collaboratively implement the strategies.



CSR



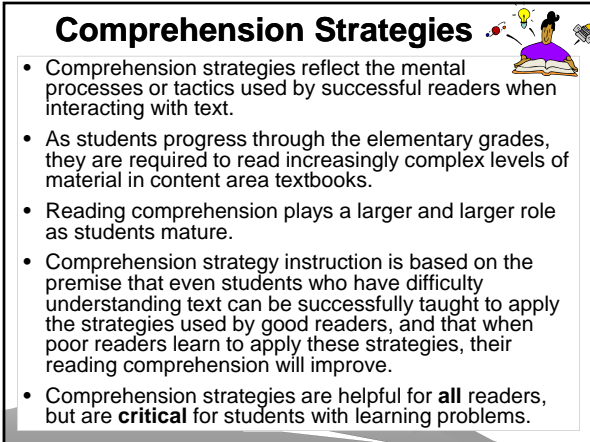
- Effective in culturally and linguistically diverse classrooms and in classrooms that include students with LD and other disabilities.
- Works in classrooms from 3rd grade through middle school, and can be used K-12 with adaptations.
- Leads to increased reading comprehension among high achievers as well as low achieving students and students with LD.
- Increases opportunities for meaningful communication about academic content in low-anxiety contexts.
- Potentially provides modified input for English language learners.
- Allows English language learners to draw on native language support from bilingual peers.
- Promotes academic engagement.
- Students like it!

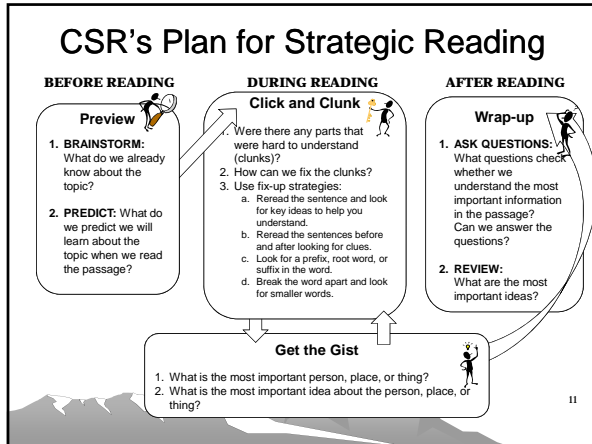


Comprehension Strategies



- Comprehension strategies reflect the mental processes or tactics used by successful readers when interacting with text.
- As students progress through the elementary grades, they are required to read increasingly complex levels of material in content area textbooks.
- Reading comprehension plays a larger and larger role as students mature.
- Comprehension strategy instruction is based on the premise that even students who have difficulty understanding text can be successfully taught to apply the strategies used by good readers, and that when poor readers learn to apply these strategies, their reading comprehension will improve.
- Comprehension strategies are helpful for **all** readers, but are **critical** for students with learning problems.





Research Support for CSR

- In our 1st study, we used a modified version of reciprocal teaching (Palincsar & Brown, 1984) with middle school ELLs with LD (Klingner & Vaughn, 1996):
 - After learning reading comprehension strategies, students either tutored younger ELLs with LD in the strategies or used the strategies while working in cooperative learning groups.
 - Even low decoders' comprehension abilities improved significantly, according to the Gates-MacGinitie, a standardized comprehension test.

13

- In a quasi-experimental study, we taught 4th-grade students in three diverse classrooms to implement CSR with a unit from their social studies textbook.
 - Students performed at significantly higher levels on a standardized reading comprehension test (the Gates MacGinitie) than peers who did not use CSR and learned as much content $F(1,138) = 10.68, p = .001$ (with an effect size of .44) (Klingner, Vaughn, & Schumm, 1998).

14



- We analyzed group discourse while 5th-grade bilingual (Spanish-speaking) ELLs used CSR with their science textbook.
 - Students spent nearly all of their time engaged in academic-related strategic discussion and almost no time (less than 1 percent) engaged in procedural negotiation or off task.
 - Students assisted one another in understanding word meanings, getting the main idea, asking and answering questions, and relating what they were learning to previous knowledge
 - Vocabulary, content knowledge, and reading comprehension improved (Klingner & Vaughn, 2000).

15



- In another quasi-experimental study, we compared the achievement of students in five 4th-grade CSR classrooms with that of students in five 4th-grade traditional classrooms.
 - CSR students gained significantly more than comparison students on the Gates-MacGinitie Reading Comprehension Test.
 - Effect sizes were highest for students with LD (.38) and low achieving students (.51).
 - With one exception, teachers with higher levels of CSR implementation (in quantity and quality) yielded greater gains in comprehension than CSR teachers with lower levels of implementation (Klingner et al., 2004).

16



Current Research

- We are investigating the effectiveness of CSR in middle school reading and language arts classrooms that include a range of ethnically and linguistically diverse students at various socioeconomic levels.
- Initial findings from our 1st year show that CSR students outperformed comparison students (taught by the same teachers) on the Gates MacGinitie Reading Comprehension Test.
- This study is funded by the U.S. Department of Education Institute of Education Sciences, Project #R305A080608: *Collaborative Strategic Reading (CSR) Interventions for Struggling Adolescent and Adult Readers.*



Components of CSR



CSR: Previewing

- Students preview the entire passage prior to reading each section.
- The goals of previewing are:
 - To **build** and **activate** students' background knowledge about the topic.
 - To learn as much about a passage as they can in a brief period of time.
 - To help students make predictions about what they will learn.
 - To motivate students' interest in the topic and to engage them in active reading from the onset.

BEFORE READING

Preview

1. **BRAINSTORM:** What do we already know about the topic?
2. **PREDICT:** What do we predict we will learn about the topic when we read the passage?



CSR: Click and Clunk

Students click and clunk while reading each section of the passage. The goals of click and clunk are:

- For students to monitor their reading comprehension.
- For students to identify when they have breakdowns in understanding (“clunks”).
- To use “fix-up” strategies to figure out clunks.
- To identify and explain which fix-up strategy was used and why.

DURING READING

Click and Clunk

1. Were there any parts that were hard to understand (clunks)?
2. How can we fix the clunks?
3. Use fix-up strategies:
 - a. Reread the sentence and look for key ideas to help you understand.
 - b. Reread the sentences before and after looking for clues.
 - c. Look for a prefix, root word, or suffix in the word.
 - d. Break the word apart and look for smaller words.

20

CSR: Click and Clunk

Fix-up strategies:

1. Reread the sentence without the word. Think about what would make sense.
2. Reread the sentence with the clunk and the sentences before or after the clunk, looking for clues.
3. Look for a prefix, root, or suffix in the word.
4. Break the word apart and look for smaller words you know.

Strategies #1 & #2 use context clues

Strategies #3 & #4 use word analysis

21

Examples: Fixing Clunks

Sylvia: Pads.

Marcos: Pads es . . . clunk expert?



Carol: Read the sentences before or after the clunk looking for clues. OK. “Look at these bones that have pads of cartilage between them.” It is saying that cartilage has something that is between them, something that protects them. OK, it is something that protects the bone.

Marcos: Pads es algo que protege los huesos.

Carol: OK, everybody understand now?



Albert: Who has a clunk?
 Pablo: Calcium.
 Albert: Try to read sentences in the back and in the front to try to get a clue. Think if you see any sentences in the back or in the front that can help you. Did you get anything?
 Pablo: No.
 Albert: OK, now I do, I get something. It is a tiny crystal-like mineral. Do you know what mineral is?
 Pablo: Yeah.
 Albert: What is it?
 Pablo: It's like a kind of vitamin.
 Albert: OK, calcium is a type of element that there is in the bones. And, the bones need that. Calcium helps the bones in order to make them strong. Do you now understand what calcium is?
 Pablo: Yes.
 Albert: What is it again, one more time?
 Pablo: It is a type of element that helps the bones grow.
 Albert: OK, good.

CSR: Get the Gist

DURING READING


Get the Gist

1. What is the most important person, place, or thing?
2. What is the most important idea about the person, place, or thing?

Students learn to “get the gist” by identifying the most important idea in a section of text (usually a paragraph). The goals of “getting the gist” are:



- To teach students to restate in their own words the most important point as a way of making sure they have understood what they have read.
- To improve students’ memory of what they have learned.

24



CSR: Get the Gist

- “Get the gist” means to find the main idea in a section of text. The goals of “get the gist” are to:
 - Teach students to restate in their own words the most important point as a way of making sure they have understood what they have read.
 - Improve students’ memory of what they have learned.
- To get the gist, students:
 - Identify the most important who or what in the paragraph or section of text they have just read.
 - State in their own words the most important idea about the who or what.
 - Provide the gist in as few words as possible.

Getting the Gist

Paul: Who would like to get the gist?
 Luis: I think it is talking about how the bones connect together and how they couldn't slide off. How they could be twisted and not slide off.
 Paul: OK, does anybody want to add more to that? Does anybody have another opinion? *Que es tu opinion? Si quieren agregar algo a lo que el digo? Que es la idea principal de este pedazito de lo que leemos?*
 Luis: *Bueno, la idea principal de lo que leemos es de los cartilagos, de los huesos y como se unen.* (OK, the main idea of what we read is about the cartilage, about the bones and how they join.)
 Paul: *Muy bien.* Frank?
 Frank: *Yo creo que la idea principal es como los huesos se unen, como ellos se envuelven uno a otros. Como el joint ayuda a los huesos moverse.* (I think the main idea is how the bones join, how they are involved with each other. How the joint helps the bones move.)

Fixing a Clunk & Getting the Gist

Maria: *Que cosa quiere decir wrinkle? (What does wrinkle mean?)*
 Susana: *Es lo que cubre el cerebrum.* (It is what covers the brain.)
 Stan: *No, es cuando tu tienes que planchar y tiene arrugas. Son arrugas.* (It is when you have to iron and it has wrinkles. They are wrinkles.)
 Susana: OK, can someone get the gist? Gloria?
 Gloria: It is talking about the cerebrum and its surface is like wrinkled and folded.

CSR: Wrap-up

- Students "wrap up" by formulating questions about what they have learned and by reviewing key ideas.
- The goals are to improve students'
 - knowledge,
 - understanding,
 - and memory of what was read.

AFTER READING


Wrap-up

1. ASK QUESTIONS: What questions check whether we understand the most important information in the passage? Can we answer the questions?
2. REVIEW: What are the most important ideas?

**CSR: Wrap-up
Question Generation**


- Students use question starters: who, what, when, where, why, and how (the "five Ws and an H") to write and label questions at various levels:
 - Right there.
 - Think and search.
 - Author and you.
- Other students try to answer the questions.
- Students ask some questions about information stated explicitly in the passage and other questions that require students to make connections and inferences from what they have read.

29



Question Stems
(Rosenshine and Meister, 1992)

- How were _____ and _____ the same? Different?
- What do you think would happen if _____?
- What do you think caused _____ to happen?
- How would you compare and contrast _____?
- What might have prevented the problem of _____ from happening?
- What are the strengths and weaknesses of _____?



Questioning during Wrap Up

Tasha: What might happen if your bones did not contain enough calcium?

Anthony: They will break.

Tasha: OK, they will probably break. But can we add a little bit?

Natalie: Well, first of all, what is calcium? And then we can figure out what it says and how it helps the bones.

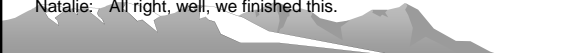
Anthony: OK, calcium is something that keeps the bones healthy and stuff like that.

Natalie: Tasha?

Tasha: If you don't have enough calcium the bones will rot and you will be dead. And, then after you die you know your bones decay and you turn into dust. Your bones will like decompose in your body which will destroy and corrupt. If it does not have enough calcium, then the bones will get weak and break.

Luis: OK, I would say the same thing because the bones without calcium are nothing.

Natalie: All right, well, we finished this.



CSR: Wrap-up Review

- To review, students write down the most important ideas from the reading in their CSR learning logs.
- Students then take turns sharing their “best ideas” and provide *evidence* to support them.



32

Cooperating Learning and CSR Roles



33

Why Use Cooperative Learning?

- When implemented effectively, cooperative learning can:
- Increase academic performance, motivation, time on task, self-esteem, and positive social behaviors.
 - Foster the development of higher-order thinking skills.
 - Facilitate the integration of culturally and linguistically diverse learners and learners of a wide range of achievement levels, including students with special needs.
 - Increase efficiency of CSR lesson.



34

CSR: Students' Roles



- Roles are an important aspect of CSR because cooperative learning seems to work best when all group members have an assigned, meaningful task.
- Roles should rotate on a regular basis so that students can experience a variety of roles and so that everyone takes a turn being the leader.
- Students can perform more than one role at a time if necessary, or you can select only certain roles.

35

CSR: Roles

- **Leader:** Leads the group in the implementation of CSR by saying what to read or which strategy to do next.
- **Clunk Expert:** Leads the group in trying to figure out difficult words or concepts.
- **Gist Expert:** Guides the group toward the development of a gist and determines that the gist contains the most important ideas but no unnecessary details.

36

CSR: Roles

- **Question Expert:** Guides the group to generate and answer questions.
- **Encourager:** Watches the group and gives feedback. Looks for behaviors to praise. Encourages all group members to participate and assist one another (optional).
- **Time-keeper:** Sets the timer for each portion of CSR and lets the group know when it is time to move on. Helps keep the group on task (optional).

37

Teacher's Role - CSR

- Conduct a whole-class preview and/or a whole-class wrap-up to introduce and/or review key vocabulary and important concepts.
- Conclude the lesson with a whole class discussion or analysis of key ideas learned.
- Conduct follow-up activities to reinforce learning.
- Use data from learning logs and lessons to make changes in instruction.
- Provide mini-lessons to fine-tune strategy usage.
- Use high-quality feedback to re-direct, guide and challenge students' thinking.



Teacher's Role During Group Work

- Spend extended time with each group at least once every 2 weeks.
- Monitor the performance of each group.
- Monitor the performance of each group member.
- Highlight the performance of students and groups who are implementing CSR well.
- Support low-achieving students.
- TIP: Use role-alike groups to help students learn their CSR roles.



39


CSR Materials



40

CSR: Materials

- **CSR focus lessons** provide you with ideas for introducing each strategy and teaching students to function in groups.
- **CSR learning logs** enable students to keep track of learning “as it happens” and provide a springboard for follow-up activities. Logs furnish a way for all students to be active participants.
- **CSR rubrics** that help teachers evaluate CSR learning logs and use them to plan instruction.
- **Student cue cards** explain the steps to be followed to fulfill each role when students work in groups.
- **Question cards** explain the three different question types.
- **Clunk cards** help students know what strategies to use when trying to figure out words they do not understand.
- **CSR book**



41





CSR Learning Log			
Before Reading:	What I Already Know About the Topic		
PREVIEW	What I Think I Will Learn		
During Reading:	1st Section of the Passage	2nd Section of the Passage	3rd Section of the Passage
CLUNKS & GISTS			
After Reading:	Questions About the Important Ideas in the Passage		
WRAP UP	The Most Important Ideas I Learned		


CSR Leader's Cue Card		
BEFORE READING	DURING READING	AFTER READING
PREVIEW: S: We know that today's topic is _____ S: Let's brainstorm and write everything we already know about the topic in our learning logs. S: Who would like to share their best ideas? S: Now let's predict. Look at the title, pictures, and headings and think about what we might learn today. Write your ideas in your learning logs. S: Who would like to share their best ideas?	READ: S: Who would like to read the next section? CLICK AND CLUNK: S: Did everyone understand what we read? If you did not, write your clunks in your learning log. S: (If someone has a clunk): Clunk Expert, please help us. GET THE GIST: S: Gist Expert, please help us. S: Now we will go around the group and each say the gist in our own words. GO BACK AND DO ALL OF THE STEPS IN THIS COLUMN FOR EACH SECTION OF THE TEXT.	WRAP-UP: S: It's time to ask questions. Question Expert, please help us out. S: It's time to review. In our learning logs, write down one or two of the most important ideas from the passages. S: Let's go around the group and each share our most important ideas. Compliments and Suggestions S: The Encourager has been watching carefully and will now tell us two things we did really well as a group today. S: Is there anything that would help us do even better next time?

Clunk Cards

<p style="text-align: center;">CLUNK CARD #1</p> <p>Reread the sentence with the clunk and look for key ideas to help you figure out the word. Think about what makes sense.</p>	<p style="text-align: center;">CLUNK CARD #2</p> <p>Reread the sentences before and after the clunk, looking for clues.</p>
<p style="text-align: center;">CLUNK CARD #3</p> <p>Look for a prefix, root word, or suffix that might help.</p>	<p style="text-align: center;">CLUNK CARD #4</p> <p>Break the word apart and look for smaller words that you know.</p>

Clunk Cards for Primary Grades






 <p style="text-align: center;">CLUNK CARD #1</p> <p>Reread the sentence with the clunk. Look for clues. Think about what makes sense.</p>	 <p style="text-align: center;">CLUNK CARD #2</p> <p>Reread the sentences before or after the clunk. Look for clues that help you figure out the word.</p>
 <p style="text-align: center;">CLUNK CARD #3</p> <p>Look for a picture that can help you.</p>	 <p style="text-align: center;">CLUNK CARD #4</p> <p>Look in big words for small words that you know.</p>





CSR Learning Log

Today's Topic _____

Date _____ Name _____

BEFORE READING: PREVIEW
Brainstorm: What I already know about this topic.
Preview: What I might learn about the topic. 
DURING READING: SECTION #1
Clunks 
Gist 
DURING READING: SECTION #2
Clunks 
Gist 

DURING READING: SECTION #3
Clunks
Gist
AFTER READING: WRAP UP
Questions: Who, what, when, where, why, how. 
Review: Summary statement of most important ideas.



47


How to Teach CSR

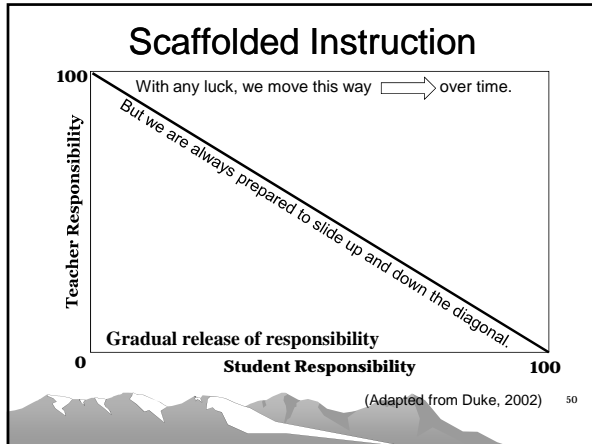


48

Phases of Strategy Instruction

- **Modeling phase:**
 - The teacher models each step of the strategy while thinking aloud (think-aloud procedure).
 - I do it; you watch.
 - Whole group instruction
- **Teacher-assisted phase:**
 - The teacher guides the students through the strategy.
 - You do it; I help.
 - Whole group or small group instruction
- **Independent phase:**
 - The students complete the strategy on their own (work toward automaticity).
 - You do it; I watch...and still help as needed.





Teaching the CSR Strategies: Preview

Preview

- Prompt students to think about what they learn when they watch a sneak preview of a movie, such as:
 - what the movie is about,
 - who the main characters are, and
 - when and where the movie takes place.
- Explain to students that previewing a passage they are going to read is similar, except that they develop their own preview by skimming the text.
- Suggest that they look at: (a) the title, headings, and subheadings; (b) words that are italicized, bolded, or underlined; (c) pictures, tables, and graphs; and (d) any questions or key information highlighted in the columns.

52

Preview

Preview has two steps:

1. Brainstorm what you already know.
2. Predict what you think you will learn.



53

Teacher's Role in Preview

- Many students lack the prior knowledge needed to support comprehension.
- The teacher plays an active role in providing background knowledge to students.
- Teachers lead preview at the beginning of a unit or long reading.
- Teachers can combine CSR preview with pre-teaching key ideas and vocabulary.
- When students lead preview, teachers monitor closely and provide feedback as needed.



54


ACTIVITY: Predict

- Use the *Earth Friendly Fabrics* reading and a copy of the learning log.
- Preview the passage. Look at titles, pictures, and captions, and skim the text for key words. (1 min.)
- Brainstorm what you know about the topic. (1 min.)
- Predict what you think you might learn. (1 min.)
- Reflect:
 - Was your prior knowledge helpful?
 - Did previewing the passage before the brainstorm influence what you wrote?




55

Teaching the CSR Strategies: Click and Clunk




Click and Clunk




- Click (cruise control):
 - When you understand what you read, everything “clicks” along smoothly.

- Clunk (traffic jam):
 - When you don’t understand what you read, “clunk,” you stop. When you get to a clunk, use the fix-up strategies to figure out what the word or phrase means.



Fix-up Strategies

- Reread the sentence with the clunk and look for key ideas to help you figure out the word. Think about what makes sense.
- Reread the sentences before and after the clunk, looking for clues.
- Look for a root word, prefix, or suffix in the word that might help.
- Break apart the word and look for smaller words that you know.



Click and Clunk Examples

In the summer, the birds **molt**, or lose their feathers. (#1)



A snake's body is very **supple**. It can bend easily. It can fit in small spaces. (#2)



59

More Click and Clunk Examples

- In the early days, gold was **transported** in wagons. (#1, #3)
- The Department of Motor Vehicles requires a **thumbprint** to get a driver's license. (#4)



60

ACTIVITY: Clunk Practice

Is there a middle ground between an obsession with aging and an intelligent commitment to a healthier lifestyle? How much time, money, energy, and angst should we devote to the fight against **senescence**?

- Fix-up strategy?



61

ACTIVITY: More Clunk Practice

In Shakespearean drama, both tragic and comic, the storms and calamities that shake the **sublunary** globe are reflections of turmoil in the hearts of men.

- Fix-up strategy?



62

ACTIVITY: More Clunk Practice

Among other preliminary activities, the prospective groom's party formally inquires as to the girl's clan-name; this is a ritualization of the taboo on **consanguineous** marriage.

- Fix-up strategy?



63


The Teacher's Role in Helping Students Acquire New Vocabulary with CSR

- Pre-teach key vocabulary words during periodic whole-class previews.
- Listen in on groups and check students' learning logs; revisit key words as needed.
- Review key vocabulary words during periodic whole-class wrap-ups.
- Ask students to do follow-up activities in class or as homework to reinforce key words.




64

**Teaching the CSR Strategies:
Get the Gist**




**Get the Gist
(Main Idea Strategy)**

1. Name the “who” or “what” that the paragraph is mostly about.
2. What is the most important information about the “who” or “what”?
3. Write the gist in 10 words or less.



Seabirds

A seabird is any bird that spends most of its time at sea and depends on the sea and its islands for all its basic needs. The sea provides food and its remote islands and rocky outcroppings provide safe nesting and resting places. For 60 million years, these highly specialized, diverse birds have adapted to life on the world’s vast oceans.



Get the Gist: Seabirds

- Who or what:
 - Seabirds
- Important information:
 - Seabirds spend most of their time at sea.
 - Seabirds depend on the sea and its islands for their basic needs.
 - The sea provides food and resting and nesting places.
- Write the gist in 10 words or less:
 - Seabirds depend on the sea for everything they need.



68

ACTIVITY: Get the Gist

- Use *Earth Friendly Fabrics* and your learning log.
- Read the first section of the passage.
 - Come up with a gist.
 - Turn to your partner and share your gist.
 - Discuss and come up with one gist you both think is a good one.
 - Repeat with the next section (if time).



69

Teaching the CSR Strategies: Wrap-up



Wrap-up

Wrap up after finishing the reading assignment.

Wrap-up has two steps:

- **Step 1: Questions:**
 - Think of questions and write them in your learning log.
 - Ask and answer questions.
- **Step 2: Review:**
 - Think about what you just read.
 - Write the most important ideas from the passage. Provide evidence to support your ideas.

71



How to Generate Questions

- Questions should be similar to those a teacher would put on a test to check understanding.
- Questions should “stay with” the text—they should not be those that need to be “looked up” somewhere else.
- Questions should start with who, what, when, where, why, and how.
- Students should generate (and answer) different question types.

72



Question Answer Relationships (QAR)

- **Right There:** The answer is easy to find in the reading. The words used to make up the question and the words used to answer the question are right there in the same sentence.
- **Think and Search:** The answer to the question is in the reading. The answer is made up of information that comes from more than one sentence or paragraph. You have to put together information from different parts of the reading to find the answer.
- **The Author and You:** The answer to the question is not in the reading. Think about what the author tells you and what you already know.

(Raphael, 1982, 1984, 1986)



How to Teach the Questioning Strategy

- Using a multi-paragraph selection students have read:
- Teach one question type at a time.
- Teach students to:
 - Identify the important ideas in the selection.
 - Write questions and explain why each fits the question type.
 - Answer the question.
 - Once students understand the question type, they can work in groups to ask and answer questions.



74

ACTIVITY: Question Generation

Use *Earth Friendly Fabrics* and your learning log.

- Finish reading the passage if you haven't already done so.
- Write three questions and the answers (1 for each question type).
- Turn to your partner and ask 1 or more of your questions.
- Answer the questions.
- Which question do you think is the best?



75

Review Strategy

1. Review your learning log and think about the most important information from the passage.
2. Write the most important one or two ideas from the reading.
3. Say why your ideas are the most important (provide evidence).



76

ACTIVITY: Review

Use *Earth Friendly Fabrics* and your learning log.

- Review your learning log.
- Write one or two sentences that describe the most important ideas from the text.
- Turn to your partner and make a case for why the ideas you wrote contain the most important information.



77

In conclusion...

- When the Miami-Dade County Public Schools Language Arts Director observed CSR for the first time, she said excitedly:

- *"You have worked out all the kinks. Reciprocal Teaching, as great as it is, just seemed too challenging to implement with an entire class. But you've figured out how to make it work. I love it. If the superintendent were to say that starting tomorrow every teacher in M-DCPS would have to implement CSR in order to keep their job in this district, I would jump up and down and shout 'hallelujah!'"*



Questions?



Email:
Janette.Klingner@colorado.edu



A few references:

- Klingner, J. K., Vaughn, S., Dimino, J., Schumm, J. S., & Bryant, D. (2001). *Collaborative Strategic Reading*. Longmont, CO: Sopris West.
- Klingner, J. K., Vaughn, S., Argüelles, M. E., Hughes, M. T., & Ahwee, S. (2004). Collaborative strategic reading: "Real world" lessons from classroom teachers. *Remedial and Special Education, 25*, 291-302.
- Klingner, J. K., & Vaughn, S. (1999). Promoting reading comprehension, content learning, and English acquisition through collaborative strategic reading (CSR). *The Reading Teacher, 52*, 738-747.
- Klingner, J. K., & Vaughn, S. (1998). Collaborative strategic reading (CSR): Involving all students in content area learning. *Teaching Exceptional Children, 30*, 32-37.

CSR Learning Log for Informational Text

Name _____ Date _____

Today's Topic _____

BEFORE READING: Preview

Brainstorm: Connections to prior knowledge

Predict: What I might learn about the topic

DURING READING: Section 1

Clunks

Fix-up Strategies

_____ = _____ 1 2 3 4

_____ = _____ 1 2 3 4

_____ = _____ 1 2 3 4

Gist:

DURING READING: Section 2

Clunks

Fix-up Strategies

_____ = _____ 1 2 3 4

_____ = _____ 1 2 3 4

_____ = _____ 1 2 3 4

Gist:

DURING READING: Section 3

Clunks

Fix-up Strategies

_____	=	_____	1	2	3	4
_____	=	_____	1	2	3	4
_____	=	_____	1	2	3	4

Gist:

AFTER READING: Wrap-Up

Questions: Write questions and answers.

Review: Write one or two of the most important ideas in this passage.
Be prepared to justify your ideas.

Earth-Friendly Fabrics

Emily Sohn

Shopping for clothes involves tricky decisions about fit, color, style, and price. And if a growing number of companies have their way, you'll soon start checking labels for another key detail: environmental impact. Earth-friendly fabrics are in. It's already possible to buy shirts made from bamboo and socks made from corn. Shopping malls of the future might also carry clothes made from chicken feathers or rice straw.



Clothes made from Earth-friendly fabrics may soon hang in your closet.

The companies that make such fabrics are interested in sustainable development. This means trying to provide things that people need while protecting natural resources and preserving biodiversity.

"A fully sustainable business would be one that creates no negative impact on the environment," says Gordon Rands. Scientists are now looking for new ways to make fabrics for clothes that are good both for your image and for Earth.

Born in the lab

Making clothes and shoes traditionally involves harsh chemicals and lots of energy. Some fabrics, such as cotton, leather, and wool, begin as plants or animal parts. But that doesn't mean they're gentle on the environment. Cotton plants, for instance, are often smothered with noxious chemicals to keep away bugs and weeds.

Other fabrics are born in laboratories, where scientists create molecules called polymers and make synthetic (human-made) materials such as Polyester. Textile companies weave or knit synthetic threads into fabrics that are remarkably silky, sturdy, and quick to dry. The problem, from an environmental viewpoint, is that most synthetic fibers are made from petroleum, which must be extracted from the ground. Accessing, transporting, and processing oil is expensive, and the supply is limited. Still, petroleum-based materials appear in exercise clothes, shoe soles, plastic zippers, buttons, dyes, and thousands of other products.

To overcome this reliance on petroleum, some companies have experimented with creating materials from substances such as corn sugar, then weaving the resulting threads into fabrics. Other companies have developed products from recycled materials.

Clothes from waste

In the past few years, scientists have figured out how to make yarn out of cornhusks, chicken feathers, and rice straw (part of the rice plant). All three are agricultural by-products that usually end up in the trash. "We already have a problem with how to get rid of [these waste products]," Yang says. "Instead, let's use them to make beautiful materials." The process involves chemical reactions that break down the raw materials into fibers, followed by cleaning. The scientists then spin the fibers into yarn, which they use to make fabrics.



This knitted, dyed fabric is made from 50 percent rice-straw fiber and 50 percent cotton.

Courtesy of scientist, Yiqi Yang

Clothes made from farm waste are still years away from hitting the stores, but clothes made from organic or recycled fabrics and products made from coconut, bamboo, and corn sugar are already available in many places. Simply by choosing carefully how you get dressed in the morning, you can help decide Earth's future.

Disclaimer:

The information that is included in the conference materials or provided by conference presenters is intended to serve as a resource for participants. It should not be construed in any way as an endorsement by the U.S. Department of Education (Department) of particular materials, products, services, or approaches or as an attempt by the Department to mandate, direct, or control the curriculum, program of instruction, or assessments of a State, local educational agency, or school. Consistent with the appropriate Federal requirements, States and localities have the flexibility to determine how best to use Federal funds to help ensure that every student can read at grade level or above by the end of the third grade.