

***Help! My Students Can't Read
Their Textbooks:
Teaching Reading in the
Middle Grades***

Teacher's Packet

A KET professional development workshop for educators approved for Professional Development Training by the Kentucky Department of Education.

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Help! My Students Can't Read Their Textbooks: Teaching Reading in the Middle Grades

This six-part series is designed for middle level teachers looking for strategies that will increase their students' comprehension of informational texts. Program 1 outlines many of the challenges confronting teachers with struggling readers. Programs 2-6 provide in-depth classroom examples of a variety of instructional strategies in each of the four core academic areas—mathematics, social studies, language arts, and science.

The series is rich in classroom videotape examples and provides participants with many opportunities to apply their new knowledge to the texts they teach and to plan instruction for their students. Through questions that focus their viewing of Programs 2-6, participating teachers are asked to consider the strengths of each of the lessons presented and how the strategies could be adapted for their own classrooms.

About This Packet

The materials in this packet include information about the host and teacher/presenters, summaries of program content, materials related to series content (including a reprint of an article by Dr. Combs that first appeared in *Kentucky Reading Journal*), questions for discussion and reflection, and lesson plans.

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Meet the Host and Presenters

Host **Dorie Combs** is currently an associate professor in the College of Education at Eastern Kentucky University where she teaches undergraduate and graduate classes in middle and secondary language arts, reading, and curriculum. She taught middle level language arts for 15 years in Columbia, South Carolina and Lexington, Kentucky. Dorie earned bachelor's and master's degrees in secondary English education from the University of South Carolina and a Ph.D. in educational psychology from the University of Kentucky.

Programs 2-6 of the series feature five middle school teachers: **Paula Cissell**, who teaches mathematics at Winburn Middle School in Lexington; science teacher **Jane Clouse** of Madison Middle School in Richmond; **Julie Hundley**, a science teacher at Crosby Middle School in Louisville; **Mark Kendrick**, who teaches social studies at Boyle County Middle School in Danville; and **Melinda Williams**, a language arts teacher at Meece Middle School in Somerset.

Professional Development Credit

Stage of Participant Development: Practice/Application

The Kentucky Department of Education has approved all KET Star Channels Seminars for professional development credit if schools or districts choose to include them in their professional development plans. Districts or schools may choose to include preparation and/or follow-up time as part of professional development. For example, if a teacher participates in one 90-minute program and spends an additional 30 minutes in related activities, he or she could be awarded a total of two hours professional development credit.

Individual teachers who wish to use these videotapes for professional development credit should check with their school professional development chair or with their district professional development coordinator.

Professional development can also be used to satisfy requirements for the fifth year program. Contact your local university or the Division of Teacher Education and Certification at 502-564-4606 for more information.

Program Summaries

In **Program 1**, host **Dr. Dorie Combs**, associate professor at Eastern Kentucky University, describes the factors that impact anyone's success with a particular reading task and provides a process for determining the level of instructional scaffolding necessary for reading based on the characteristics of the text and the readers. She concludes with tips for improving reading in the middle grades.

Program 2 takes teachers into a mathematics classroom where sixth-grade teacher **Paula Cissell** describes the connection between reading and mathematics in her classroom and how she balances the demands of her content area with developing strategic readers. She then leads her students through a polygon classification activity using both the Freyer Model and Semantic Mapping.

Program 3 is set in **Mark Kendrick's** sixth-grade social studies classroom. His students are tackling the difficult task of reading and synthesizing information about the three major belief systems found in ancient China. Using the features of text to discern main ideas and important facts, Mark's students complete an engaging activity in which they create a character collage. Mark also discusses the importance of reading in social studies and offers insights into balancing reading instruction with class content.

Program 4 takes viewers to **Jane Clouse's** seventh-grade science classroom where students are studying global warming. Jane begins by reading aloud the story of Chicken Little to introduce students to an article dealing with changes in the ionosphere resulting from global warming. She provides a high degree of scaffolding as students work through the article, leading them to use their knowledge of prefixes and suffixes to understand the article's technical content. She concludes the day's instruction with an engaging critical thinking activity in which students are required to listen to evidence and make judgments about a particular compound based on its effects on the environment.

In **Program 5**, we visit the language arts classroom of **Melinda Williams**. Her students are reading the popular novel *Bud, Not Buddy* and using textual evidence to predict and draw conclusions. Melinda also provides the opportunity for students to use contextual clues to define unknown vocabulary. She stresses the importance of helping students to connect the strategies they learn in her language arts class to the reading and writing they do in other content areas.

Program 6 takes viewers to **Julie Hundley's** science classroom where students are reading passages from their science textbook. Julie uses paired reading rather than the more traditional round robin reading and provides students with a way to organize the information they gather during their reading. The 4-R organizer asks students to *recall* factual information, to *respond* to the information on a personal level, to *reflect* on the importance of the information, and to determine areas they would like to further *research* based on their reading. Through this organizational structure, her students successfully read and synthesize complex information on the endocrine system.

What does it take to read well?

- ❖ Attention
- ❖ Prior Knowledge
- ❖ Motivation/Interest/Purpose
- ❖ Word Attack Skills
- ❖ Metacognitive Strategies
- ❖ Physical Factors
- ❖ Emotional Factors
- ❖ Environmental Factors

An instructional scaffold is:

Any instructional activity applied before, during, or after reading that is intended to support immature, poor, or struggling readers.

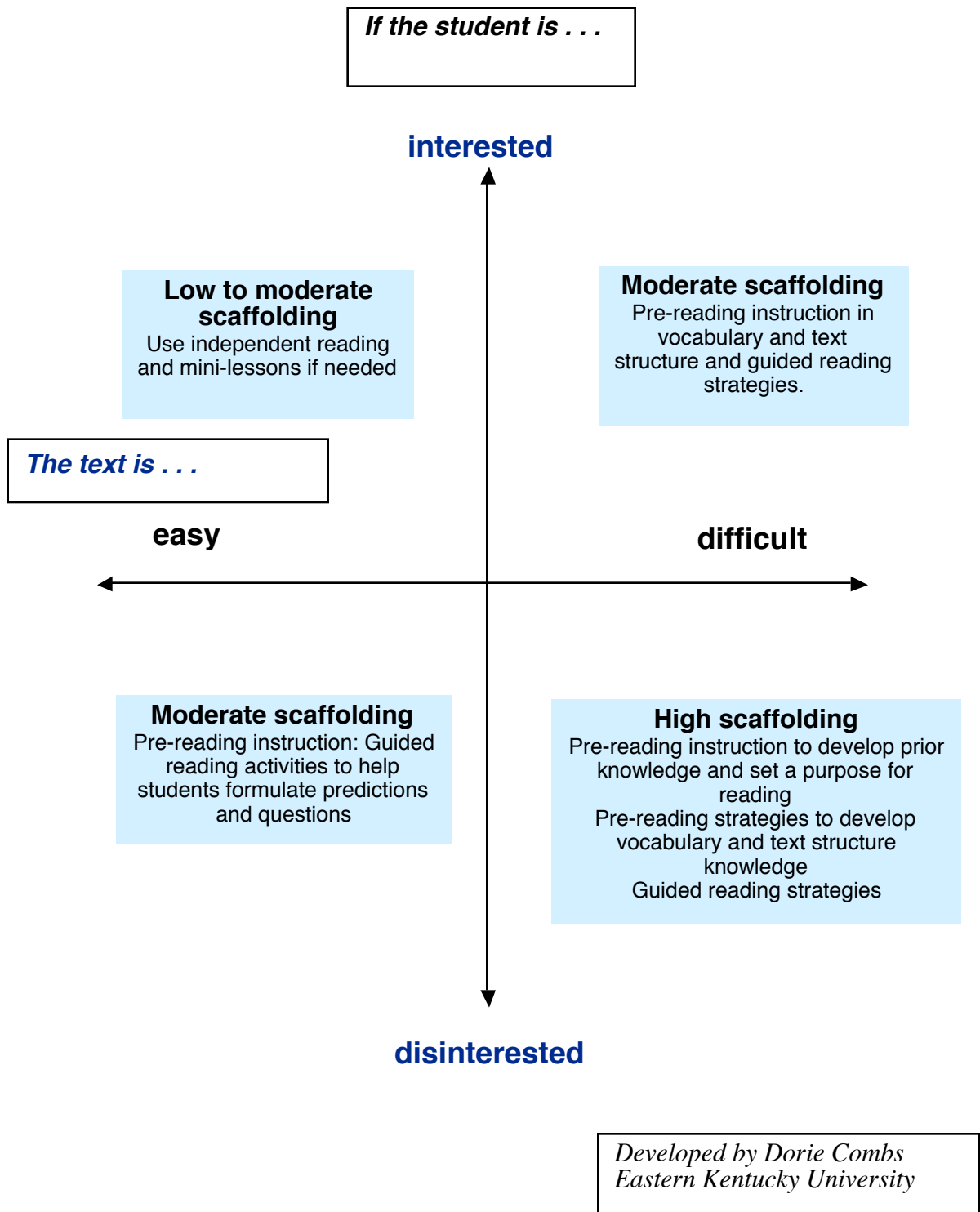
A scaffold is not a preset plan, but a flexible framework that provides a set of options from which you select those that are best suited for a particular group of students reading a particular text for a particular purpose.

Graves & Graves, 1994

When students need to read to learn, teachers should provide instructional scaffolds . . .

- ❖ Before reading
- ❖ While reading
- ❖ After reading

A Guide for Planning Scaffolding for Content Area Reading



Recommendations for Improving Reading in the Middle Grades

- ❖ **Spend a large percentage of the time reading and writing.**
- ❖ **Stress silent reading or teacher read-alouds.**
- ❖ **Teach skills in the context of reading, not in isolated drill and practice.**
- ❖ **Provide organizers or guides that help students focus on important information while they read.**
- ❖ **Model your own comprehension strategies.**
- ❖ **Teach students to read and re-read.**
- ❖ **Plan questions that promote higher order thinking (compare/contrast, explanations, applications to unique situations, evaluations, synthesis).**
- ❖ **Explicitly teach and require students to use note-taking, summarizing, and other study skills.**

Help! These Middle Schoolers Can't Read Their Textbooks!

By Dorie Combs, Eastern Kentucky University

Editor's Note: This article, which first appeared in Kentucky Reading Journal, Spring 1998, pages 13-20, is reprinted with permission.

A review of the 1996 KIRIS test results reveals an alarming pattern. Middle school test scores have stagnated or dropped across the state.

Throughout the halls of middle/junior high schools, teachers are complaining, "These kids can't read!"

It's five minutes before the end of class. "Boys and girls," you announce, "please write down your homework assignment. Read Chapter 10 and answer the questions 1-7. Don't forget to write your answers in complete sentences." The students groan and roll their eyes. "Just do it!" you exclaim, borrowing from the advice of the well-known shoe manufacturer, feeling in your heart that most of them "just won't."

Do you feel sometimes that you are fighting a losing battle? You know we should have high expectations of our middle schoolers. You know we cannot spoon feed them. You know we have to expect our youngsters to work and study at home as well as at school. You know that to give up on homework is to give up on literacy. But you also know that too many of our students either won't and can't complete their homework assignments. Maybe you suspect that some students actually *do read the text*, but they don't remember or understand what they have read. The end result is a high failure rate that grows with each year of middle school. Is there anything we as teachers can do to help our middle schoolers with their academic reading?

A review of the 1996 KIRIS test results reveals an alarming pattern. Middle school test scores have stagnated or dropped across the state. Teachers have been quick to blame the primary program, albeit unfairly (this testing group represents the first group of students exposed to this shift in curriculum). Throughout the halls of middle/junior high schools, teachers are complaining, "These kids can't read!"

A recent study of children's attitudes towards reading (McKenna, Kear, & Ellsworth, 1995) suggests that children's attitudes towards both academic and recreational reading gradually drop from the 1st through the 6th grades, with attitudes towards academic reading showing a dramatic decline. The implication is that, by the time students arrive in middle school, many would prefer not to read at all, and most hate academic textbook reading. The reasons for this are not entirely surprising. When children are learning to read, the focus is largely on narrative text. Only in the 3rd or 4th grade do children begin to work with textbooks and "reading to learn." By this time, the focus of the instruction shifts to content. Assuming that reading one type of text is not the same as reading another, teachers do not often provide instruction in *how to read to learn*.

Could it be that our middle schoolers do, in fact, know *how to read*, but that they do not know *how to read to learn*?

A New Way of Thinking About Reading

Reading is a complex interactive process involving the characteristics of the text (Is it well written? Is it visually appealing?), the environment (Noise? Temperature? Some kid spitting staples at you?), and the reader (Can I read the words? Do I understand the meanings of the words I read? Do I know anything about this? Do I have a valid reason for reading it?) To simply say, "These kids can't read" is much like taking your car to the mechanic and saying, "My car won't go."

Over the past 20 years the psychology of learning and thinking has gone through a dramatic transformation. It is a paradigm shift that has produced a new way of thinking about how our minds work. Much like the "Magic Eye" pictures, it takes a certain focus, a certain concentration to "get the picture." This new way of thinking about thinking is called cognitive psychology, and it began back in the 1950's when a variety of scientists, both in and out of the field of psychology, began to wonder exactly what was going on *inside* our heads. From early work on the characteristics of memory and attention (see Lachman, Lachman, & Butterfield, 1979, for a detailed accounting) to more recent work in "brain-based" teaching (Brandt, 1997, for example), educators are now discovering the complexities of the teaching-learning process. Some of these findings are not at all surprising. Teachers have always known, for example, that it is generally easier to teach a child something he already knows a little about. We have not necessarily understood *why*, nor how teachers could provide that "little bit of information" to make textbook reading a much more meaningful experience for every child. We have also long suspected that individual children learn best in different ways. We now suspect that there may be biological explanations for this (Caine & Caine, 1991).

In my teaching at Eastern Kentucky University and through professional development, I have been asking teachers and teachers-to-be to draw a diagram, flow chart, or semantic map of what they believe happens when a child reads something. These schematics tend to fall into three categories. One depicts the reader as a "sponge," absorbing information literally from the page to the brain. Sometimes the reader will be influenced by something called "motivation" or "reinforcement." But these see the act of reading, like the act of learning, as one of absorption or "filling." Sometimes these charts will include "phonics" and "word attack skills" as small pieces of information that combine to form a larger body of knowledge.

Another common theme presents "development" as an important factor. These often list the Piagetian processes of "adaptation" and "accommodation." The drawings indicate the presence of some kind of "process," and that the information can be either taken in directly or changed to fit the individual's world, or "schema."

The third type of sketch indicates multiple factors influencing the reader's "attention" to and "comprehension" of the text. These are likely to mention the reader's "prior knowledge" of the material, the quality and subject of the text itself, outside factors such as noise, and even physical characteristics of the reader (i.e., alertness, hunger).

How a teacher goes about the process of instruction has a lot to do with that teacher's view of learning. A teacher who draws the first diagram is going to be the most concerned about *giving* information *to* the student. This teacher is going to believe that the failure of a student to learn or *acquire* this information is largely due to the *student's condition* (ability or motivation).

The teacher who takes into account the student's developmental stage may begin to consider the way the material is presented as a factor. This teacher is more likely to believe that students can acquire information at different *levels of understanding*. But this teacher may also believe that some students cannot learn certain things because they are "not developmentally ready."

Reading is a complex interactive process involving the characteristics of the text (Is it well written? Is it visually appealing?), the environment (Noise? Temperature? Some kid spitting staples at you?), and the reader (Can I read the words? Do I understand the meanings of the words I read? Do I know anything about this? Do I have a valid reason for reading it?) To simply say, “These kids can’t read” is much like taking your car to the mechanic and saying, “My car won’t go.”

So What Can We Do To Help Our Middle Schoolers Read Better?

What we now know about how good readers go about the reading process can tell us a great deal about how we can help our middle schoolers read. First, we need to understand that most of our middle schoolers really do know *how to read*. Given something they want to read and know a little about, most of these youngsters will do just fine. The problems arise when you want them to read *your textbook for which they have no interest, no knowledge, and no purpose*. Each day, each student will vary in each of these factors. The teacher’s job then is to level the playing field, to even up the score a little. You do this by utilizing techniques that strategically *prepare students to read*, help them stay focused and check understanding *while they read*, then help them put it all together and apply it *after they read*.

Make Your Reading Assignment a Musical

Have you been to a musical play lately? Most musicals begin with an *overture*. This is a musical montage of all the major themes in the play. In just a few minutes the orchestra gives you a preview of the tunes and tempos in the order in which they will occur. This overview sets the tone and pace of the performance, making you just a little familiar with the songs even before you hear them. After the distraction of the intermission, the orchestra helps you refocus with an *interlude*. This second montage reviews those pieces you have already heard, then sets up the tone and your expectations for what is to come. These interludes often end with a sense of incompleteness, leaving you wondering and anticipating the story’s resolution. Upon the completion of the play, you hear the *finale*. This summary of the play sends you away with a sense of closure and understanding of the main themes of the production. Once again, you rehearse the major tunes, ensuring that you will sing them over and over for weeks to come.

Teachers, whether we are at the primary, middle school, high school, or even college level, need to plan our instruction like a musical. Begin with an *overture* that sets the tone and organization of the text. Identify students’ prior knowledge and lead them to have a purpose for their reading. Help them with difficult vocabulary that might impede their comprehension. Let them read *at their own pace*, not by forcing students to laboriously read aloud paragraph by paragraph, but by giving them the *time* to read silently, just like any good reader—just like you.

Include an *interlude* that keeps students focused on what you want them to get out of the text. Check their understanding and guide their progress. Remember, *all readers make mistakes and have comprehension breakdowns. Good readers take steps to correct their mistakes*. Teachers must help students recognize their mistakes and develop strategies for repairing those comprehension breakdowns.

Content area teachers often feel, and rightly so, that they have not been trained to teach reading.

After reading we need to provide a *finale*. We need to lead our students to higher levels of understanding through discussion, evaluation, and application of the information to the students' lives.

Where Should Content Area Teachers Begin?

Content area teachers often feel, and rightly so, that they have not been trained to teach reading. The tendency is to want to pass the reading instruction to the language arts teacher or reading specialist. Unfortunately, this will not work. The truth is that reading strategies do not easily transfer from one situation or class to another (Leinhart, 1996). The only way to ensure that our students will learn what we want them to learn is to orchestrate the process in tandem with the content. Every teacher must become a reading teacher!

The first step towards content area reading instruction is developing a better understanding of the reading/thinking process. Every teacher must start asking herself, "Why am I asking students to read this text? What is it I want them to remember or be able to do after reading it? What mental processes will they need to use in order to understand this text? How can I prepare them to comprehend the text? How can I ensure they can and will utilize the best processes for comprehension? The good news is that there is now a menagerie of research-based content area reading strategies that can be easily adapted to any content area.

Prior to Reading: The "Overture"

There are several strategies that can be used prior to reading content area text. The KWL (Ogle, 1986) is actually used before and after the reading process. Here the teacher creates a three-column chart (see Figure 1).

Figure 1: A Sample KWL on Bats

What Do You Know About Bats?	What Do You Want To Know About Bats?	What Did You Learn About Bats?
Bats are mammals. Bats are blind. Bats sleep during the day and are awake at night. Bats are ugly. Bats can fly. Bats live in caves.	Are there really vampire bats? Do they suck people's blood? What do bats eat? Do bats carry rabies? How big is the largest bat? How many different kinds of bats are there?	There really is a vampire bat but they do not suck people's blood—only other animals like cows & horses. Most bats use echolocation to fly and find food. Some bats eat insects, some eat fruit, a few eat small rodents, too. Most bats do not carry rabies, although vampire bats can. The largest bat has a wing span of over 5 feet. There are over 900 species of bats. Some bats live in trees, under bridges, and in old buildings. Some bats are cute.

Students are asked to individually list what they *know* about a particular topic. Once the individual lists are complete, students can share in cooperative groups or the teacher can begin a class list. At this point, the teacher should not correct errors, but should move to the second column, and have students list what they *want to know* about the topic. Here students list any questions they have. Again, follow individual brainstorming with small or large group discussions in order to instigate more questioning and predicting. At this point the students are ready to start reading, with the expectation that they will list what they have *learned* upon completion of the task.

Anticipation Guides (Herbaria, 1978) are used to stir up student interest in a topic. These are prepared similarly to a true-false test (see Figure 2). Anticipation guides are particularly effective with content about which students may have preconceived and/or incorrect beliefs. For example, prior to beginning a unit on the body's immune system, a science teacher could pass out a list of statements such as, "When the body senses the presence of a virus it immediately begins to produce more red blood cells," or, "A fever of over 101 can cause brain damage." Students are asked to respond with a T (true) or F (false). Upon completion, students discuss their responses in small groups, debating their answers. Then students read the text. At this point, they are primed to locate evidence that supports or refutes their beliefs. Finally, the groups get back together to *correct* their responses and discuss the evidence found in the text. Anticipation guides can also be used to get students thinking about themes in literature. Although the anticipation guide may be presented as a "forced choice" situation, in the end, there may not always be a right answer. The goal can be for the individual to develop a clearer understanding of her own beliefs and convictions.

Figure 2: A Sample Anticipation Guide for Hurricanes

Hurricanes

We are going to begin our unit on Hurricanes. Read each of the following statements. If you believe it is true, put a T in the blank. If you believe it is not true, put an F in the blank. After everyone in your group has finished, discuss your answers. Do you all agree? Read Chapter 8 in your textbook. Look for evidence that supports or refutes your beliefs. After everyone in the group has completed the reading assignment, you will discuss your responses again, noting the correct answers, according to your text.

- ___1. Hurricanes only develop in the Atlantic Ocean.
- ___2. Hurricane Andrew caused more damage and deaths than any hurricane.
- ___3. In El Niño years, there are more hurricanes.
- ___4. A hurricane in the Pacific Ocean is called a Typhoon.
- ___5. Most hurricane damage is due to high winds.
- ___6. The outer rim of a hurricane is called the "eyeball."
- ___7. The center of the hurricane is very calm and clear.
- ___8. Once a hurricane hits land, it quickly breaks apart.
- ___9. Hurricanes always rotate in a clockwise direction.
- ___10. Some people actually fly planes into a hurricane.

It is only by developing sincere interest and by providing a real purpose for reading that teachers truly motivate students.

The List-Group-Label strategy (Taba, 1967) works well when a teacher is introducing a new topic or unit. The teacher begins by asking the class to *list* words or phrases they associate with the topic. These are recorded on the chalkboard or overhead. Students are then asked to put the terms in *groups*. The teacher does not impose the categories. The students are allowed to group the items based on their prior knowledge. This categorization process will tell the teacher a great deal about what the students do and do not know about the topic. Once the groups are determined the students agree upon a *label* for each group as they discuss the characteristics of each member of the group. The teacher can use this as a springboard to teach new vocabulary by adding new examples to the groups, as well. As the students read the text, they can revisit their lists to add to or refine the categories.

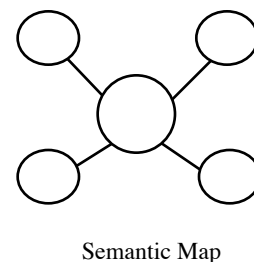
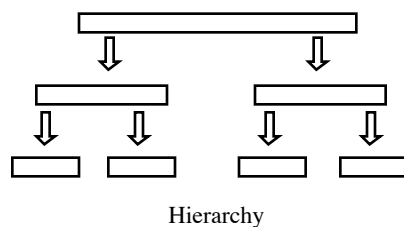
Another simple way to introduce new text is to use a journal writing prompt. The teacher can pose a question or write a controversial quotation on the board. Students can take 5-10 minutes at the beginning of the class to answer the question or react to the quote. These written responses can then be used as the basis for small or large group discussions related to the reading assignment.

But getting students to read their textbooks requires more than talking about the topic. Effective teachers realize that the threats of quizzes or other punishments will encourage only a few students to read. What is a real purpose? It is an activity, a project, research, or any of a variety of student-generated *products* or *performances* that require students to construct and use new knowledge and skills. These can, but do not have to be major, culminating performances. Debates, interviews, impromptu skits, drawings, models, metaphors, charts, maps, and graphs are just a few examples of activities that can be completed in one or two class periods. When students know they are going to have to *use* the information in the text to accomplish an interesting task, they have a *real* purpose for reading.

During Reading: The Interlude

Even if students have been introduced to the text, provided with any necessary background information, and have created a purpose for reading, teachers still need to help students remain focused and ensure each individual's comprehension of the entire selection. One simple strategy teachers can utilize is a *graphic organizer* (see Figure 3). These come in all shapes and sizes and can be easily applied to any text structure. A Venn diagram would be appropriate for compare/contrast structures. A semantic map works with concept/definition or descriptive text. Flow charts or cycle diagrams can be used for components *as they read*. The graphic organizers make the relationships expressed in the text more concrete and therefore easier to understand.

Figure 3: Sample Graphic Organizers



A reading guide can guarantee that students get the main ideas before moving on.

To ensure that students get the important points from the text, teachers can develop a reading guide for students to complete *as they read*. We have always asked students to answer questions *after they read*, but have always discouraged this while reading (in fact, some teachers see it as cheating!). A reading guide can guarantee that students get the main ideas before moving on.

There are several variations of the stop, question, and predict strategy. ReQuest (Manzo, 1969) is one such procedure in which students ask questions of their peers as they read the text as a group. The longer and more complex the text passage, the more often students should stop and discuss shorter sections, either in small or large groups. Whenever the passage describes a process, sequence of events, or tells a story, students should be asked to predict what they expect will happen next. Teachers can improvise on these strategies to make the class more entertaining. An occasional \$2.50 bag of candy or competition between small groups can go a long way towards getting students excited about the assignment!

Students need to be provided with class time to read and reflect upon content area text. However, this reading needs to be conducted silently, not by individuals taking turns reading aloud. We read informational texts and reference materials in very different ways than we read a trade book or a magazine article chosen for pleasure reading. Complex text requires complex reading strategies. In content area texts, we read, skim, skip over, and re-read passages. Sometimes we need a minute to stop and ponder its meaning. When students read aloud, the reader is concentrating on how he *sounds*, while the listeners are either reading ahead, falling behind, or simply not paying attention at all. Teachers may *feel* that the class is focused and on-task, and it may *appear* that the students are comprehending, but things are not always what they seem. Reading aloud has its place—in early elementary classes, for drama and poetry, and for experienced, *prepared* readers. But for comprehension of content area text—for reading to learn—silent reading is the most effective method. (An audio tape of the required reading can be provided for students who have difficulty reading on their own.)

The reading lesson is not over just because the students have had the opportunity to read through the text one time.

After Reading: The “Finale”

The reading lesson is not over just because the students have had the opportunity to read through the text one time. To make meaning from the text, students need to work with the text. This “finale” is made up of reflection and application activities. Using Bloom’s Taxonomy as a guide, teachers need to frame questions that do more than require students to parrot details that they can easily locate in the text, yet not comprehend. Discussions, cooperative learning, writing, and hands-on activities are all applicable to this important, yet often omitted, stage of the reading process.

While elementary students may be able to summarize stories and relatively simple text passages, even older students have difficulty identifying main ideas and summarizing more complex, content area text (Brown, 1980). Late elementary and middle school students need to be taught summarizing strategies. Teachers need to “think aloud” and model summarizing. Next, create a class summary. After students read a selected passage, ask them to brainstorm anything they remember from the text. These statements are written on the board or overhead. Students are then asked to collapse common statements and delete redundant passages.

Content area reading strategies should not be taught separately from content.

The best strategies will be those that teachers create themselves as they consider their own reading processes and begin to help their students identify real purposes for reading content-related text.

Finally, the teacher, with direction from the students, writes a paragraph that includes all of the major ideas. Once this procedure is modeled and taught to the students, they can work in pairs or small groups to summarize sections of the text.

The Discussion Web (Alverman, 1991) provides a format for small group discussion of controversial issues. After reading the assigned text, pairs work together to identify the pros and cons of an issue or question. They are required to list evidence from the text that supports *both sides* of the issue. Pairs combine to form groups of four. These groups then share their evidence and try to reach a consensus. However, individuals are allowed to disagree and may prepare a “minority report.” The group then identifies the most important evidence supporting their opinion. Each group reports to the whole class, with dissenting individuals allowed to express their opinions as well. This format can be adapted to a variety of content areas and a variety of “issues.” It provides a controlled environment in which it is safe to disagree, and the progression from pairs to large group presentations encourages participation from all individuals. The Discussion Web can also be adapted as a pre-writing tool, especially for persuasive writing.

Art activities will motivate and involve students who often seem bored and disinterested. Comic strips, collages, models, sketches, and charts are likely to keep students involved while thinking about the content.

Content area teachers are likely to be concerned about instructional time. How, they wonder, can they add reading to the list of things they are responsible for teaching their students? Content area reading strategies should not be taught separately from content. This is not a matter of *what* is taught, but *how* it is taught. In fact, the use of strategic reading instruction should make your classroom more productive and enjoyable. Reading can be a most efficient way to learn, but even older students need assistance and guidance as they develop effective individual reading and study strategies.

Where Do I Go from Here?

This article has presented only a few examples of the many reading strategies that can be readily adapted to any content area. The references listed provide more examples, but there are other books and articles that can provide easy-to-implement techniques. State universities and colleges of education now offer graduate as well as undergraduate content area reading/language arts course that can be applied to many different degrees and certificates. Likewise, schools and districts can take advantage of the many local as well as national professional development providers who can facilitate training in “reading to learn.”

The best strategies will be those that teachers create themselves as they consider their own reading processes and begin to help their students identify real purposes for reading content-related text. Creative teachers can orchestrate their own daily reading “musical” and enhance their students’ content area learning at the same time. This reading performance will resonate throughout their students’ lives and enhance their academic experiences across the curriculum.

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Madison, WI.

Program 2: Reading in Mathematics

Questions for Discussion and Reflection

- ❖ How does this teacher use students' prior knowledge to teach them new strategies?
- ❖ What is "reading" in math? What does this tell you about reading in your own content area?
- ❖ What strategies does this teacher use to actively involve all students in the lesson?
- ❖ How can you apply these same concept learning strategies in your own content area?

Lesson Plan: Sixth Grade Mathematics Classifying Quadrilaterals

Developed by Paula Cissell, Winburn Middle School,
Lexington, Kentucky

Kentucky Academic Expectations

A.E. 2.9: Students understand space and dimensionality concepts and use them appropriately and accurately.

Core Content for Assessment

“Students will describe properties of, define, give examples of, and/or apply to both real-world and mathematical situations: two-dimensional shapes including circles, regular polygons, quadrilaterals (square, rectangle, rhombus, parallelogram, trapezoid), and triangles (acute, obtuse, right, equilateral, scalene, isosceles).”

Lesson Objective

Students will be able to classify quadrilaterals and diagram the relationship among quadrilaterals (trapezoids, parallelograms, rectangles, rhombuses, squares). (Standard 27)

Context

Geometry is the study of space around us and the objects and shapes in that space. We use geometry daily. When giving directions, playing games, building items, and participating in many other activities, we rely upon geometric concepts such as lines, straight, round, parallel, right angles, etc. Previously in our geometry unit, our class covered the elements of geometric figures (points, planes, rays, lines, line segments, and angles) and introduced polygons. In today’s lesson, we will be classifying quadrilaterals. We will continue the unit by classifying triangles by their sides and angles, figuring the perimeter and area of plane figures, determining similarity and congruence, and studying circles and their characteristics.

Materials

- 2 Freyer Model posters
- 1 semantic feature analysis poster
- 1 piece of chart paper for diagramming the relationship between quadrilaterals.
- At least 3 models of each special quadrilateral
- 1 student response sheet per student
- 1 homework sheet per student
- Dry erase markers

Procedures

1. Activate the students’ prior knowledge by using the Freyer Model to define a polygon. (See attached student response sheet.) As the teacher writes on the board, the students copy the following information onto their student response sheets:
 - Characteristics of a polygon
 - Definition of a polygon
 - Examples of polygons
 - Non-examples of polygons

2. Use the Freyer Model to define quadrilateral. As the teacher writes this on the board, the students copy the following information onto their student response sheets:
 - Characteristics of a quadrilateral
 - Definition of a quadrilateral
 - Examples of quadrilaterals
 - Non-examples of quadrilaterals
3. Divide the class into five groups. Assign a special quadrilateral to each group. Give each group models of their quadrilateral. Have each group find characteristics of their special quadrilateral.
4. Each group reports the characteristics of their special quadrilateral, which will then be recorded on the semantic feature analysis (on the board and on each student's worksheet).
5. Mark the characteristics of each special quadrilateral on the semantic feature analysis (as a class). Students copy these onto their student response sheets.
6. Using the semantic feature analysis as a guide, diagram the relationship among the six quadrilaterals.
7. Teacher will hold up quadrilateral models and students will classify this as a class.
8. Students will receive a homework assignment on classifying quadrilaterals. (Assign students with IEPs shortened assignments per their IEPs.)
9. Pass out standards test.
10. File standards test.

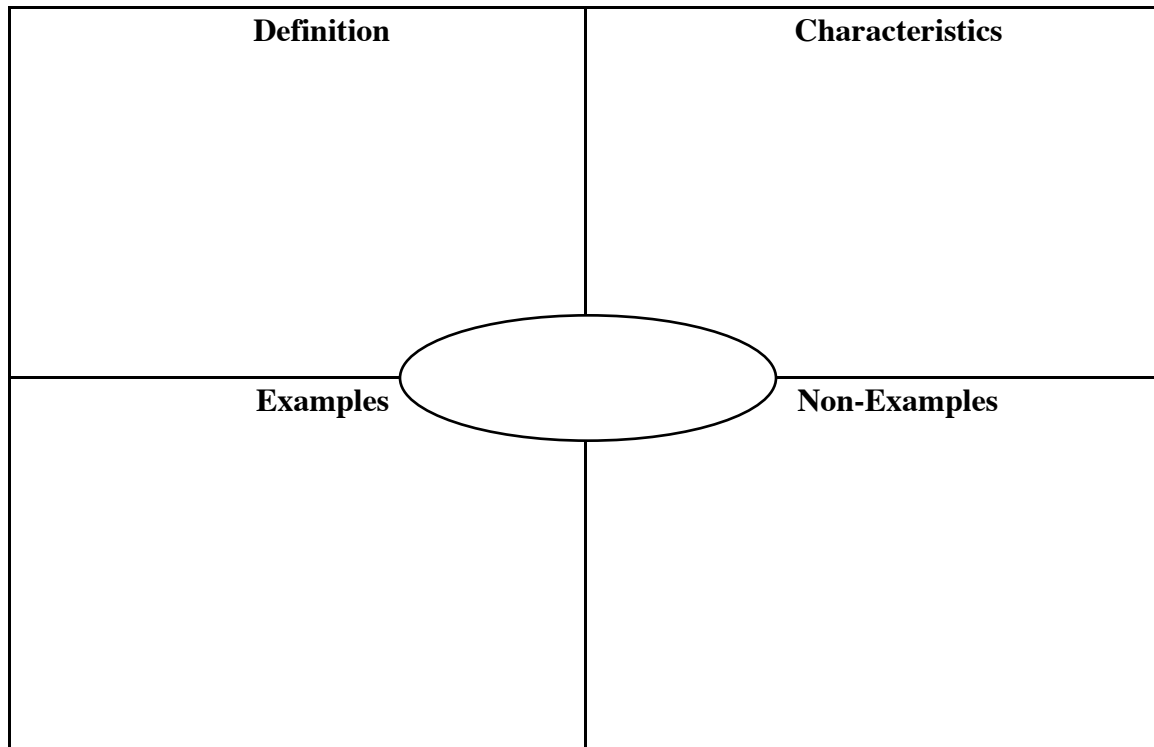
Assessment

- Student response sheet with the definition of polygon and quadrilateral using the Freyer Model.
- Student response sheet with the semantic feature analysis of quadrilaterals.
- Diagram showing the relationship between the special quadrilaterals.
- Verbal responses when classifying quadrilaterals as a class.
- Homework assignment on classifying quadrilaterals.

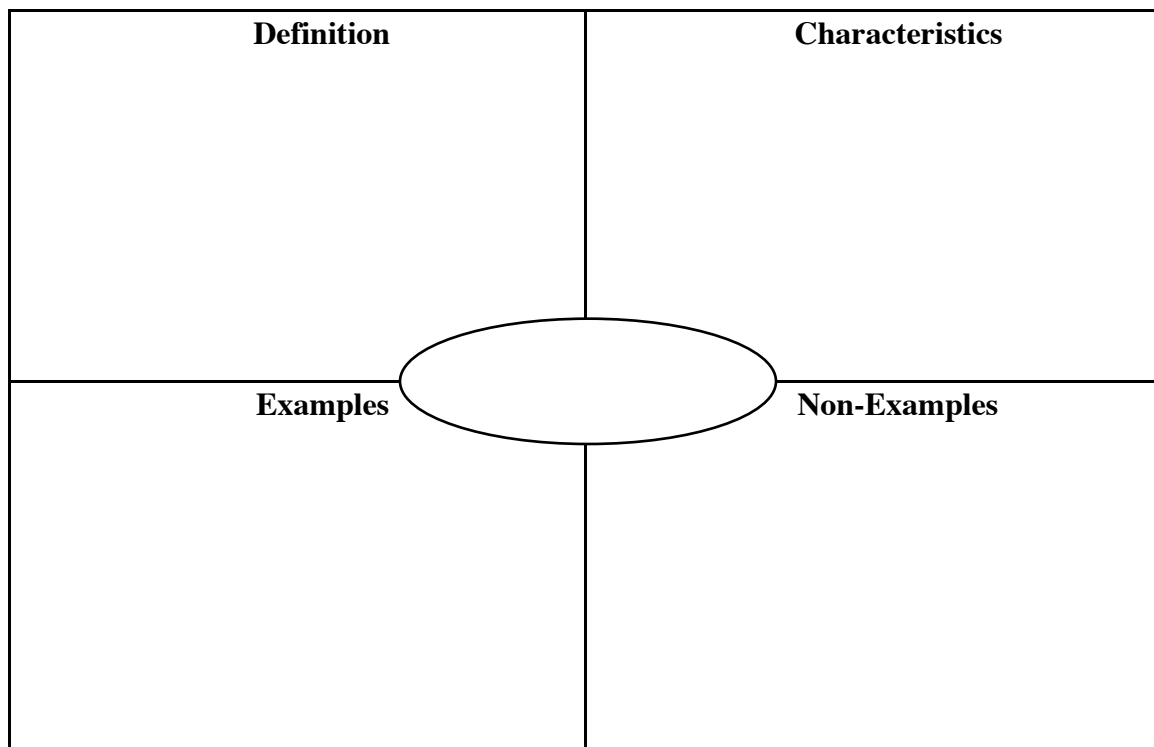
References

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- Math on Call: A Mathematics Handbook.* (1998) Wilmington, MA: Great Source Education Group.

Freyer Model



Freyer Model

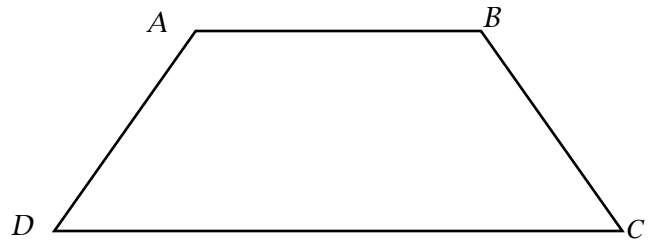


Semantic Feature Analysis

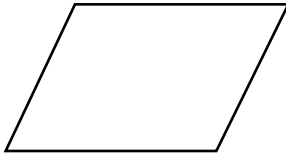
Concept: _____

Identifying Quadrilaterals

A quadrilateral is a 4-sided figure. Some quadrilaterals are given special names. What special name does figure $ABCD$ have?



parallelogram



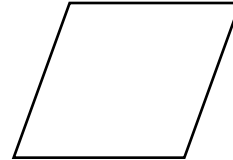
A quadrilateral with opposite sides parallel and equal in length.

rectangle



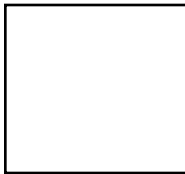
A parallelogram with 4 right angles and opposite sides equal in length.

rhombus



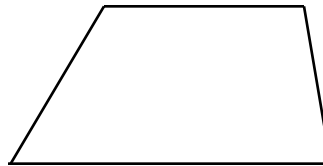
A parallelogram with 4 sides equal in length.

square



A rectangle with 4 sides equal in length.

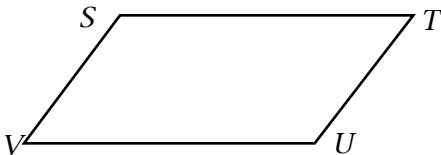
trapezoid



A quadrilateral with exactly one pair of parallel sides.

Getting Started

- Write the kind of quadrilateral. Identify each kind of angle.
- Draw a trapezoid with one right angle. Label the corners $WXYZ$. Write the names of the sides.



S _____ T _____
 U _____ V _____

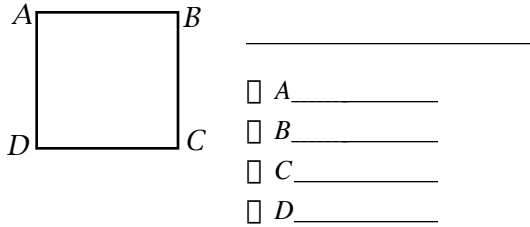
Complete this sentence.

- The only figure that is not a parallelogram on this page is the _____.

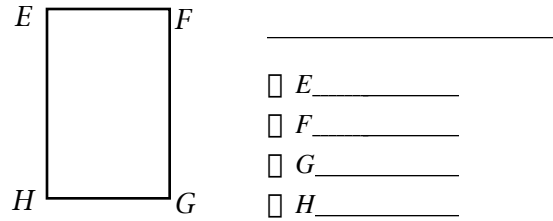
Practice

Write the kind of quadrilateral. Identify each kind of angle.

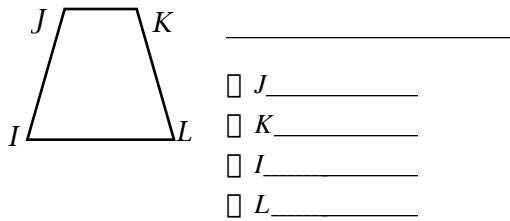
1.



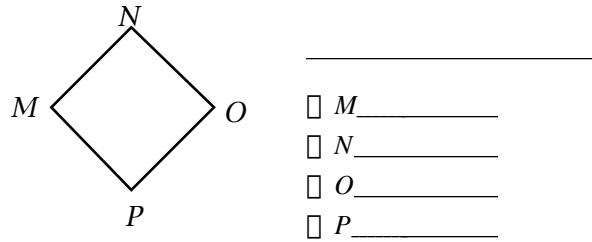
2.



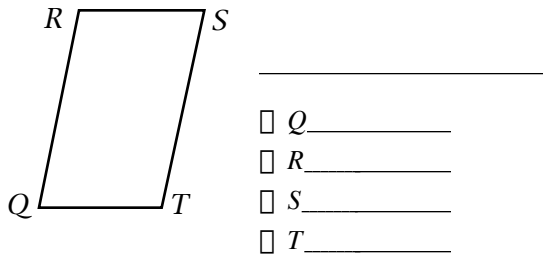
3.



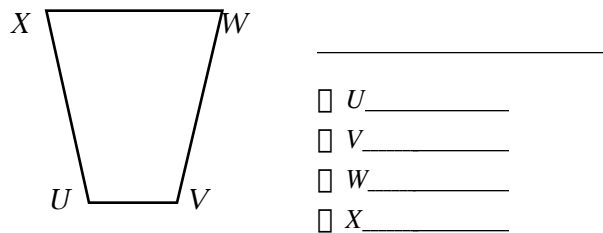
4.



5.



6.

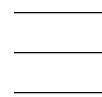


Draw each figure and label the corners. Write the names of the sides.

7. square $ABCD$

8. rhombus $RSTU$

9. parallelogram $WXYZ$



Complete these sentences.

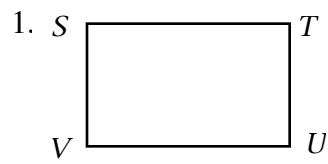
10. A quadrilateral having 2 non-parallel sides is the _____.

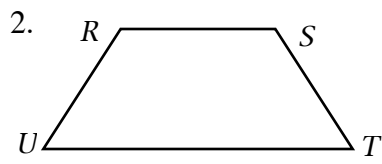
11. Two parallelograms that have 4 sides of equal length are the _____ and the _____.

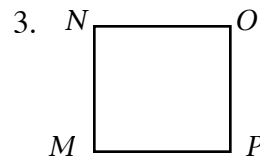
12. Two parallelograms having 4 right angles are the _____ and the _____.

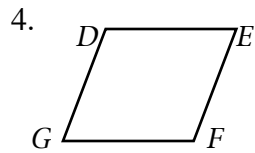
Practice

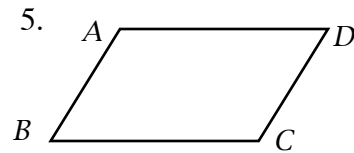
Name each figure. Name any sides that are congruent or parallel.

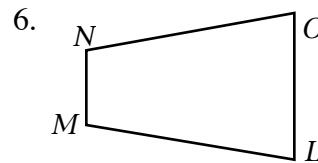


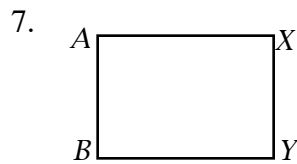


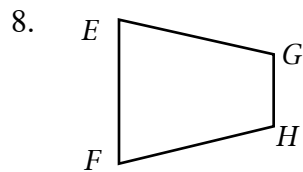


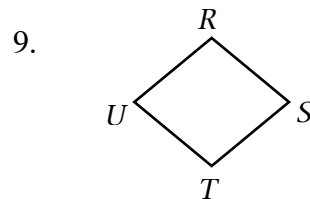








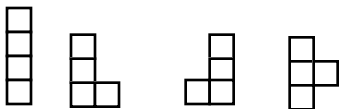




This is a set of four squares.

Four squares can form 12 networks.

Here are 4. Draw 8 more.



Program 3: Reading in Social Studies

Questions for Discussion and Reflection

- ❖ How does this teacher set a purpose and prepare students for reading?
- ❖ What does he do to connect to students?
- ❖ How does this teacher set a purpose and prepare students for reading?
- ❖ What does he do to connect to students' prior knowledge?
- ❖ These students are encouraged to paraphrase what they have read. Why is this an important practice at the middle level?
- ❖ What are students doing while they are reading?
- ❖ How can you apply similar strategies in your own content area?

Program 4: Reading in Science

Questions for Discussion and Reflection

- ❖ Why does this teacher begin the lesson by reading a children's story book?
- ❖ How does this teacher help her students to become more metacognitively aware? (How does she help them think about their own reading processes?)
- ❖ How do students figure out the meanings of new, complex terms?
- ❖ How can you apply similar strategies in your own content area?

Sources for Handouts for Lesson Plan

Handout 1

The first handout Jane Clouse uses in this lesson is “The Sky Is Falling!,” an article found on page 6 of the February 8, 1999 edition of Scholastic’s *Science World*. You can download the text of this article at the following Web address:

http://www.findarticles.com/cf_0/m1590/9_55/55183057/p1/article.jhtml?term=Ionosphere

Handout 2

The second handout for the lesson, “Remember Chicken Little?,” may be found at

<http://members.tripod.com/~Chazecjr/index.html>

Program 5: Reading in Language Arts

Questions for Discussion and Reflection

- ❖ How does this teacher guide the students to make a personal connection to the novel?
- ❖ How does the use of a graphic organizer help students guide their own reading?
- ❖ How do students work together to understand the meanings of vocabulary words?
- ❖ How can you apply these strategies in your own content area?

Language Arts Lesson Plan

Melinda Williams, Meece Middle School

Grade Level: 6th
Length: 80 minutes
Students: 21, 0 IEP's
Focus: Vocabulary, pre-reading, small group work

Objectives

Broad Goal: The students will define new vocabulary through context clues, recognize foreshadowing, predict outcomes, and write journal entries using those techniques to formulate predictions supported by specific clues found in the reading selection.

Specific Objectives: The students will:

- ❖ Identify foreshadowing techniques used by Christopher Paul Curtis.
- ❖ Develop a concept of making predictions based on clues.
- ❖ Identify important details from a story to use in writing journal entries.
- ❖ Define new vocabulary using context clues and prior knowledge.

1.1 Students will identify different types of resources to accomplish a variety of tasks and explore and use resource tools to gather information and ideas.

1.11 Students will write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Context

This lesson is a continuation of reading the book *Bud, Not Buddy* by Christopher Paul Curtis. The class is on Chapter 12. The class is divided into five reading groups consisting of 4-5 students per group. The groups will do pre-reading, guided reading, post-reading, and whole class activities. I will monitor the groups and conduct class status as the groups interact. Each member has a specific job and each person is responsible for his/her written assignments. The small group activities provide students the opportunity for valuable peer-reading discussions as well as the possibility for me to observe greater student participation and interaction than with whole group activities.

The lesson will help students gain a better understanding of the use of foreshadowing in writing, while at the same time improving their use of clues made in reading to support predictions made in writing. This component will provide the needed practice for portfolio writing.

Materials

- ❖ Hand-outs
- ❖ Overhead film
- ❖ Index cards

Procedures

- ❖ I will start the lesson by asking if students have ever anxiously anticipated an event only to be disappointed by its outcome. I will ask for clues to the meaning of “anticipate” if necessary.
- ❖ I will relate this to Bud’s experience and then ask someone to give a brief summary of the first half of Chapter 12.
- ❖ I will read parts of pages 143-44 and then ask how Bud may have felt at that moment.
- ❖ I will explain foreshadowing, finding clues, and making predictions in reading.
- ❖ I will use a graphic organizer on the overhead to model examples from the book.
- ❖ I will pass out copies and ask that each person complete one in his/her group.
- ❖ We will share one per group and then they will be shown a list of the vocabulary words for the chapter and each group will be assigned certain words to define using prior knowledge and context clues. I will pass out index cards for Chapter 12’s word bank.
- ❖ The students will then finish reading the chapter silently.
- ❖ I will ask if their predictions were founded.
- ❖ I will ask them to define the vocabulary words and make a word bank.
- ❖ I will assign a journal entry: Support your prediction of Bud and his “father” using your clues and proof from the story (graphic organizer).

Student Assessment

The assessment of this lesson will be my evaluation of the students’ writing. I will score the pieces using the standard writing rubric.

Program 6: Reading in Science

Questions for Discussion & Reflection

- ❖ How does this teacher guide her students
- ❖ How does this teacher guide her students' comprehension of complex text with a graphic organizer?
- ❖ What does the teacher do to help students make a personal connection to the information?
- ❖ This teacher uses paired reading as opposed to the more traditional round robin reading? Would this strategy work in your own classroom?
- ❖ How can you adapt the 4-R graphic in your own content area?

Resources for Teaching Reading in the Content Areas

Books and Articles

- Alverman, D. (1991) The discussion web: A graphic aid for learning across the curriculum. *The Reading Teacher*, 45, 92-98.
- Farnan, N. (1996) Connecting adolescents and reading: Goals at the middle level. *Journal of Adolescent & Adult Literacy*, 36, 194-198.
- Fielding, L.G. & Pearson, P.D. (1994, February) Reading comprehension: What works. *Educational Leadership*, 62-68.
- Flood, J., Lapp, D. & Wood, K. (1996) *Staff Development Guide for Middle School Teachers*. New York : Macmillan/McGraw-Hill.
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- Hoyt, L. (1992) Many ways of knowing: Using drama, oral interactions, and the visual arts to enhance reading comprehension. *The Reading Teacher*, 45 (8), 580-584.
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- Lapp, D., Flood, J., & Farnan, N. (1996). *Content Area Reading and Learning: Instructional Strategies*. Allyn & Bacon: Needham Heights, MA.
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- Manzo, A. (1969). The ReQuest procedure. *Journal of Reading*, 13, 23-26.
- Manzo, A., Manzo, U., & Estes, T. (2000). *Content Area Literacy: Interactive Teaching for Active Learning*, 3rd Ed. New York: Wiley & Sons.
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- Moore, D., Alverman, D., Hinchman, K. (Eds.) (2000). *Struggling Adolescent Readers: A Collection of Teaching Strategies*. Newark, Delaware: International Reading Association.
- Ogle, D. (1986). K-W-L: A teaching model that develops active reading of expository text. *The Reading Teacher*, 39,563-570.
- Sherman, G. & Ammon, B. (1997, June). Worth a thousand words: Picture books for older readers. *Booklist*.
- Stephens, E. & Brown, J. (2000). *A Handbook of Content Literacy Strategies: 75 Practical Reading and Writing Ideas*. Norwood, Massachusetts: Christopher-Gordon Publishers.

Wisconsin Department of Education. (1989). *Strategic Learning in the Content Areas*. Madison Wisconsin.

Wood, K. & Dickinson, T. (2000). *Promoting Literacy in Grades 4-9*. Boston, MA: Allyn & Bacon.

Zorfass, J. & Copel, H. (1995, September). The I-search: Guiding students toward relevant research. *Educational Leadership*, 48-51.

Web-Based Resources

Reading On-Line

<http://www.readingonline.org>

This is the homepage of Reading On-Line—an electronic journal published by the International Reading Association.

The Middleweb's List of Helpful Links & Resources

<http://www.middleweb.com/CurrStrategies.html>

This site provides a lengthy list of links to all sorts of ideas, strategies, units, and other resources especially for middle level teachers. Elementary and secondary folks may find items of interest as well.

Sites That Sizzle

<http://www.readingonline.org/electronic/mckenna/>

This Reading On-line article shares a list of websites for the reading teacher.

The Webquest Page

<http://webquest.sdsu.edu>

This extensive site provides an explanation of webquests as an instructional tool and a well organized selection of examples from all subject and grade levels.

Inspiration Software Free Trial

<http://www.inspiration.com/betaform.html>

No, this is not a list of anecdotes to get you through stressful times. This is the coolest software I have run across in a long time. You will want to get this 30-day free trial so that you can create your own graphic organizers. Download the entire package. It is easy to use—just point and click. You will have 30 days to get addicted to it. Check out the great templates for most subject areas. Really cool graphics too! Once you have tried it, you will want to purchase it for your school's lab.

A File of Literacy Strategies

<http://www.d46.k12.il.us/curriculum/literacylearningi.htm>

This is an indexed file of reading & study strategies that was put together for a school district in Illinois. It could be very useful in planning lessons.

Acknowledgments

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