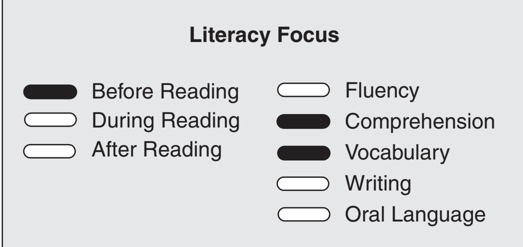


Chapter 1

Adjunct Displays

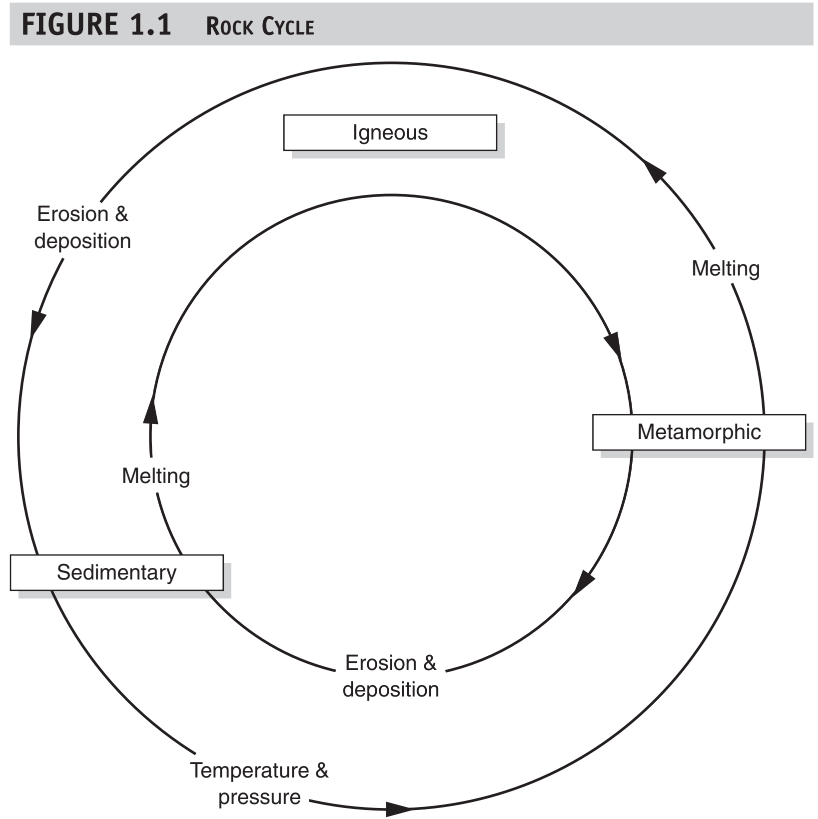
Adjunct displays "appear outside of the text, such as pictures, geographic maps, concept maps, graphs, diagrams, outlines, advance organizers, and so forth" (Robinson, Robinson, & Katayama, 1999, pp. 38–39). There is evidence that these displays of information promote recall of text when used in concert with one another. It is believed that adjunct displays are effective because they provide the learner with two avenues to memory—verbal (the text) and spatial (the placement of information in relation to other facts), and that the spatial and verbal memories work in conjunction with one another (Kulhavy, Lee, & Caterino, 1985). Effective adjunct displays:

Reflect the Structure of the Information. This may seem obtuse, but it's really not. Consider a topic you know a lot about—probably something you teach. Given a few minutes' time, you could sketch a pretty good representation of the information using visual and structural cues for hundreds of words of text. For example, most science teachers would create a visual representation of the rock cycle by using a circle diagram (see Figure 1.1). Let the structure do some of the work for you and make sure the spatial display depicts the relationships among the components (McCrudden, McCormick, & McTigue 2011).

Should Be Blank or Only Partially Completed. Many teachers routinely provide graphic organizers to students, and they are often featured in textbooks as chapter organizers. However, should these be completed, blank, or partially filled in with keywords and phrases? It appears that blank or partially completed graphic organizers promote higher text comprehension compared to those that are completed in advance for students (Katayama & Robinson, 2000). Interestingly, it doesn't seem to matter much whether they're blank or partially completed. The level of recall among participants in this study was similar. This should be comforting news for teachers who feel guilty for giving some students partially completed graphic organizers.

Require Students to Use the Tool to Transform Information. The goal of an adjunct display is not to fill it out; that's a worksheet. This visual tool is an external storage device for information. If they're going to be useful, adjunct displays should be used to transform information into verbal or written form. Discussion, retelling, summaries, essays—these represent ways in which students demonstrate that they have made the information their own. Plan activities that necessitate the use of the adjunct display students worked hard to complete.

FIGURE 1.1 Rock Cycle



Step-by-Step

1. Select an adjunct display that matches the concepts your students will be reading about. Figure 1.2 lists different types, as well as the purposes for each.
2. Decide whether you will use the selected adjunct display as a blank form or partially completed with key words and phrases.
3. Distribute the adjunct display and review it with students. Discuss the main ideas or themes of the topic, and explain your reasoning for selecting the type of organizer. Tell students that the passage they are about to read contains information that is structured in a form similar to the adjunct display. Inexperienced students may assume this means a linear organization, so you may need to model how information is extracted from the text.
4. Inform students of the ultimate purpose of the activity. Whether they are to recall and retell information, write a summary, or give an oral presentation, students will perform better when they know the purpose for collecting the information.
5. As students read and complete the adjunct display, circulate and assist students who are having difficulty. It is useful to complete these as a partner activity in order to create an opportunity for oral language development.
6. After students have completed the adjunct display, review the information and transition students to their next task—transforming the information verbally or in written form.

Application and Examples

Ms. Seymour will be introducing a chapter from the sixth-grade social studies textbook on ancient Egypt. The first section of the chapter deals with the hierarchical structure of Egyptian society. She knows that students need to become familiar with the social classes in order to

FIGURE 1.2 Types of Adjunct Displays

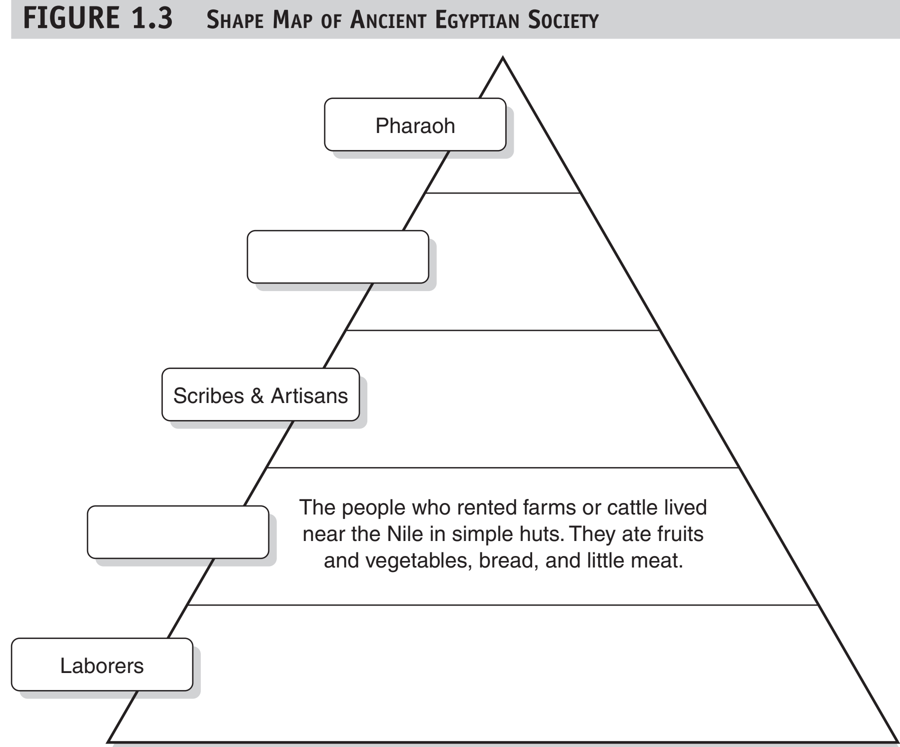
Type	Description	Purpose	Example
Concept	Shape-bound words and phrases with connecting lines	Shows relationships between ideas, especially details	
Cycle	Circular maps that show a continuous cycle through the use of arrows	Displays reiterative processes	
Decision tree	Horizontal or vertical lines that radiate	Used to categorize and classify information from general to specific	
Flow diagram	Shape-bound words and phrases combined with arrows to show a process from beginning to end	Shows processes, event sequences, and timelines	
Matrix	Arrangement of words or phrases in a table format that can be read horizontally and vertically	Compares and contrasts concepts; classifies attributes	
Shape map	The overall shape of the map used to represent the concept	Shows hierarchies, movement, such as food pyramid	

understand the contrast between the elaborate lifestyle of the pharaoh and his family, and that of the largest group, the unskilled laborers.

She has selected a pyramid adjunct display for two reasons. First, it conveys the rigid hierarchy as well as the relative size of each class. Second, the space of a pyramid is closely associated with ancient Egypt, and she hopes to strengthen the relationship between this new information and the schema, or mental organization system, they have already formed about this culture.

"Class, we're going to be studying life in ancient Egypt, and it's important that you know what life was like for people in every social class. Life could be very, very good if you were pharaoh. However, it was much more likely that you would be a poor and unskilled worker," she begins.

FIGURE 1.3 Shape Map of Ancient Egyptian Society



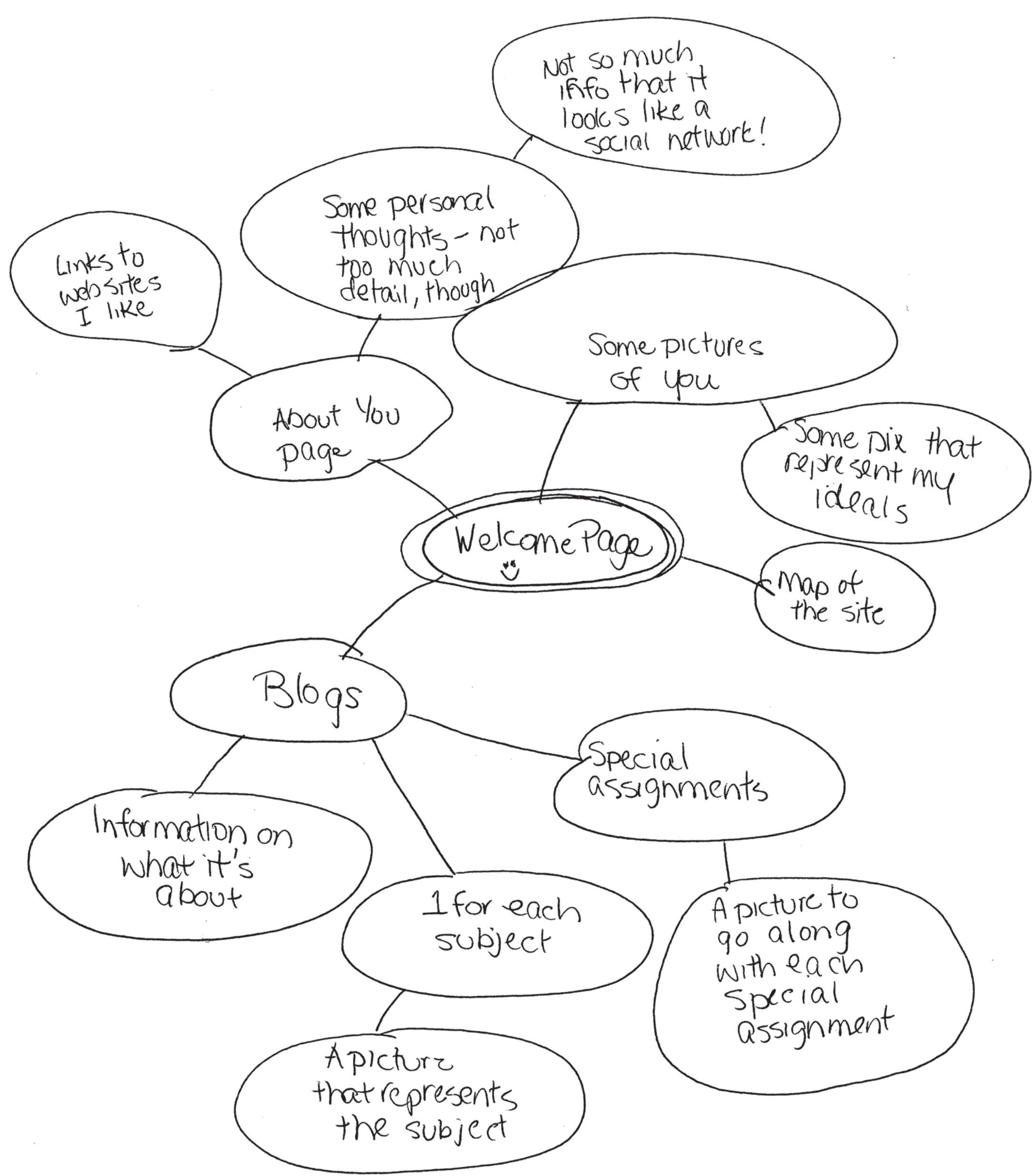
Ms. Seymour distributes the partially completed graphic organizer (see Figure 1.3) and continues. "You'll notice that I have put some of the information in it for you. This is because I want you to have an idea of what other information you should be looking for in the reading."

Ms. Seymour briefly introduces the five social classes and their lifestyles as an advance organizer to the reading. She also tells them that at this time they will be using this information in small groups to create a presentation on a single social class. "You'll want to get lots of good information down on this graphic organizer, because you'll need it to prepare."

She goes on to assign the reading from the textbook and then moves about the classroom to check graphic organizers for accuracy and completeness. As students finish, she has brief conversations with students to check for understanding, and then transitions to a whole-group discussion. For the remainder of the period, Ms. Seymour presents more information about the ancient Egyptian social classes, encouraging students to add details to their graphic organizers. As the bell rings, Ms. Seymour says, "Bring your organizer to class tomorrow—you'll need it for your group presentations!"

In their web design class, students used a concept map to plan their Web presence. As part of the class, students created Web pages as a form of electronic portfolios in which their work from all of their other classes could be stored. This provided teachers, parents, and peers the opportunity to discuss work samples and for students to blog about their school work. Figure 1.4 contains an example of a student's initial plan for her Web page.

FIGURE 1.4 STUDENT WEB PAGE



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Kulhavy, R. W., Lee, B. J., & Caterino, L. C. (1985). Conjoint retention of maps and related discourse. *Contemporary Educational Psychology, 10*, 28–37.

Robinson, D. H., Robinson, S. L., & Katayama, A. D. (1999). When words are represented in memory like pictures: Evidence for spatial encoding of study materials. *Contemporary Educational Psychology, 24*, 38–54.

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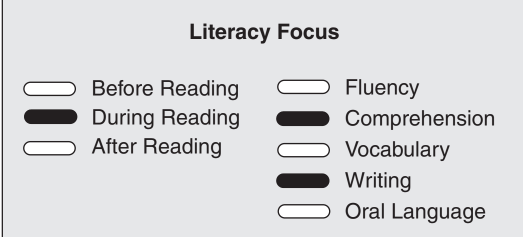


Chapter 2

Annotation

Annotations are notes made while reading. The difference between annotations and other forms of notetaking involve the location of the notes themselves. While annotating, the reader writes directly on the text. In other types of notetaking, the reader might write on a separate page, as in split-page notetaking (see Routine 35), or on sticky notes that are later added to the page. The practice of annotating a text, or "reading with a pencil," is done to deepen the comprehension of a reading. It involves more than simply highlighting or underlining (although those two actions often occur during annotation). In their seminal text, *How to Read a Book* (1940/1972), Adler and Van Doren laid out a case for engaging in repeated readings with accompanying annotation:

> Why is marking a book indispensable to reading it? First, it keeps you awake—not merely conscious, but wide awake. Second, reading, if active, is thinking, and thinking tends to express itself in words, spoken or written. The person who says he knows what he thinks but cannot express it usually does not know what he thinks. Third, writing your reactions down helps you remember the thoughts of the author. (p. 49)

Step-by-Step

Adler and Van Doren (1940/1972) describe the most common annotation marks:

- *Underlining* for major points.
- *Vertical lines in the margin* to denote longer statements that are too long to be underlined.
- *Star, asterisk, or other mark in the margin* to be used sparingly to emphasize the ten or dozen most important statements. You may want to fold a corner of each page where you make such a mark or place a slip of paper between the pages.
- *Numbers in the margin* to indicate a sequence of points made by the author in development of an argument.
- *Numbers of other pages in the margin* to indicate where else in the book the author makes the same points.
- *Circling of key words or phrases* to serve much the same function as underlining.
- *Writing in the margin or at the top or bottom of the page* to record questions (and perhaps answers) that a passage raises in your mind (Adler & Van Doren, 1940/1972, pp. 49–50).

1. Students need time with each of these types of annotations. Our experience suggests that teachers should start with a few of these notes and model their use of them as they read. For example, it may be enough to display a piece of text on the document camera and demonstrate the use of underlining key ideas and writing questions in the margins.
2. Provide students with their own text to annotate. There are a number of places to find texts for which the copyright has expired, such as the Gutenberg Project (**gutenberg.org**) and Google Scholar (**scholar.google.com**).

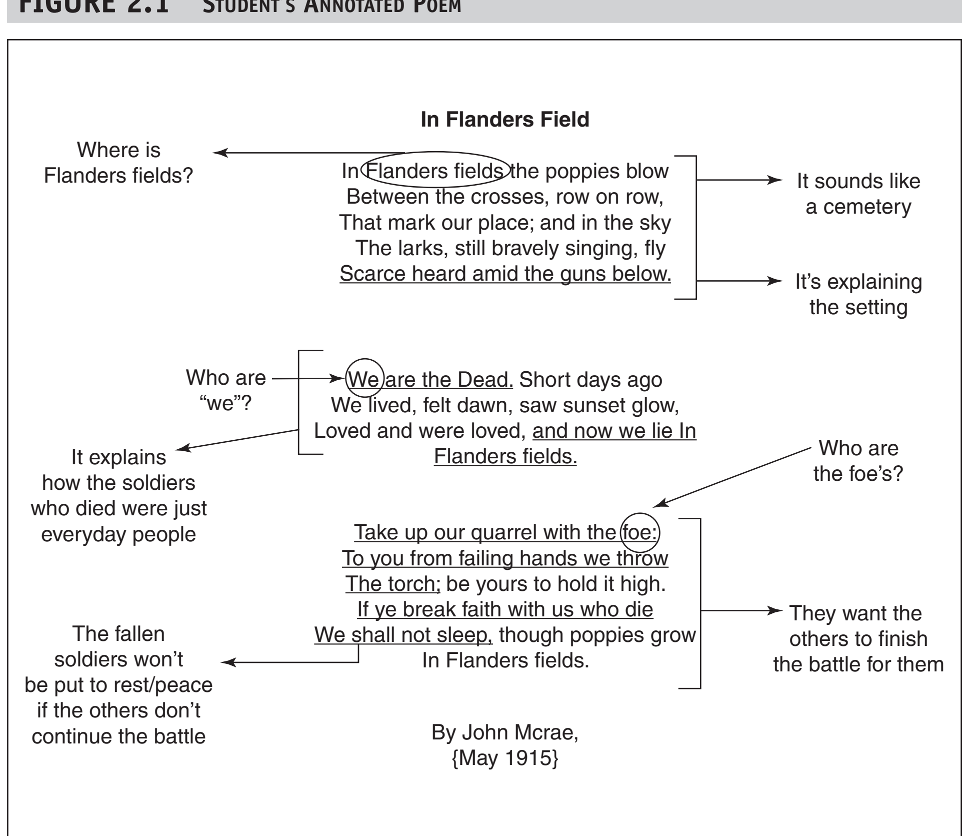
3. Collect student annotations for analysis. Their written notes on the texts they read are a good source of formative assessment that will allow for an analysis of the types of thinking students did to attempt to understand a text. If there are aspects missing, they should be included in future instruction.
4. Ask students to circle words or phrases that are confusing to them as they read. In this way, the teacher can walk around the room and determine where the text became confusing for students and attempt to clear up those confusions.

Application and Examples

Joanna Schaefer's history students were investigating World War I. They read about and discussed many aspects of the war, including the countries involved, the reasons for the conflict, and the outcomes of the war. Based on an exit slip her students had completed (see Routine 9), Ms. Schaefer knew she still needed to address two issues in her students' learning. First, they did not understand why this wasn't called World War I at the time. She read aloud (see Routine 26) a text that discussed the Great War and how this would be the war to end all wars. Over the course of the class period, students came to realize that people at the time did not believe there ever could be another world war, so they never thought to number it "1" at the time.

The other issue Ms. Schaefer wanted to address with her students centered on support and lack of support for the war. One of the pieces of text she asked her students to read and discuss was the

FIGURE 2.1 Student's Annotated Poem



poem "In Flanders Field." She provided each student a copy of the text and invited them to annotate as they read and discussed the poem in their groups. A sample from one of her student's poem can be found in Figure 2.1. The student clearly noticed the year of publication and has a lot of ideas about what the poem means. Combined with the writing students completed following their analysis of the poem, Ms. Schaefer was sure her students understood the various perspectives about the war.

Reference

Adler, M. J., & Van Doren, C. (1940/1972). *How to read a book*. New York: Touchstone.