Teaching Expository Text Structures

A vocabulary activity to improve student awareness of text structure and context

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Many students enter high school unskilled in the art of reading to learn from science textbooks. Even students who can read full-length novels often find science books difficult to read because students have relatively little practice with the various types of expository text structures used by such textbooks (Armbruster 1991).

Expository text structures include generalization, cause and effect, classification, sequence, compare and contrast, and enumeration (Cook and Mayer 1988). An author using the generalization structure, for example, states a generalized main idea statement and then proceeds to defend the argument with facts, reasons, or examples—the so-called supporting details. With the compare and contrast structure, an author relates the similarities and differences between two subjects. In an enumeration paragraph, a simple listing of elements is presented. In this article we present an activity using a modified form of the sentence completion or "fill-in-the-blanks" worksheet that reinforces students' fluency with expository structures.

Importance of text structure knowledge

Research has shown that reading comprehension and the recall of information are dependent on a student's ability to recognize organizational text structures (Cook and Mayer 1988). The recognition of an organizational pattern enables the student to form a mental representation of the information and to see the logical relationships advanced by the author. Good readers use textbook structure to abstract main ideas and to help them remember propositions from their readings. Text structure knowledge may also affect the writing process. Students who are taught to deconstruct text structures in reading passages improve their writing abilities.

Literacy experts have found that a combination of writing and reading instruction is necessary for students to become aware of the informational text structures (Piccolo 1987). Experts suggest that students should first be given instruction on writing expository paragraphs. Students can then use these writing experiences to help them understand the different text structures.

Teaching text structures

Teachers regularly use the sentence completion worksheet to reinforce new vocabulary learning. In its usual form, the worksheet consists of incomplete sentences and a set of vocabulary words. Students are asked to simply complete the sentences with the appropriate vocabulary words. An example of such a worksheet is shown in Figure 1.

José Montelongo introduced a simple modification of the sentence completion activity that potentially increases the qualitative power of the task in 2004. By embedding individual sentences from a cohesive expository paragraph amongst unrelated sentences, teachers can challenge the reading, writing, and classification abilities of students. To illustrate, we have adapted the exercise shown in Figure 1 to one in which several of the sentences form a sequence/order paragraph. The modifications are shown in Figure 2 (p. 30).

The exercises in Figure 2 make use of exactly the same vocabulary words as those used in Figure 1. Again, students first choose the correct vocabulary word to complete each sentence. The second part of the task, however, requires students to cut out the sentences and separate the related sentences from the unrelated ones. In this example, there are five sentences about the water cycle beginning with evaporation and concluding with the return of rain to the sources of water. (The correct answers for this exercise are presented in boldface type.) After students have found the related sentences, students must unscramble and order them in a logical manner.

The inclusion of an embedded paragraph exposes students to the different types of expository structures. While a sequence paragraph was used in our example, all other text structures might be used. With frequent use, students will learn to recognize the various text structures and will use this knowledge to guide their comprehension of the text.

This activity also creates opportunities for science teachers to challenge their students' critical-thinking skills for

FIGURE 1

A prototypical sentence completion task.

assortment	causes	collapsed	cycle
discrete	doused	edible	formed
high	occurs	recess	stages

1. When a lighted match is applied to paper, combustion _____.
2. The students drank water during their morning _____ period.
3. Farmers plant the seeds, ensure their growth, harvest the crops, and prepare the soil for the _____ to begin again.
4. There are four _____ of growth in the development of the butterfly.
5. The fireman _____ the flames with water from the fire hydrant.
6. First, the stove's heat _____ the water in the kettle to warm.
7. A football game consists of four _____ quarters.
8. The banker's fortune evaporated into thin air when the stock market _____.
9. We made snow cones from frozen ice and a(n) _____ of syrups.
10. While in the air, the water vapor gets cold and clouds are _____.

Answers

1. occurs	6. causes
2. recess	7. discrete
3. cycle	8. collapsed
4. stages	9. assortment
5. doused	10. formed

FIGURE 2

A modified sentence completion task with related sentences in boldface.

assortment	causes	collapsed	cycle
discrete	doused	edible	formed
high	occurs	recess	stages

1. **When the water in the clouds gets too heavy for the air to hold, rain occurs.**
2. The students drank water during their morning recess period.
3. **The rainwater returns to the rivers and oceans and the cycle is ready to begin again.**
4. There are four stages of growth in the development of the butterfly.
5. The fireman doused the flames with water from the fire hydrant.
6. **First, the Sun's heat causes water from the rivers and oceans to evaporate into the air.**
7. **The water cycle consists of four discrete stages.**
8. The banker's fortune evaporated into thin air when the stock market collapsed.
9. We made snow cones from frozen ice and an assortment of syrups.
10. **While in the air, the water vapor gets cold and clouds are formed.**

FIGURE 3

Arrangement of the related sentences in a logical order.

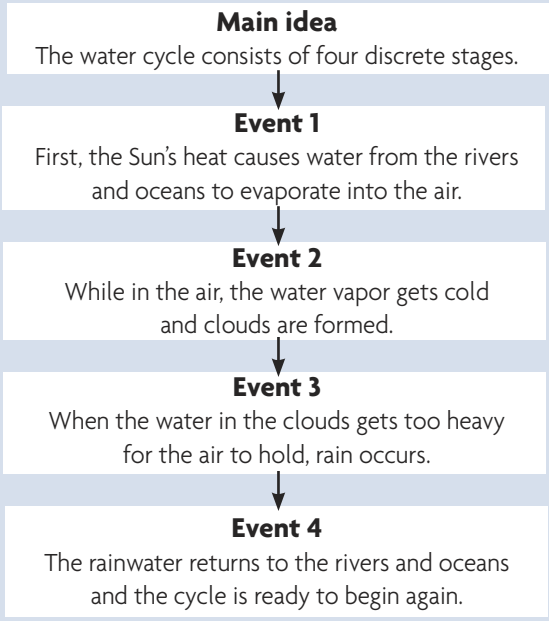
Directions: Arrange the following sentences in a logical order:

1. First, the Sun's heat causes water from the rivers and oceans to evaporate into the air.
2. The rainwater returns to the rivers and oceans and the cycle is ready to begin again.
3. While in the air, the water vapor gets cold and clouds are formed.
4. The water cycle consists of four discrete stages.
5. When the water in the clouds gets too heavy for the air to hold, rain occurs.

Answer: The correct order of the sentences should be: 4, 1, 3, 5, 2.

FIGURE 4

The mapping of related sentences onto a graphic sequence organizer.



differentiating related sentences from unrelated ones. It can be modified in many ways to develop the categorization abilities of students. For instance, teachers can manipulate the degree of difficulty by including unrelated items that are difficult to differentiate from the related items. In our example, there are several extraneous sentences that use the terms "water" and "ice" that may confuse students lacking good classification skills. Another method is to embed more than one paragraph. Because the sentences in each paragraph would by necessity revolve around their own main idea, students must discover the constellations of sentences pertaining to each main idea.

This activity also allows students to practice finding the main ideas. In typical workbook exercises designed to reinforce finding the main idea, students usually adopt the strategy of selecting the first sentence of every paragraph. With this modified form of the sentence completion task, however, students must consider each individual sentence before selecting the main idea.

Finally, this task gives students the opportunity to hone their writing skills as they arrange the scattered related sentences into a logical paragraph. After students have selected the main idea, they must depend on the signal words and the contextual information provided by the sentences. Figure 3 illustrates the arrangement of the related sentences into a cohesive paragraph.

Introducing the activity

We have found that having students work in groups is the most efficient way to introduce the activity. The materials for this introductory activity should be easy enough for students to differentiate the related sentences from the

unrelated ones, and sufficiently unambiguous for students to order the sentences.

As with most fill-in-the-blank activities, the first step requires that the teacher review the vocabulary words with students. After the teacher and students have reviewed the word meanings and students have successfully filled in the blanks, the teacher ensures that their responses are correct. The following contrived dialogue between a teacher and students simulates what we have observed in the classrooms:

- *Teacher:* Did anyone notice something about the sentences?
- *Student:* Some of the sentences are related!
- *Teacher:* Yes! Some of the sentences are related. Now, cut out all of the sentences and group the sentences into two piles. Put all of the related sentences in one pile. Place the unrelated sentences in another pile.

After students have accomplished this, the teacher asks students to find the sentence that contains the main idea. Once students have located the main idea, the teacher directs students to arrange the sentences in a logical order. When students are satisfied with their sequencing of the sentences, the teacher then directs students to paste or tape the sentences onto a piece of paper. After students have finished, the teacher and the class engage in a discussion of the processes.

The authors have observed the potential for many teachable moments arising from the interactions between students and teachers engaged in this activity. Students ask questions about the vocabulary words, the scientific propositions addressed, categorizing the sentences, selecting the main idea, and arranging the sentences in order. Teachers can use these opportunities to teach students strategies that will give them more confidence in their answers.

Graphic organizers

Text structure activities have typically been associated with the use of graphic organizers to help students visualize the structures. The present activity may be adapted to include graphic organizers. Instead of having students paste or tape the sentences onto a regular sheet of paper, teachers may ask them to map the sentences onto a graphic organizer instead. To illustrate, the sequence of events in the water cycle are mapped onto a sequence organizer in Figure 4.

Ensuring awareness of text structure

We have introduced a variation of the sentence completion task that can be used to develop students' reading, writing, and higher-order categorization skills for dealing with the different types of textbook structures. When an embedded paragraph is included in the exercises, students are challenged to infer a topic for these related items, separate the related items from the unrelated ones, and locate the main idea while also choosing the appropriate vocabulary words. Additionally, students must fashion a coherent paragraph from the related sentences.

Students are presented with a steady dose of new vocabulary words to learn throughout the school year in all of their classes. With this more versatile sentence completion task, science teachers can do their part to ensure awareness of text structure and context by using these exercises whenever they introduce a new set of vocabulary words. ■

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On the web

For additional vocabulary activities similar to what is shown in Figures 1–3, visit the online version of this article at *www.nsta.org/highschool#journal*.