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TO TEACH A SOCIAL STUDIES CONCEPT—CHUNK IT!

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"I don't know why they couldn't answer the questions. We covered the subject in our social studies class. Besides, all the answers are in the textbook!"

Has such a thought ever passed through your mind as you looked with dismay at your class' test results? Unfortunately, this kind of reaction is common to the social studies teacher in our nation's classrooms. Difficulties in learning to read in content area subjects tend to baffle the teacher and present obstacles to the learner. All this can be overcome by a strategy which is based on knowledge of how a student learns to read fluently.

One solution to the problem is derived from research findings in the fields of memory processing and reading (Adams, 1967; Smith, 1971, 1975; Wilson, 1966). From memory processing, we will borrow a principle known as *chunking* and adapt it to the aim of reading, that is, to get meaning from written language. First, let us examine the reading problem as it relates to social studies.

Reading in Social Studies

In order to help students in your social studies class, the teacher should be aware of the nature of the reading process and, in particular, the specific problems in reading social studies material.

Reading in social studies requires that the student learn how to read maps, charts, diagrams, and graphs. Many of the vocabulary words reflect high-level abstract concepts—for example, democracy, feudalism and chauvinism. The interpretation of relationships, especially cause-effect, can create difficulty in comprehending the content materials (Dillner & Olson, 1977, p. 129).

Today's students are also required to explore a variety of disciplines, and, to do this successfully, they need to learn specialized vocabularies and abstract concepts which are often set in unfamiliar contexts. One prerequisite is to help the youngster to identify the symbol—or word—through reading. By citing quotations from a social studies textbook, let us examine some types of comprehension problems which can confront the student.

What is usually referred to as the "vocabulary" is really much more than just finding a dictionary definition. The student must be able to draw upon his own ideas of the meanings of words in order to grasp the full intent of a

statement. Consider, for example, the following quotation: "Man was first a savage, then a barbarian, and finally a civilized being" (Roehm, p. 11). Complete understanding of this statement requires conceptualization of the enabling words "first," "then," and "finally" (the import of which may be overlooked), in addition to "savage," "barbarian," and "civilized being." Without this understanding, the student will not appreciate the evolutionary aspect of the statement, nor have complete comprehension of the concept itself.

Another problem which youngsters have in reading most textbooks is the heavy use of unfamiliar concepts. "A people's culture arises and grows from three sources: Inheritance, cultural interchange and invention" (Roehm, p. 6). The student must be able not only to identify and understand the meaning of "inheritance," "cultural interchange," and "invention," but also to form a relationship among these separate concepts so as to form the new category: "a people's culture."

A third difficulty stems from the necessity to manipulate numerous abstract intellectual operations and to use knowledge from other disciplines—both of which are necessary if the student is to derive meaning from a written passage. For example: "If the wood from an ancient cave fire gives off a radioactive count of 108 (measured by a Geiger counter) we know that the tree died 11,500 years ago" (Roehm, p. 11). Here the student must have scientific knowledge about *radioactivity*, a *Geiger counter*, *carbon half-life*, *archeological findings*, *proportional relationships*, and be able to combine these understandings for a *full* relationship of this one short statement to the social studies context. As the network of concepts expands, the series of problems becomes increasingly more complicated, and the student requires directed help from the teacher in order to solve the problems inherent in reading the social studies text.

The problems in concept formation can be resolved through the technique of word clustering. Verbalizing also relies on the capacity to cluster words. Therefore, this strategy of verbal chunking should especially appeal to the teacher of social studies where a main focus of instruction lies in the presentation of complex concepts through language. Let us next investigate how verbal chunking can assist in concept formation.

Chunk It!

Chunking is the process of organizing or clustering information into more compact thought units, such as, phrases or clauses. The original research by George Miller (1956) was done with digits and showed that chunking can be an effective aid in learning, storing and retrieving items in the memory system. For example, suppose you wanted to remember the number 52869021. Instead of trying to remember 5 2 8 6 9 0 2 1, the number might more easily be remembered as 528 690 21. Try it with your credit card account numbers! Subsequent research, seeking to relate Miller's theory to verbal material, found that people who were able to group words could recall them more easily. Since the purpose of study is to be able to recall and apply knowledge at a later date for a specific reason, the

learning, storing and retrieval of new concepts are functions which are of fundamental importance to the teacher.

The primary aim in chunking social studies material should be to simplify the data so that the student can assimilate new and unfamiliar vocabulary and concepts into his memory and thus be able to deal successfully with the text. Students need specific help with this process; they cannot struggle with the new vocabulary, complex syntax and the abstract social studies concepts and conquer all three simultaneously!

Match the Material to the Student

The objective of simplifying the printed material for social studies texts does not conflict with the reading aim of building vocabulary. As the student learns more about a particular concept, new terms are acquired and used, and more complex forms of language can be developed. It is useful to give the student extended practice both in oral discussion and written work. Because a positive relationship exists between the ability to chunk and to read fluently, the practice given in chunking will help the student in both social studies *and* reading.

If you want to reduce the content reading problems as described, the following will be of interest to you: The teacher should (1) assess the degree of abstractness in the text, and (2) relate this to the capacity of the students to handle abstract concepts and complex sentence structures. Let us use the following selection as an example:

A Reindeer Stampede

Suddenly a boy ran into the cave, shouting that a herd of reindeer had been spotted nearby! The men and boys in the cave put aside what they had been working on. They lit torches at the fire and rushed out of the cave.

Some of the men hid behind piles of large stones that had been stacked up along a nearby slope. Others went to the opposite side of the herd and began shouting at the reindeer to get them moving up the slope. Still others lit rows of fires.

As the reindeer came closer and the flames leaped higher, men jumped out from behind the pile of stones. They screamed and waved their burning torches. Hemmed in by the fires and frightened by the screams, the herd thundered up the slope, wildly shaking their antlers from side to side.

At the top of the slope, the reindeer plunged over a cliff. One after another they crashed on the rocks below. Then hunters waiting at the bottom moved in with their spears to finish off the wounded animals (Yohe, 1971, p. 50).

At first glance, this selection may be adjudged by the teacher as simple

until the student's frame of reference is considered. Not too many students have seen cave dwellers or reindeer, and previous subject matter in readings may have emphasized only urban scenes and experiences. Let us compare the two passages which follow in terms of ease in reading, as well as in comprehending the ideas and vocabulary:

Passage #1

Suddenly a boy ran into the cave.
He was shouting,
"I saw some reindeer!"

Passage #2

Suddenly a boy ran into the cave,
shouting that a herd of reindeer
had been spotted nearby!

The first passage is easier to visualize mentally and to comprehend in terms of concepts and vocabulary than the more difficult and structurally complex second passage. In addition to obstacles of syntax, there are often semantic problems for the teacher to evaluate. Can the teacher be sure whether the word "spotted" conveys to the student the way a zoo animal looks, or whether it means something seen?

Based on previous experiences with stories and language, different students (without direction) would respond in varying ways to the language of *any* selection. A common reaction is for the reader to ignore anything that has no meaning for him. As a result, some information is never processed into the student's memory and cannot, therefore, be recalled for later use, such as at test time. If the student does not fully understand the concepts and/or the language, he will, in all likelihood, also reject the data. The teacher's task, then, is to train the learner to expand his present language store to include new concepts and new vocabulary, to expand meanings of more familiar words, and to assimilate new ideas in such a way that they will be understood and retained for future use.

If the "reindeer" selection were rewritten and simplified into chunked style, one possible form would be as follows:

Suddenly a boy ran into the cave.
He was shouting,
"I saw some reindeer!"
Men and boys were in the cave.
They stopped working when the boy ran in.
There was a small campfire in the cave.
The people used this fire for cooking
and for supplying heat.
This time they used the fire to light torches
so they could see when they went outside.
They ran outside the cave with the torches . . .

Simplification of the text, however, would not be required for all

students or for all materials, but should be thought of as an alternative that works for some learners. After presenting a simplified version in class, the teacher can then refer to the textbook as another way of saying the now familiar ideas. Presentation to the class of the textbook material can be made easier by an oral reading first—by the teacher—with gestures and explanations to indicate meanings for difficult and/or possibly unfamiliar concepts, such as, *stacked up*, *slope*, *opposite*, *hemmed in*, *plunged* and *finish off*. The concept of *stampede*, for example, might be related to stampedes in cowboy stories and movies.

As we previously stated, a student will increase his vocabulary as his knowledge of the concept is expanded. For example, by exploring not only the factual use of the word “stampede” in the reading selection, but also other uses of the word, the students can expand their conceptual knowledge of the word. Note the difference in the use of “stampede” in the following two passages:

Passage #1

When the earthquake started, people began to *stampede* through the streets to escape the destruction.

Passage #2

When the voters learned about the scandal, they began a *stampede* to swing support to the other candidate.

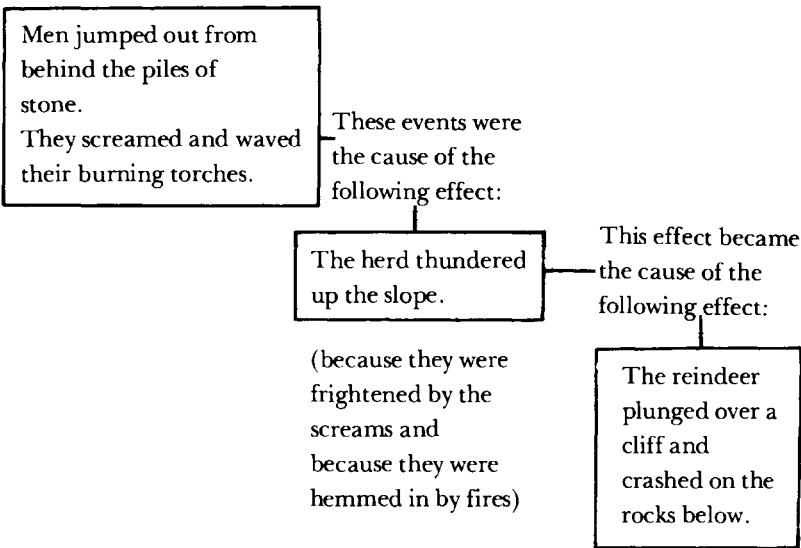
How far, and in what manner, the exploration of other uses of the word “stampede” will take place is dependent upon the level of the students’ thinking; i.e., the use of the term “stampede” in politics could be developed into a research project. This basic principle of vocabulary and concept expansion can be applied to generalizations in any lesson.

Combine Reading and Social Studies Skills

Understanding of social studies concepts requires the student to be able to locate cause/effect relationships. This is an advanced reading and thinking skill. Even if the skill is taught in the reading or language arts class, research studies have shown that skills are not automatically transferred from the reading class to the content area class. The social studies teacher can facilitate this type of learning by showing students a technique which is commonly used by reading teachers: to seek clues to these relationships through understanding of the use of such words as *because*, *so*, *if . . . then*, *therefore*, and *as a result (of)*. In the selection, “A Reindeer Stampede,” the teacher can ask the students to locate the sequence of actions and show how the effect of one became the cause of the next. One method is to chunk the material to establish obvious cause/effect relationships in long selections.

Sequence

Some of the men hid
behind piles of
large stones.
Others went to the
opposite side of the
herd and began
shouting at the
reindeer.
Others lit rows of
fires.



This last effect has produced still another effect: the people had plenty of meat for food and skins for clothing. Teachers must help students to see for themselves how a sequence of events precipitates an action, and how one particular action can lead to further outcomes.

Chunking and Beyond

In the foregoing examples from social studies material, the chunking principle has been used to perform four different functions: (1) to rewrite social studies materials in more simplified, visual fashion; (2) to indicate language and concept factors which may present problems when they are initially presented to the class; (3) to combine social studies and reading skills in ways which will facilitate learning; and (4) to imply why students may reject or “not remember” information which has been presented to them.

There is a need to help the student to relate new information to that which he already knows. The social studies teacher can greatly improve students' abilities to get meaning from the printed page. The teacher should directly instruct the youngster to relate new information to what he already knows. This occurs both by expanding the denotative uses of the words and by connotative applications. For example, to expand the meaning of "stampede," the teacher might remind students of the film, "Living Free," in which the playful lion cub caused a herd of elephants to stampede through a village, destroying huts and scattering livestock. In this way the word "stampede" would have been applied not only to the reindeer of the caveman era, but also to elephants in an African village in the twentieth century and connected to the student's visual experience of the movie incident. As the chunks of information grow larger, they contain more information and ideas which the student can now store in his memory for future use. Thus the social studies teacher, by using certain techniques of the reading specialist, can help the student lay the experiential foundations necessary for higher level creative thinking abilities.

Concept development can be thought of as steps taken by the learner toward understanding. To be a witness when the mind "sees the light" of a new idea is as fascinating and satisfying to the teacher as it is to the student who experiences the learning. You can help each student by presenting the material in increasingly expanded bits of information which lead to the generalization to be grasped. Give your students many opportunities to start small and gradually to increase their capacity to think, rather than memorize. The building blocks of concept formation are these chunks of information which the lesson delivers and the student acquires. Therefore, to teach a concept, analyze its component parts and re-form the data into increasingly larger bits of print which contain more and more information. We can say this in a different way: To teach a social studies concept, chunk it!

REFERENCES

- Adams, Jack A. *Human memory*. New York: McGraw Hill, 1967.
- Allen, Robert L. Better reading through the recognition of grammatical relations. *The Reading Teacher*, Dec. 1964, 18, 194-198.
- Brown, Robert & Bellugi, Ursula. Three processes in the child's acquisition of syntax. *Harvard Educational Review*. Reprint series No. 7, 1972.
- Carroll, John B. Words, meaning and concepts. *Harvard Educational Review*. Reprint series No. 7, 1972.
- Chapin, June R. & Gross, Richard. *Teaching social studies skills*. Boston: Little, Brown, 1973.
- Dillner, Martha H. & Olson, Joanne P. *Personalizing reading instruction in middle, junior and senior high schools*. New York: Macmillan, 1977.
- Harker, W. John. Selecting instructional materials for content area reading. *Journal of Reading*, Nov. 1977, 21, 126-130.
- Miller, George. The magical number seven plus or minus two: some limits of our capacity for processing information. *Psychological Review*, 1956, 63, 81-97.

- Palmer, William S. Teaching reading in content areas. *Journal of Reading*, 1975, 19, 43-51.
- Roehm, A. Wesley and others. *The Record of Mankind*. Lexington, Mass.: D. C. Heath, 1970.
- Shafer, Robert E. Will psycholinguistics change reading in secondary schools? *Journal of Reading*, 1978, 21, 305-316.
- Smith, Frank. *Understanding reading*. New York: Holt, Rinehart & Winston, 1971.
- _____. *Comprehension and learning*. New York: Holt, & Winston, 1975.
- Wilson, Harlalee Allen. *An investigation of linguistic unit size in memory processes*. Unpublished doctoral dissertation, Stanford University, California, 1966.