1-1-1987

Comprehension: Process or Product?

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Recommended Citation
In terms of the measurement of comprehension in school, in most instances we look at the product when we question students and hear their answers. More concern should be directed to the process, however, as we can make changes in the process through instructional techniques.

In viewing comprehension as a product, we cannot be sure of whether a reader did not understand because of lack of prior knowledge, not making use of prior knowledge possessed, or using inadequate strategies. This can only be determined by obtaining a view of the process (i.e., how the reader arrived at her/his responses). This can be accomplished by measurement of a reader's comprehension monitoring strategies. If readers have no background for reading or if they do not relate what they know about a topic to what is new, there will be no comprehension. Children must know that the purpose of reading is to gain understanding of the text, and that it is necessary to use what they already know to do this. In some cases readers may be simply adding new information obtained from reading to that which they already know. In other instances, what is read may lead to an adjustment in schemata held. In this latter instance the reader moves into critical analysis.

As we assess children's understanding, we must also be aware that there is not necessarily one correct answer to a question. Teachers must recognize that children will not all arrive at the same meaning for a text, but rather that their meaning will be founded on the basic structure formed by their schemata.

Responsibility for assisting readers to make use of prior information rest mainly with three individuals. First of all, the author of the text, the reader her or himself, and the teacher. Next we will take a look at how each of these individuals can make a contribution to comprehension.
Task of the Author

The first person contributing to this process is the author as s/he is responsible for making sure the text is understandable to the reader. After making a decision as to what it is s/he wishes to communicate, s/he must then decide how to communicate it. In order to do this effectively, s/he must be able to anticipate what sorts of background her/his intended readers have and write so that they will be encouraged to draw on this background knowledge, thus helping to ensure comprehension.

Inclusion of an introductory paragraph to summarize what the chapter will be about, provision of pre-reading questions, and/or instructional objectives can be beneficial in helping the author achieve this objective.

Task of the Reader

Readers must relate what they anticipate the passage will be about to what they already know. While mature readers are aware that reading is in a sense an interactive communication process between author and reader, and that what one knows about a topic prior to reading can assist in the interpretation of the author's work; poor readers are not able to recognize this. Thus, they have difficulty in viewing the broad picture which the author represents in his work.

Mature readers are able to conduct an active dialogue with the author through the establishment of purpose for reading, their background as framework, and their ability to relate that background to the author's message. This interaction leads to comprehension.

Task of the Teacher

One of the very easy procedures that teachers may and do follow beginning at the earliest levels is that of reading to children. This helps move the listeners from the spoken language to printed language and assists them in gaining broader knowledge of the world and in developing appropriate schemata.

One of the difficulties most children face in school is that of learning to read content materials effectively. If we look at history as one example, students cannot possibly have first hand experience with everything they are asked
to read about. If they are asked to read about the War Between the States, a mature reader with an interest in history will undoubtedly have much prior knowledge concerning the initiating event, where the war was fought, the parties in the war, the important battles, important leaders, and victor. S/he will likely possess a general schema for war so that the above particulars can be filled in for the designated war. Poor readers, on the other hand, may have few or no schemata for war and few specific schemata to plug in for the War Between the States.

For teachers who teach reading in any of the content areas, it is necessary to determine whether students have the general background or experience to understand what they are reading, as well as how to use it. Beyond that it is necessary to draw as many parallels as possible to real life situations so that students can become more readily involved. Students also need to learn that some of their previously held attitudes or beliefs about the subject can influence their interpretation of what is read. Their interpretation may or may not be that which the author had in mind when s/he wrote it.

It is crucial that teachers recognize that there is a gap between the knowledge of the student and the author of the text, as well as a gap between the knowledge of the student and that of the teacher. Most teachers are teaching a particular subject because they have a great interest in it and also know a great deal about it. Thus, it behooves them to recognize that their students not only will not have as much knowledge about the subject, but additionally some of those students may have no interest in it whatsoever. One of the requirements then is to relate the material as much as possible to the students' lives so that they may want to learn more and develop an interest in doing so. There is probably an even greater gap between the knowledge and interest of an author of a text and that of the students. Thus, another of the teacher's tasks is to help bridge the gap between the text and the students. The teacher serves as a bridge joining author and student. Whether the student sinks or swims is heavily dependent upon what the teacher does in the classroom.

Many presently implemented practices are designed to help children develop relevant schemata even though teachers may not have viewed them this way in the past. The first
of these is something which is done in all basal reading lessons—preparation for reading. It is even more important for this to be done in content areas where students have less background than for reading narrative material.

A second area is that of assisting in word recognition and vocabulary development. In both instances new words should be presented in meaningful context, and students should draw on their personal experiences (existing schemata) to arrive at meanings of new words.

In measuring comprehension, it is essential for teachers to go beyond the literal level in questioning. Students must be able to make inferences and should be encouraged to do so.

At the literal level students are asked to either recognize or recall. Making inferences requires that the students make some hypotheses about meaning based on what is actually stated in the text. More is required of the reader at this level. If we move to a next level, the reader is now asked to critically analyze both facts and inferences. In so doing the reader's background enters in, as s/he is now looking at the views presented by the writer and comparing them with her/his own. At the highest level we have creative reading in which the readers now make use of what has been learned as it applies in their own lives.

Langer's PREP (Pre Reading Plan, 1981) can be of benefit in assisting the teacher to determine what the student knows about a given topic. This three step procedure is as follows:

Phase I--In this phase the teacher asks the student to tell anything that comes to mind when a particular term is mentioned. This helps to review what, if anything, a student knows from prior experience. If the student has much prior knowledge, her/his response will be a definition, synonym, or analogy. If the student has some prior knowledge, the response will be an example or characteristic. If the student has little prior knowledge, the response will be very sketchy, giving no picture of what the term means.

Phase II--Now the teacher asks such questions as "What made you think of your response?"
World War I 1914-1918

Initiating Event

Participants

Allied Powers Leaders

Britain

France

Russia until Nov. 1917

U. S. after April 1917

Central Powers Leaders

Germany

Austria-Hungary

Emperor Franz Joseph

Kaiser Wilhelm II

Woodrow Wilson

Nicholas II

Georges Clemenceau

Lloyd George

Battles

Somme

Argonne

Marne

Verdun

Ypres

Tanneburg

Jutland

Gallipoli

Culmination

November 11, 1918

Victor

Allied Powers
Phase III--Students are finally encouraged to contribute any information or ideas gained through the class discussion. This gives the teacher an opportunity to note how students acquire and organize information prior to reading.

The structured overview (Earle 1969) is another technique which can be employed by teachers in assisting their students to understand content material. Let us take the example of the First World War and see how a structured overview could assist in developing understanding. To do this key vocabulary and important terms must be listed first. The overview is constructed by the students through a process of trial and error until a satisfactory arrangement is reached.

**Key Vocabulary**

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<th>Allied Powers</th>
<th>Central Powers</th>
<th>Battles</th>
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<tbody>
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<td>Participants</td>
<td>Leaders</td>
<td>Sarajevo</td>
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<td>Britain</td>
<td>Germany</td>
</tr>
<tr>
<td>United States</td>
<td>Austria-Hungary</td>
<td>Russia</td>
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<tr>
<td>France</td>
<td>Culmination</td>
<td>Victor</td>
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<td>World War I 1914-18</td>
<td>Lloyd George</td>
<td>Woodrow Wilson</td>
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<tr>
<td>Georges Clemenceau</td>
<td>Kaiser Wilhelm II</td>
<td>Nicholas II</td>
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<tr>
<td>Emperor Franz-Joseph</td>
<td>Somme</td>
<td>Ypres</td>
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<tr>
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<td>November 11, 1918</td>
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An illustration of a structured overview is to be found on the facing page.

As should be evident at this point, readers make use of schemata prior to, during, and after reading. The pre-reading procedures in which we ask students to contribute what they know about a topic and in which we introduce a new set of vocabulary words and concepts are examples of use prior to reading. The structured overview and questioning at various successive levels require students to remember what has been read, to organize, and to sift out the irrelevant, leaving the meaningful core.
REFERENCES
