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CURRENT READING RESEARCH: WHAT DOES IT TELL THE CLASSROOM TEACHER?

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Introduction

Teachers often consider research as an entity separate from classroom practices. However, if one looks carefully at research results, implications that have a direct bearing on classroom practices can be found.

In the field of reading, there is a growing abundance of research results which can affect what is done in the classroom. It is the purpose of this article to present an brief overview of current research done in reading and point out some implications for classroom reading teachers. Standal (1978) descriptive model of reading is used as a framework in which to present the research. Standal's components of reading include physiology, phonology, understanding and learning.

Physiology

Standal's physiology component refers to the actual physical processes that occur in the eye and brain during reading; it is difficult to describe this component in any detail since the internal eye/brain interaction is not fully understood. This component of reading is recognized as a first stage in the reading process; yet physiology is a vastly underexplored territory. McConkie and Raynor (1976) explored this area by examining the eye's limit and span in reading.

They found that the eye can fixate on 4-6 letters on either side of the fixation point and up to 2-3 letters vertically. They offer three possible elements that may guide the reader; (1) a constant pattern explanation—a rhythmic eye movement pattern; (2) stimulus control—feature of the text, and (3) internal control—sources within the mind. Even though McConkie and Raynor do not venture a guess as to what the internal control sources are, they do recognize the presence of some unobservable process which occurs within the brain during the initial reading phase. Furthermore, they suggest the peripheral vision may be the element that provides for guessing and predicting words in the reading act.

In sum, the physiological aspect of the reading process remain ambiguous. However, the hypotheses suggested by McConkie and Raynor provide some input to this initial stage of reading.

Phonology

The phonological component of Standal's model of reading contains the grapheme-phoneme relationship; this component refers mainly to the sounds of our language which the reader may recode into graphemes.

Before a reader can engage in phonological processes and the subsequent components of reading s/he must attend to the task of reading. LaBerge and Samuels (1974) suggest that readers can attend to only one task at a time but that readers can alternate attention between two or more tasks and attend to a second task if the first one has been learned to automaticity. Thus, they propose an "automaticity" model in which the reader begins the reading process by first attending to the physical attributes of graphemes. The reader must then make an association between the graphemes and phonemes. Once this process, the grapheme-phoneme association, becomes automatic the reader can be free to attend to other tasks.

Venesky's (1976) research also pertains to the phonological component of reading. Simply put, Venesky defines reading as the translation process from spelling to sound. He advocates that our orthographic system is not as unusual or full of exceptions as one might think. Spelling rules, according to Venesky, should be based on functional spelling units and phonological units. The task of the reader is simply to relate orthographic patterns to existing phonological habits. His model is somewhat developmental in nature and describes a relationship between spelling units and sounds.

Another researcher whose work is applicable to the phonological component of reading is Gillooly (1973). He studied the effects of TWS (transitional writing systems; i.e., one grapheme to one phoneme) versus T.O. (traditional orthography) on the reading abilities of initial and intermediate-aged readers. The results of Gillooly's study indicate that although TWS seems beneficial to initial readers in word recognition, T.O. seems to be optimal for learning to read. In short, altering our writing system does not appear to be beneficial or desirable.

In summary, the grapheme-phoneme correspondence appears to hold a place in the reading process. Gillooly's research states that a perfect 1 : 1 grapheme-phoneme correspondence is not a viable way of improving reading proficiency in either rate or comprehension. Venesky poses possible steps which a reader passes through when attempting to associate a phoneme to a grapheme using orthographic rules. It is not clear how phonology contributes to the comprehension aspect of reading but it does appear to be a prerequisite to decoding and, thus, to understanding.

Understanding

The understanding component refers to the language of the reader. If the reader understands the language of reading s/he has then passed through this stage. According to Standal, the act of understanding language in reading can be analyzed in terms

of three subcomponents; semantics—the meaning which the words make reference to, syntax—the particular physical structure and order of a language, and experience—the prior knowledge that a reader possesses which serves as a reservoir or bank to draw upon when reading.

Semantics

There are several interesting models of reading which describe the way in which meaning is derived from the graphic representation of a word. According to LaBerge and Samuels' (1974) theoretical model, the semantic meaning of a word can be obtained directly from phonological word processing. In fact, according to LaBerge and Samuels, once a word is recoded phonologically, a child makes a connection to his/her oral language, thereby determining the semantic component of a given word. Likewise, Frank Smith (1971) in his "immediate word recognition" model suggests that the word meaning can be directly obtained from the distinctive features of a word.

In a model proposed by Gough (1972), it is a hypothetical character named "Merlin" who is responsible for the syntactic and the semantic rules of our language. Gough bases his model on the assumption that letter-by-letter processing occurs in the primary memory and that the reader must process the information very quickly in order to progress from serial processing to parallel processing. According to Gough, if it takes too long to read a given word the content (semantics) of the preceding words will be lost from the primary memory; thus, comprehension will not occur. For this reason, then, Gough suggests that beginning readers learn to read faster.

Others (Frank Smith, 1971; Kenneth Goodman, 1967) advocate a prediction and hypothesis-formation strategy of reading. They perceive reading as an act in which the reader is constantly formulating hypotheses, then through the rejection or confirmation of these hypotheses, the reader obtains meaning. Gough, however, states that readers should not engage in guessing, "The good readers need not guess; the bad should not." (page 532)

McConkie and Raynor, Gough, and LaBerge and Samuels perceive reading as a word-by-word, letter-by-letter, and text-driven process; the reader is a plodder who guesses only because he/she did not decode the word rapidly enough to get the correct word. Contrarily, Smith and Goodman view reading as a holistic, concept-driven process.

Still others (Pearson and Studdt, 1975) note the importance of context and word frequency in the semantic component of reading. Chomsky (1972) suggests that there may be a developmental sequence in the acquisition of certain syntactical structures; furthermore, the particular way a child interprets any given syntactic structure will indeed affect his/her semantic understanding of the syntactic structure. Even though the various semantic models of reading differ from one another, one factor is consistent; semantics is a major contributor to the understanding aspect of the reading process. Where semantics end and syntax begins is difficult to

say since the two are so tightly bound.

Syntax

The syntactical structures of sentences were examined by Pearson (1974-75). He found that students prefer longer, more complex sentences and cue-present sentences to shorter ones with no cue. When asked to answer a question, students nearly always answered with a cue present. As for recall, Pearson states, "In order to store a causal relation the subject virtually cannot help but to store it in a unified subordinated chunk." (p. 187) Pearson's results provide evidence for the "chunk" model in reading, in which primacy is given to semantic chunks rather than syntactic chunks. In other words, reduction of the number of subordinating constructs and/or the length of a sentence will not necessarily result in better understanding because complex sentences may carry more semantic information.

Guthrie and Tyler (1976) also examined effects of semantic and syntactic structures on the ability of good and poor readers to recall sentences. Their results indicate that meaningful sentences are easier to recall than are anomalous one, which are easier to recall than random strings of words. Guthrie and Tyler conclude that low comprehension is due to incomplete decoding during silent reading.

Another study which examined the effects of syntax on reading was conducted by Isakson and Miller (1976). They conclude that high-comprehenders are more sensitive to syntactic and semantic constraints than are low-comprehenders. Furthermore, once words are recognized, the use of language structure may determine comprehension.

In conclusion, each of the aforementioned studies indicate that both syntax and semantics contribute to the understanding of reading and that both are probably closely related to one another if not in fact intertwined. Whether it be labeled "Merlin" or "automaticity" some function in our brain utilizes syntax and semantics as a cue to learning during the reading process.

Experience

Another component in the understanding of reading is the experience component. According to Standal, this component is made up of prior knowledge, attitudes, and feelings.

Matthewson (1976) proposes an affective model for reading which incorporates interest, attitude, attention, comprehension, and motivation. As it relates to reading, Matthewson's model suggests that attitude can affect comprehension, attention, and the acceptance/rejection process. Matthewson presents four possible ways to change attitudes: (1) praise, (2) individualization, (3) achievement motivation, and (4) anxiety.

McDermott (1977) further emphasizes the importance of attitudes and experience on school learning. Rather than attempting to describe a model of attitudes as does Matthewson, McDermott attempted to find out why pariahs have the attitudes they do. His basic conclusion is that status is learned, and that a pariah

child achieves his/her status by school failure. In other words, a pariah child may learn how not to read, thereby using reading failure as a means of social achievement in his/her peer group.

One final element within the experience framework of the understanding component is individual differences. Each of us has different experiences in our background and these individual differences give each one of us a unique reservoir from which to draw meanings and associations. As noted by Wanat (1977), individual differences are probably important factors when considering comprehension.

In sum, the experience sub-component of understanding in reading includes several factors which can affect what each reader brings to the reading act. These encompass such diverse experiences as attitudes, feelings, prior knowledge, and individual preferences. Exactly how important these aspects are to the reading process is unknown, but they surely affect comprehension and interact in may indefinable ways.

Learning

The final phase in Standal's descriptive reading process is the learning phase. Researchers appear to have studied the learning of reading in three ways; one is to observe the proficient reader, another is to observe the deficient reader, and the third is to compare the results of proficient readers to those of deficient readers.

Several researchers have made comparisons between the performance of good and poor readers (Pearson and Studd, 1975; Guthrie and Tyler, 1976; Isakson and Miller, 1976; and Olshavsky, 1976). A myriad of conclusions have resulted from this research. Pearson and Studd found that the use of context increases with age and that the use of context probably helps rather than hinders beginning readers. Guthrie and Tyler's results indicate that poor readers are incomplete decoders and thus their comprehension is low. Isakson and Miller's results say that high comprehenders are more sensitive to semantic and syntactic cues than are low comprehenders and that the use of "language structure" by the reader may determine comprehension. Olshavsky found that good and poor readers use similar strategies but that good readers use the strategies more often.

In some cases the learning or comprehension in reading may be purely developmental (Chomsky, Pearson), in other cases changes in the text may help comprehension (Pearson), and in yet other cases overlearning and automaticity may be needed (LaBerge and Samuels, Gough).

Whether meaning is obtained from the text or brought to the text by the reader is another factor relevant to the learning aspect of reading. Rystrom (1977) lucidly describes each position. One contingent believes that the text dictates the meaning to the readers; contrarily, the other contingent believes that the text means what the reader thinks it means and that it is the reader who more or less dictates his/her own meaning. In Rystrom's

"matrix" model, the reader combines information in the text with that of his/her own experiences and other stored information. If there is a match, he/she adds new information to his/her "grid" and continues to revamp the matrix.

Whether meaning is obtained primarily from the text or from the reader, it is obvious that both are absolute necessities and play a significant part in the reading process. Through competence in the understanding of reading, learning in reading can occur and the reader can actively build his/her reservoir of knowledge.

Implications

The following implications are based on the aforementioned research.

1. Some readers (especially those with limited eye span) may benefit from exercises to increase eye span. These exercises may encourage phrase reading and chunking.
2. Certain grapheme-phoneme relationships and sight words learned to automaticity may free the reader to go on to encoding.
3. Students may learn to spell and read better if functional spelling units and phonological units are recognized.
4. At early stages in reading, students need to have examples and models depicting how reading works; i.e., how letters form words which are symbols for ideas and objects.
5. A 1 : 1 phoneme-grapheme writing system does not appear to facilitate the reading comprehension process.
6. Slow plodding may hamper a reader's comprehension. An over-dependence on absolute correct decoding may thus hinder the comprehension process.
7. Readers are aided by context clues and repetitions of words or concepts.
8. Reducing the number of words and subordinating constructs do not necessarily make sentences easier to understand.
9. Exercises designed to develop the relationship between semantics and syntax may benefit readers by helping them develop a keen awareness of language and its components.
10. Students need to be stimulated and highly motivated to read; therefore, a diversity of materials should be available in the classroom.
11. Parents and teachers need to promote a positive attitude toward reading by serving as role models.
12. Since students are unique in background and interests, materials must be available that students can relate to.
13. Context clues can help beginning readers as well as sophisticated readers.
14. Individualization may be necessary in some instances since some students may take longer than others to reach a certain stage in reading.

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