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USING A THEMATIC PRE-ORGANIZER AND GUIDED INSTRUCTION AS AIDS TO CONCEPT LEARNING

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Researchers have investigated various instructional methods which are developed to foster reading comprehension and provide transfer of content learning. Two strategies designed to improve reading comprehension are pre-organizers and guided instruction. Prereading techniques develop concepts of the passage prior to reading and set a purpose for reading. Guided study activities elicit students' responses to a series of statements or questions which are presented prior to, during, and/or after reading. These strategies rely upon the learner's existing knowledge and readiness to cope with the conceptual level of the textual reading passage. This study investigated whether the use of a thematic pre-organizer with statements related to an implied thematic concept and guided instruction exercise on the same concept would lead to increased reading comprehension.

Background

Instructional strategies which relate the learner's existing knowledge to new information by establishing a cognitive mind set prior to a reading selection reflect Ausubel's (1959) developmental definition of the concept of readiness. Written overviews, outlines, and/or summaries comprise the prevalent introductory methods used in units and chapters of study within textbooks. Teacher imposed strategies designed to formulate conceptual awareness prior to reading include advance organizers (Ausubel, 1960, 1968), structured outlines (Glynn & DiVesta, 1977), and structured overviews (Barron, 1969; Earle, 1969; Earle & Barron, 1973).

The use of thematic statements prior to a textual reading have also been investigated. Studies by Adams (1977), Adams & Collins (1977), Bransford & Johnson (1972), Bransford & McCarrel (1974), and Dooling & Lachman (1971), indicate that the use of thematic titles increases comprehension of the presented graphic or verbal materials prior to reading or hearing the passage. These studies have demonstrated that when learners are given a purpose determined by the contextual situation or guided by their own intentions, that these learners tend to recall more information relating to the presented materials.

The purpose of a guided instruction exercise is to evoke

responses to statements or questions pertaining to a selected passage. Guides are used when the organization and conceptual framework of a reading needs to be clarified. Guided instruction exercises have varied in their formats (e.g., Cunningham & Shablak, 1975; Herber, 1978; Tutolo, 1977).

Previous studies have not investigated how guided instruction affects reading comprehension when the guide presents only the implied concept of the passage with written statements at the interpretive mode. Mixed findings in the effectiveness of pre-organizers and guided instruction activities to develop inferential comprehension coupled with the need to conduct more research within a classroom setting (Alvarez, 1981; Gagne' & White, 1978); Herber, 1979) established the basis for this study.

Purpose of Study

A major premise of this exploratory study was that the presentation of thematic concepts and critical attributes of those concepts prior to and during reading would increase reading comprehension. In this study, a thematic concept was defined as the main topic about which the textual passage is written. It is usually an implied concept or one that is stated but ill-defined. It was believed that the process of connecting the main theme of the textual passage with the reader's existing knowledge, experiential background, and specific reading abilities could be initiated through the use of a thematic pre-organizer intended to clarify or expand the primary concept in a textual passage, and reinforced through the use of a theme related guided instructional exercise. The thematic pre-organizer is like Ausubel's (1960, 1968) advance organizer in that it acts as an "anchoring" force for the learning passage by serving as a "bridge" between the learner's present knowledge and the knowledge to be gained from the passage. It differs from the advance organizer in that it is written on a level commensurate with the learner's comprehension and reading abilities.

The second instructional method investigated in this study was the use of guided instruction. The guided instruction exercise consisted of inferential statements which were to be read prior to the textual passage. These statements referred to the implied thematic concept in the selected textual passage.

Specifically, this study investigated the effects of guiding the learner through a textual passage by employing a thematic pre-organizer, guided instruction exercise or a combination of these two procedures. It was the intent of this study to determine whether any of the treatments had a differential effect on student responses when compared to a text reading treatment. These differences were measured by asking the subjects questions and determining whether their responses were literal (answering a question directly from the selected reading passage) or inferred (answering question by interpreting, generalizing, or drawing conclusions from the selected reading passage).

METHOD

Subjects and Sampling Procedures

The sample for this study consisted of 50 ninth grade subjects with average reading ability, who were attending either an urban or rural junior high school in northern West Virginia. All subjects whose scores were within the fourth, fifth, or sixth stanine on the Reading Comprehension subtest of the Comprehensive Tests of Basic Skills (CTBS), Form S, 1973, were selected for possible inclusion in the study. They were then stratified on the basis of stanine scores and were randomly assigned to five groups. Each group consisted of ten subjects. One group served as a prior knowledge quasi-control comparison group. Each subject in this group was individually interviewed using the same questions that were asked of the other subjects in this study to determine their prior knowledge with the designated implied concept (polarization of opinions). None of the subjects in this group showed prior knowledge with this concept. It was then determined that the remaining forty subjects would serve as the experimental groups (thematic pre-organizer plus guided instruction, thematic pre-organizer, guided instruction, and textual passage).

Examiners

All treatment sessions were conducted under the direction of examiners who were trained to follow a highly structured set of procedures for presenting treatment and conducting the post treatment interview. Each examiner became familiar with the materials and procedures that each treatment group received. Examiners were assigned to three different treatment groups in predetermined random order.

Materials

The instructional materials consisted of: (1) a textual passage; (2) a thematic pre-organizer; and (3) a guided instruction exercise. The textual passage consisted of a two page section of a chapter in the social studies textbook Rise of the American Nation, Heritage Edition: Vol. 1 (Todd & Curti, 1977, pp. 191-192). The title "The role of political parties in American government" preceded the selection. The textual passage contained highly detailed information concerning the designated concept, "polarization of opinions," and contained 632 words.

The thematic pre-organizer and the guided instruction exercise were prepared by the investigator. For this study, the preorganizer consisted by three written paragraphs which defined the implied concept of the passage and related this concept to the theme of the passage. It was developed to clarify or elaborate upon the primary concept in the textual passage.

The thematic pre-organizer was developed as follows: The first paragraph introduced the concept to be studied. For example, situations which described how opinions are formed (e.g., which subjects we like or dislike, who will win the football game) with examples of "polarized" opinions were presented. The second paragraph was designed to elaborate upon the thematic concept (polarization of opinions) and relate the concept to the theme of the

passage. For this experiment, the second paragraph explained that the formation of political parties in America after the American Revolution caused a polarization of opinions. The third paragraph presented a concise message of what was to be comprehended upon completion of the reading. It read as follows:

You will read statements about two Americans, Alexander Hamilton and Thomas Jefferson, and their views on forming political parties. As you read each person's opinions regarding political parties, try to pinpoint what you believe to be the most serious areas of polarization of opinions between Alexander Hamilton and Thomas Jefferson.

The guided instruction exercise contained statements designed to facilitate comprehension of the selected concept implied within the textual passage. Example statements included: (1) The overall membership, between the Federalist and Republican party, differed with regards to money and occupation, (2) Alexander Hamilton and Thomas Jefferson had a major polarization of opinion over the issue of federal versus state control of the government. Subjects were directed to indicate whether they agreed or disagreed with the statements.

Procedures

The four experimental groups received the same textual passage. In addition, each group was given a different combination of the same thematic pre-organizer and guided instruction exercise. Time was held constant across treatments and each subject was given an individual oral interview following the treatment. The textual passage group served as the comparison group.

Subjects in group one received treatment involving a thematic pre-organizer plus a guided instruction exercise that was used in conjunction with the textual passage. The examiner distributed the thematic pre-organizer and informed the subjects that they would be given four minutes to read and study the thematic pre-organizer. The examiner collected the thematic pre-organizer and distributed the textual passage and guided instruction exercise. The examiner asked the subjects to read the directions appearing on the guided instruction exercise silently, while s/he read them aloud. The subjects were directed to read the seven statements and then read the passage. After they read the passage, they were directed to read the statements again, and to place a check mark on the numbered line if they agreed, or to leave it blank if they disagreed with the statement. They were directed to give reasons to support their position, and to refer to the reading selection as often as they wished. The subjects were told that they had twenty minutes to read and study the textual passage and complete the guided instruction exercise. When the time had elapsed, the examiner collected the textual passage and the guided instruction exercise from each subject.

Subjects in group two were given the thematic pre-organizer and the textual passage only. The examiner informed the subjects that they would be given four minutes to read and study the thematic pre-organizer. The examiner collected the thematic pre-organizer

and distributed the textual passage. The subjects were instructed that they had twenty minutes to read and study the textual passage after which the examiner collected the textual passage from each subject.

Subjects in group three were given the guided instruction exercise that accompanied the textual passage. The examiner distributed the textual passage and the guided instruction exercise and followed the same procedure during this portion of the experiment as described in group one. The subjects in this group were given twenty-four minutes to read and study the textual passage and complete the guided instruction exercise before the examiner collected the textual passage and the guided instruction exercise from each subject.

Subjects in group four were given the textual passage only. This group served as the comparison for groups one, two, and three. The examiner distributed the textual passage to the subjects and informed them that they had twenty-four minutes to read and study the textual passage. When the time had elapsed, the examiner collected the textual passage from each subject.

Instrumentation

A rating scale was constructed by the investigator as a method to record and classify the number of literal and inferred responses of each subject during the interview portion of the experiment. Idea units were written and classified by the investigator as being either literal or inferred. These idea units corresponded to the information appearing in the textual reading passage and with the implied designated concept under study. These units were listed on the rating scale for the interviewer to record each subject's responses.

This instrument was evaluated for content validity by a panel of five judges who independently reviewed and verified the items appearing on the scale after reading and studying the textual passage under study.

Interview and Recording Procedures

All interview sessions were recorded on audiotape to allow for later analysis and classification by the examiner. This procedure also provided a means for the clarification of any uncertainties in rating unexpected responses.

At the beginning of each interview, an open ended question was presented by the examiner which reflected the thematic concept of the textual passage. The first question asked of the subject was: "Will you explain the idea of polarization of opinions?" After the responses were recorded, the subject was then asked the second question: "Will you explain how the political views of Alexander Hamilton and Thomas Jefferson were polarized?" Each unaided response was recorded on the rating scale. For example, if the subject mentioned that Thomas Jefferson disagreed with Alexander Hamilton's political beliefs or that Jefferson favored a weak federal government, then the examiner would check these two statements as being literal since that information appeared directly in the textual passage.

If this same subject inferred that Alexander Hamilton was an elitist and that a loose interpretation of the U.S. Constitution would benefit Hamilton's political beliefs, then the examiner would check these two statements as being inferred since that information was derived by implying a polarization of opinion between Thomas Jefferson and Alexander Hamilton. The literal and inferred responses for each subject were then analyzed and tallied. Upon completion of this task, each examiner's ratings were compared to establish the extent of inter-rater reliability. The resultant coefficient was $r = .93$.

RESULTS

Statistical Analysis

Separate one-way analyses of variance were used in determining the effect of the treatment variable upon the literal and inferred response mode of the second interview question. All null hypotheses associated with the research questions were tested at the .05 alpha level. The mean number of literal and inferred responses for each of the four experimental groups is presented in Table 1.

Table 1
MEAN NUMBER OF LITERAL AND
INFERRED RESPONSES ACROSS TREATMENTS

	Thematic Pre-Org. & Guided Instruc.	Thematic Pre-Org.	Guided Instruc.	Textual Passage
Literal	M = 1.60 SD = 1.83	M = 1.80 SD = 2.29	M = 1.10 SD = 1.66	M = 1.10 SD = 1.52
Inferred	M = 1.20 SD = 1.35	M = 0.60 SD = 0.69	M = 0.30 SD = 0.48	M = 0.20 SD = 0.63

One-way analyses of variance designed to measure the effect of treatments at the literal level of free response revealed no significant differences among the group means. Because of the exploratory nature of this study, it should be noted that the obtained F value of 1.77 approached significance.

A one-way analysis of variance revealed a significant treatment effect for responses at the inferential mode. The analysis of the mean number of unaided inferential correct responses across the four treatment groups resulted in an $F = 4.52$; $df = 4.45$; $p < .003$. A *post hoc* Duncan's test indicated that the group using the thematic pre-organizer plus guided instruction was significantly different from the group using guided instruction, and the textual passage group ($p < .05$).

DISCUSSION

This exploratory study investigated the hypothetical construct that the use of a thematic pre-organizer, used separately and

in conjunction with a guided instruction exercise, would aid comprehension of an implied concept of a textual passage. The differences revealed that these thematic treatments facilitated the number and level of subjects' literal and inferred responses.

A limitation of this study dealt with the duration and scope of the treatment procedures employed. The findings of this investigation should be limited to this instructional reading passage, the thematic pre-organizer and guided instruction developed by the investigator, and to the theme of "polarization of opinions." Even though the theme and the passage were randomly selected, the generalizability of the results should be limited to these particular materials. However, due to the limited number of subjects in each group, and the significant results obtained by the combined procedure of using a thematic pre-organizer and guided instruction these findings may become more generalizable through further studies.

The most important finding of this investigation was the significant difference obtained among the mean number of inferential correct responses across the four treatment groups. The results showed that the group using the thematic pre-organizer and guided instruction was significantly different from the group using guided instruction and the group using the textual passage. These results can be interpreted as signifying that the use of a thematic pre-organizer in conjunction with guided instruction facilitates comprehension of a given concept to a greater extent than using a guided instruction exercise with the textual passage or reading the textual passage alone. This finding also seems to suggest that the methodology of providing students with a textual reading without an introductory theme-related pre-organizer combined with guided instruction does not facilitate conceptual understanding as reflected by the increased number of inferential appropriate responses associated with this treatment. It was also noted that even though a title was included with the passage, it did not enhance comprehension of the comparison group. It may have been that the title was too global to be instructive.

CONCLUSION

The findings of this study are consistent with the notion advanced by Ausubel (1960, 1968) that clarifying and providing the reader with prior structure on which to map incoming material leads to increased comprehension of a related reading. In this case, comprehension of the passage was dependent on a schema or thematic conceptual framework to make the referents of the passage clear.

This study also suggests that the extent to which a textual passage is comprehended is not exclusively dependent upon the reader or the text itself. Instead, the study suggests that certain aspects of reading comprehension may be positively influenced by such factors as the type of pre-organizer and guided instruction given prior to and/or along with a textual reading. This investigation gives supportive evidence to the contention that a thematic pre-organizer in conjunction with a guided instruction exercise simultaneously facilitates or alters the interaction between the

learner and the textual passage resulting in an inferential mode of response.

Because this study was exploratory in nature, further research is being conducted to substantiate the findings and conclusions of the current investigation.

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