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Metacomprehension: Its Effect on Reading Comprehension of Third Graders

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METACOMPREHENSION:

ITS EFFECT ON READING COMPREHENSION

OF THIRD GRADERS

BY

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ABSTRACT

Will third grade students, who receive direct instruction in the development of metacomprehension, show greater gains in reading comprehension than students who receive regular instruction based on their teacher's basal manual? The purpose of this study was to compare two groups of third grade students, one control and one experimental, to determine whether direct instruction in the development of metacomprehension would significantly improve third grade reading comprehension.

The hypothesis of this study was that direct instruction in the development of metacomprehension would enable students to receive significantly higher scores in reading comprehension as measured on a standardized comprehension test than students who pursued the regular reading comprehension curriculum provided in the basal reader.

The subjects in the study were 46 third graders from two intact groups. The intact groups were from two different public schools in rural areas of Lincoln County.

The students in the experimental group received direct instruction to increase the readers' ability to monitor understanding of written text and to develop their knowledge of the existence, use, and value of the following comprehension strategies: (a) activating relevant background knowledge, (b) generating questions, (c) making predictions, (d) setting purposes for reading, and (e) summarizing. The students in the control group received regular instruction in reading comprehension provided in the Houghton Mifflin basal reading series. The Gates-MacGinitie reading comprehension test was used as a pretest and posttest for both the experimental and control groups.

The *t*-test was used to test the significance of the gains made by the experimental group compared to the control group after the experiment. The control group showed a significantly higher mean gain score from pretest to posttest than the experimental group. Therefore, the results of this study did not support the hypothesis that metacomprehension training would enable third grade students to receive significantly higher scores on a standardized reading comprehension test as compared to students who were taught according to the regular reading comprehension curriculum provided in the basal reader.

The results of this study may be due to the fact that the training was beyond the cognitive development of third graders. On the other hand, the metacomprehension training may have been beneficial to the students but not measured by the standardized reading comprehension test.

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CHAPTER I
INTRODUCTION

Evidence of a Problem

"Comprehension is, after all, the essential condition of reading, for without an understanding of what is read, there is no reading." (p. 17) Roger Farr (1986) made this statement in Reading: Trends and Challenges. Comprehension is a complex process influenced by many situational and individual factors (Pearson, 1985). Children, as well as adults, may find it difficult at times to get beyond their comprehension blocks while reading either expository or narrative texts. Teachers often find themselves making comments of frustration such as, "You just read the story, why can't you tell me how it ended?"

Beginning readers may have difficulty reading intelligently because their understanding of what reading means is only partially accurate. Forrest and Waller (cited in Brown, Armbruster, & Baker, 1986) noted that a group of third grade students felt there was no way to predict how well they had done on a test before getting it back from the teacher. Canney and Winograd (cited in Brown et al., 1986) found that second graders believe it is as easy to read a list of

random words as it is to read the same words in a coherent text. The same group of second graders decided that the purpose of reading was to sound out words, not to understand. In general, beginning and poor readers often respond inappropriately when reading for different purposes because they do not have the necessary understanding of the reading process to control their use of strategies (Brown et al., 1986).

By third or fourth grade, children need to be able to pick out main ideas in the text, locate important details, and connect ideas from different parts of stories (Paris, Cross, & Lipson, 1984). However, Ryan (cited in Paris et al., 1984) reported that many do not get beyond decoding words and do not develop effective comprehension skills.

The problem of reading with comprehension, which many children face, is not being adequately corrected in today's elementary schools. Although Smith (1978) noted that researchers of the reading process have demonstrated that the central focus of reading is comprehension, Dolores Durkin's (1978-1979) frequent visits to schools revealed almost no comprehension instruction. Instead of being instructors, the observed teachers tended to be questioners and

assignment givers. Paris (1985) explained that students are expected to acquire effective comprehension skills through practice without being taught specifically how to scan, reread, elaborate, or summarize information. Duffy and Roehler (cited in Gersten & Carnine, 1986) collected and analyzed audiotapes of comprehension lessons being taught in primary classrooms and found that the teachers gave right answers to questions without explaining or suggesting strategies by which students could reach the right answer.

The problem may not be primarily the teacher's fault. Durkin (1981) examined manuals of five basal reader programs, kindergarten through grade six, to learn what they suggest for comprehension instruction. The manuals, like the teachers, gave more attention to assessment and practice than to direct, explicit instruction.

Due to the lack of direct instruction in reading strategies both in teachers and basal reader manuals, it is not surprising that so many students have difficulty comprehending materials on their own. What, then, can be done to help students in elementary schools become independent readers?

Joseph Sanacore (1985), when speaking of metacognition as related to reading, said that "understanding text is both a subconscious and a conscious act. As individuals become increasingly aware of processes involved, they can exercise degrees of control over some of them." (p. 56) Is this control, the why and when of comprehension, along with the how to comprehend that is lacking in the elementary classrooms and teachers' basal reader manuals?

Scope and Purpose

There is no empirical evidence to suggest that metacognitive awareness is being encouraged in today's classrooms or that reading instruction is focusing on the development of metacomprehension. However, several studies suggest that students can be taught successfully to develop metacognitive skills (Schmitt & Baumann, 1986). Baker (cited in Brown et al., 1986) stressed that even the simple technique of providing examples of the types of errors to look for in a series of internally inconsistent sentences improves detection skills. In a study done by Markman and Gorin (cited in Brown et al., 1986), eight- and nine-year-olds were given passages to read that contained

either false or internally inconsistent statements. The group of students who were told in advance what type of error they might encounter and who were given practice looking for either inconsistencies or falsehoods showed increased detection rates and were able to identify particular error types.

Jane Hansen (1981) conducted a study to determine whether inference training and practice could improve second graders' inferential reading comprehension. Her study indicated that such instruction produces increases in the childrens' ability to answer inferential comprehension questions even though performance on literal tasks stays the same.

Research points to other comprehension strategies that can be beneficial for young children. Gordon and Braun (cited in Morrow, 1985) explained that identifying and labeling story structures improves the comprehension and reading strategies of youngsters who can already read. Related to the knowledge of story structure is the active procedure of retelling stories. Retelling proved to be a powerful learning strategy for enhancing reading comprehension in a study done by Gambrell, Pfeiffer, & Wilson (1985) in nine fourth grade classrooms. Morrow (cited in Morrow, 1985) found that even kindergarten children,

after guided retelling practice, scored significantly higher than the control group, who had not received the treatment, on the total comprehension test administered as a posttest.

Paris et al., (1984) examined the role of metacognition in learning and development in an experimental study of third and fifth graders' reading comprehension. The children who were given the experimental curriculum, Informed Strategies for Learning, made larger gains than the children in control classrooms on cloze and error detection tasks. The study showed that metacomprehension can be promoted through direct instruction in classrooms, and that children can be convinced to use the strategies on their own.

Based on the need for improvement of comprehension instruction in elementary schools, it was the purpose of this study to compare two groups of third grade students, one control and one experimental, to determine whether direct instruction in the development of metacomprehension would significantly improve third grade reading comprehension.

General Description of Proposed Research Project

The study was conducted using the untreated control group design with pretest and posttest. The third grade class at Silex Elementary School was the experimental group in the study. The three reading groups, low, middle, and high, within the class received direct instruction to increase the readers' ability to monitor understanding of written text and to develop their knowledge of the existence, use, and value of the following comprehension strategies: (a) activating relevant background knowledge, (b) generating questions, (c) making predictions, (d) setting purposes for reading, and (e) summarizing. The control group, in which all three reading groups received regular instruction in comprehension provided in the Houghton Mifflin basal reading series, was the third grade class at Hawk Point Elementary School, Hawk Point, Missouri. The Gates-MacGinitie reading comprehension test was used as a pretest and posttest for both the experimental and control groups. The results were analyzed to see if the treatment made a significant difference in reading comprehension.

Statement of Problem

The following question provided the focus of this study: Will third grade students, who receive direct instruction in the development of metacomprehension, show greater gains in reading comprehension than students who receive regular instruction based on their teacher's basal manual?

Research Hypothesis

The hypothesis of this study was that direct instruction in the development of metacomprehension would enable students to receive significantly higher scores in reading comprehension as measured on a standardized comprehension test than students who pursued the regular reading comprehension curriculum provided in the basal reader.

Operational Definitions

Metacomprehension--Given an expository or narrative selection, the reader should be able to select and apply the reading strategies designated as appropriate by the teacher, to reach his comprehension needs or requirements, as well as, explain why he chose those strategies for the given selection.

Direct Instruction--Such instruction is initiated and led by the teacher (Baumann, 1983) and includes information on why and when to use a reading comprehension strategy (Gersten & Carnine, 1986).

Strategy--The technique or process chosen by the reader to facilitate comprehension of the written selection.

Intact class--A class of students assembled at kindergarten who have been together for a period of 3 to 4 years.

CHAPTER II

REVIEW OF LITERATURE

History of Reading Instruction

> Progress in reading instruction has been marked by a succession of turning points. For a period of years reading methods and materials all over the country are quite similar--so similar, in fact, that an unbiased examiner might arrive at the conclusion that all had been turned out of the same mold, with just a slightly different crimp here and there in the contour of the plan. Then, rather suddenly, a new plan becomes popular, and reading is taught in accordance with this plan until another turning point arrives. Thus, epoch after epoch of reading instruction passes. (Smith, 1963, p. 4)

The Period of Religious Emphasis lasted from 1607-1776. The hornbook, a hardwood board covered with a translucent sheet of cow's horn and containing the alphabet and the Lord's Prayer, was used for reading instruction. The children spelled out words, read orally, and memorized in accordance with what seemed necessary to make the best use of the religious selections in the reader (Smith, 1963).

From 1776-1840, The Period of Patriotic Emphasis, a cardboard-covered, blue-backed speller, containing exercises and rules for pronunciation was used. In that period, the picture showed a group of children reciting to their teacher and reading orally and

expressively a variety of patriotic selections. In addition to spelling out words, the children learned some phonics and practiced their oral expression.

The Period of German-Pestalozzian Emphasis, from 1840-1880, brought into play McGuffey's graded series of readers bound in cardboard, with a few black-and-white illustrations, and selections concerned with morals, science, history, art, philosophy, economics, and politics. The children were still reading orally and learning their ABC's, but were also using more phonics and learnin the benefits of repeated words (Smith, 1963).

The history of reading instruction then moved to The Period of Cultural Emphasis from 1880-1910. In this period, the children memorized and recited in response to teacher-imposed assignments. A basic reader filled with folktales and excerpts from the classics was used. It contained a few colored pictures.

The Initial Period of Scientific Interest, dating from 1910-1920, brought the use of literary readers, one per child, to be used for basic reading. A classroom also had a set of supplemental readers, standardized tests in reading and other subjects, and phonic charts and cards. The children read orally in

the basic reader during one period, and in the supplemental reader during the next period. They took a test with the use of the Gray Standardized Oral Reading Paragraphs at the beginning and end of semesters.

During the years of 1920-1925, the Period of Initial Application of Scientific Investigations embraced Post-World War I children. The children usually read silently and then made some comprehension response, either acting out words or sentences, responding to true-false questions, completion, or multiple-choice exercises (Smith, 1963).

Next, the Period of Extension of Investigations and Their Applications, from 1925-1940, found the teacher encouraging both oral and silent reading, and using materials that were both informative and fanciful. She was made aware of "reading readiness," postponement of beginning reading for many children, and the preparation of experience charts and other cooperatively composed materials. The children read from their cooperatively prepared materials and from other materials as needed for "the unit." They were also encouraged to read free-choice books.

While the world was at war, around the years of 1940-1950, or The Beginning Period of the Space Age,

the school children were confused in the midst of stress, but wanted to learn to read, and were willing and eager to be taught. They engaged in organized developmental reading instruction, but also had many opportunities to develop skills through functional uses of reading.

Finally, 1950 started the Period of Emerging Space Age Concern. Educators began to realize the need for improved and changed reading instruction. Too many children were not learning to read as well as they should. On the other hand, many were reading new heights of reading achievement. Many aspects of this period match the reading instruction of today. At the beginning of this period, children were reading in small groups from a basic reader, and also reading many free-choice library books (Smith, 1963).

A review of the literature unveiled a conflict regarding the importance of reading research in the past century. According to Pearson (1985), from 1920-1965, psychologists did not study reading. They were primarily concerned with behavioristic models. Reading was considered too complex to examine. He also stated that, prior to 1970, the text was viewed as an object of study that the reader was supposed to

"approximate" as closely as possible. The reader played a passive-receptive role (Pearson, 1985).

In contrast to those statements, it has been noted that the pioneering studies of the reading process by Huey (ctied in Readence, Bean, & Baldwin, 1981) and others formed a foundation for current investigations of reading comprehension.

The National Assessment (cited in Pearson, 1985) indicated that during the 1970's, American Education made excellent progress for 9 year-olds, but did not do well in helping 13-17 year-olds, particularly on test items requiring inferential and interpretive comprehension.

After 1970, the field of cognitive psychology developed, which considered the reading process a major area of study. Cognitive psychologists began studying such subprocesses as attention, perception, encoding, comprehension, memory, information storage, and retrieval (Pearson, 1985).

Hall (cited in Readence et al., 1981) reported that in 1976, the National Institute of Education issued a Request for Proposal and awarded over three million dollars to the University of Illinois to establish a Center for the Study of Reading. The proposal was mainly concerned with reading

comprehension (cited in Durkin, 1978-1979). Three assumptions in the Request for Proposal (cited in Durkin, 1978-1979) that were identified as pertinent to teacher education were:

1. Reading comprehension can be taught.
2. Reading comprehension is being taught.
3. What is done to teach it is not as effective as comprehension instruction needs to be if reading problems are to be reduced. (p. 483)

Importance of Direct Instruction to Enhance Comprehension

James Baumann (1983) thought that direct instruction was the most efficient way to transmit information and skills.

> In direct instruction, the teacher, in a face-to-face, reasonably formal manner, tells, shows, models, demonstrates, teaches the skill to be learned. The key word here is teacher, for it is the teacher who is in command of the learning situation and leads the lesson, as opposed to having instruction "directed" by a worksheet, kit, learning center, or workbook. (p. 287)

Gersten and Carnine (1986) defined seven components of direct instruction to be used as an instructional model. The components were:

1. Instruction on explicit step-by-step strategy. (When this is not possible or necessary, model effective performance.)
2. Student mastery of each step in the process.
3. Strategy (or process) corrections for student errors.
4. Gradual fading from teacher-directed activities toward independent work.

5. Adequate, systematic practice for students--using a range of examples.
6. Cumulative review.
7. Teaching formats that anticipate ("pre-correct") potential errors. (p. 71)

Pearson and Gallagher (1983) reported that research during the past few years has shown repeatedly that students can be taught to use reading strategies through direct classroom instruction.

Researchers at the University of Oregon spent 15 years developing and evaluating direct instruction in reading comprehension (Gersten & Carnine,1986). Englemann and Carnine (1982) constructed the model that guided the research. It was originally developed as a part of Project Follow Through, a United States Office of Education research and training project which tried to improve the academic achievement of low-income students in 20 communities.

Follow Through consultants had to make decisions about the structure and nature of reading texts, the nature and sequence of comprehension strategies to be taught in these texts, and the specific procedures used to teach these skills. Other items considered were the wording for teachers to use in demonstrating a comprehension skill, the most effective way to correct students' errors, and the number and range of

examples necessary to ensure mastery of a new concept (Gersten & Carnine, 1986).

Guthrie (cited in Gersten & Carnine, 1986) noted that the economically disadvantaged students who received direct instruction in Follow Through made significant progress in reading comprehension as measured on standardized tests.

The University of Oregon researchers built on the Follow Through experience by examining the applicability of direct instruction for teaching reading comprehension to students at the intermediate and secondary levels (Gersten & Carnine, 1986).

Several other studies demonstrate the effectiveness of direct instruction. Carnine, Kameenui, and Woolfson (1982) taught students to draw an inference based on relevant information. In their study, the teachers modeled, rather than taught the strategy's use by a series of prompting questions. It was predicted that with considerable detailed, guided practice and teacher feedback, the students' performance would improve dramatically. The subjects for the study were selected using a screening test that consisted of a series of passages containing distracting information. Only those students who failed the screening test were included in the study.

These students were randomly assigned to one of three groups either to receive direct instruction, corrective feedback only, or no intervention. After the training, each group was given a series of comprehension passages containing distracting information, were asked to answer questions, and were told whether they were right or wrong. The average score for the corrective feedback group was 23%. The control group scored only a little lower at 20%. The average score for students taught with direct instruction, however, was 63%.

Patching, Kameenui, and Gersten (cited in Gersten & Carnine, 1986) conducted a study with above-average ability fifth grade students to examine the effectiveness of systematically teaching students how to detect faulty arguments. The students were randomly assigned to one of three groups. The three groups were: (a) direct instruction with an adult teacher, (b) workbook practice using the direct instruction teaching materials and exercises with corrective feedback from an adult, and (c) a control group--workbook practice or general comprehension exercise. On the screening test done prior to the treatment, 39% of the students failed. In other words, they were unable to detect invalid arguments

more than 50% of the time. In the direct instruction group, the guide stated a clear rule to help students recognize instances of invalid arguments. Then they practiced distinguishing between a person's importance or competency in one area and being an expert in all areas of knowledge.

After only three days of teaching, the mean score for the direct instruction group was 90%. Scores for the other two groups were both at 58%. The students with the greatest gains had the benefit of direct instruction and guided workbook practice as well as work with a teacher who modeled the steps, asked questions, and provided immediate feedback (Gersten & Carnine, 1986).

Although direct instruction has proved to be an effective approach for teaching reading, Durkin's (1978-1979) classroom observations of reading and social studies lessons in elementary schools indicated that very little comprehension instruction was present. Comprehension instruction, as defined by Durkin, includes efforts to teach children the meaning of a unit that is larger than a word or to teach them how to work out the meaning of such units. Three sub-studies were done in order to look at comprehension instruction from a variety of perspectives. The first

of these concentrated on fourth grade because it was assumed that at that level a switch is made from learning to read to reading to learn. Also, at this level, Durkin assumed that teachers begin to take content subjects seriously. Reading was observed for 4,469 minutes; social studies, for 2,775 minutes. The 24 classrooms that were visited were in 13 different school systems in central Illinois. The reading periods of the 24 observed teachers showed that less than 1% (28 minutes) of the time was spent on comprehension instruction. Comprehension assessment was dominant. Questions were usually asked with the concern of whether children's answers were right or wrong, and most were of a literal nature, taken from the basal manuals.

All of the observed teachers in the social studies setting saw it as a time to cover content. Observations did not reveal that distinctions were made between important facts and trivia. Also, no teacher saw the social studies period as a time to help with reading.

The second sub-study done by Durkin focused on schools, grades 3-6. Four classes in three different schools participated. The fourth grade teacher was an assignment giver, not an instructor. She, as well as

the third grade teacher, did a great deal of "mentioning" as opposed to instruction. Similar to the findings in Durkin's first sub-study, in all of the observed rooms, completing assignments and getting right answers seemed much more important than concerns about whether the children were understanding or whether or not the assignment would contribute to their reading ability.

The purpose of the second sub-study was to determine if attention given to comprehension instruction might vary from school to school, or from grade to grade. There were more similarities than differences between schools. Two schools, gave no time to comprehension instruction, while the third one spent a total of 4 minutes on it. The comprehension assignments were generally cloze exercises or questions that pertained to the content of paragraphs or stories on workbook pages. Comprehension assignments were also given that were related to the basal reader selections. Such assignments required the children to do such things as answer questions, match partial sentences on one side of a workbook page with partial sentences listed on the other side, arrange sentences in sequential order, match items, and explain the meanings of idiomatic expressions.

The final sub-study examined what individual children do, whereas the first two sub-studies were concerned with the teachers. The primary purpose again was to learn whether reading instruction time was spent on activities likely to add to reading comprehension abilities. Three subjects were selected at random from average readers during trial observations in their classrooms. Neither the subjects nor their teachers knew that individual children were being observed. The data collected from this sub-study showed that the subjects were first listeners and second, doers of written assignments.

The study in its entirety portrayed teachers as being "mentioners," assignment givers and checkers, and interrogators (Durkin, 1978-1979).

Durkin's (1978-1979) findings, during her classroom observations, caused her to wonder why something as important as comprehension instruction was slighted. Since basal reader materials were thought to strongly influence elementary school practices, she decided to examine basal reader manuals, kindergarten through grade six, to see what they recommended for teaching children how to comprehend and, in the process, to learn if there was a match between what was seen in classrooms and what

was in the manuals (Durkin, 1981). Durkin chose five basal reader series with current copyright dates that were either a leading seller, widely promoted, or both. For the purpose of her study, Durkin gave the following definition: "A manual suggests that a teacher do or say something that ought to help children adquire the ability to understand, or work out, the meaning of connected text" (p. 518).

The basal manuals were evaluated for the frequency of suggestions in six categories concerned with comprehension. These categories were instruction, review, application, practice, preparation, and assessment. In the area of instruction, all five series offered very precise help when needed, such as obvious answers to assessment questions, but they were vague or silent when specific help was likely to be required. The suggestions for review in all the series were one sentence in length and, like the instruction suggestions, were nonspecific. It was noted, too, that the frequency with which topics or skills were reviewed appeared to have no connection with their difficulty or their relevance for comprehension (Durkin, 1981).

The examination of the application suggestions showed that the manuals taught by implication rather

than with direct, explicit instruction. All that was offered for children unable to do a particular exercise, was more exercises of the same type.

Suggestions in the written practice category were found most frequently in this extensive study. Many of the suggestions for practice used brief pieces of text even though what was to be practiced seemed to need larger units of discourse. Also, manual pages gave one brief reference to practice after another in close succession on a variety of topics.

Basal manuals traditionally offer suggestions to prepare children for each selection in the reader, pertaining to new vocabulary, background knowledge, and motivation (Durkin, 1981). It was surprising, then, to find that limited attention was given to new vocabulary, especially in the middle- and upper-grade manuals.

Evaluation of the final category, assessment, revealed that even questions appearing under headings and subheadings that stated purposes other than assessment, were presented in a testing manner (Durkin, 1981).

The frequency data from this study showed a close match between the teachers' behavior and the examined manuals. For example, both gave considerable time (or

space) to assessment and practice, but very little to direct instruction. A match also existed between the brevity of the manual recommendations for instruction and the teachers' "mentioning" (Durkin, 1981).

Cognitive Development Theories

Jean Piaget (cited in Kagan & Lang, 1978; Silverman, 1979; Hurlock, 1978) worked with children of all ages, observing and measuring their awareness of the natural world. He concluded that cognitive development was mastered in a sequence of predetermined stages but that individual differences in children cause them to pass through the stages at different speeds.

Piaget has divided cognitive development into four stages. These are the sensorimotor stage, the preoperational stage, the stage of concrete operations, and the stage of formal operations. The sensorimotor stage extends from birth to the time when children are two years old. During this period children use physical manipulation to recognize objects. As newborn babies they cannot see themselves as different from objects. When they are about 18 months old, infants show some ability to solve

problems. For example, they can figure out how to get to distant toys.

The next stage usually occurs in children between the ages of two and seven years. It is identified as the preoperational stage and is the time when children are capable of using language and symbolic thinking. They use their imaginations when playing. Children in this stage are considered egocentric, which means they cannot reliably take the views of others. They are also unable to solve problems involving number concepts and cannot to classify objects.

Sometime between the ages of six and eight years of age, children move into the stage of concrete operations. According to Piaget, the concepts that were once unclear become concrete and specific. The children can form concepts of space and time and categorize objects as well as deal with parts and wholes. They are able to master the idea of conservation, meaning that a particular amount of water, for example, remains the same no matter how it appears or is arranged. In addition, children in this stage are capable of arranging objects in long series. They are unable, however, to create solutions for abstract problems.

The final stage of cognitive development, the stage of formal operations, extends from about 11 to 15 years of age. Children in their adolescent years begin to think abstractly. They are also able to reason about hypothetical situations. An additional characteristic of this stage is the ability to approach a problem systematically, to exhaust the possible solutions, and to be certain that all possibilities have been considered.

Jerome S. Bruner (cited in Victor, 1980) has also developed a theory of intellectual development in children. Bruner, like Piaget (cited in Victor, 1980), defended the view that children pass through stages that are age-related and biologically determined, and that their ability to learn depends primarily on their present developmental level. His theory includes three major sequential representations: enactive representation, ikonic representation, and symbolic representation. They correspond to Piaget's sensorimotor, concrete operations, and formal operations stages.

Bruner and Piaget differ in their interpretation of the role language plays in intellectual development. Piaget theorized that thought and language are basically different systems. Bruner, on

the other hand, believed that children translate experience into language, and then use language as a tool for thinking.

A difference also exists regarding Bruner and Piaget's view toward children's readiness for learning. Through research, Piaget concluded that children's readiness to learn depends upon maturation and intellectual development. Bruner felt that children are always ready to learn a concept in some form or manner.

The act of learning described by Bruner is three almost simultaneous processes: (a) the process of acquiring new knowledge, (b) the process of fitting this knowledge into new tasks or situations, (c) the process of evaluating the acquisition and manuipulation of this knowledge.

Bruner (cited in Victor, 1980) was a strong supporter of discovery learning. He argued that whenever possible, teaching and learning should allow the children to have the opportunity to discover concepts for themselves. Discovery learning, in Bruner's view, helps children learn how to learn. It helps children learn problem-solving and inquiry skills so that they can arrange and apply what they have learned to new situations.

A third psychologist, Robert M. Gagné (cited in Victor, 1980), is known for his hierarchy of learning levels. He has theorized that learning is built on acquiring new capabilities from simple to more complex. He also stated that changes in behavior serve as the only evidence that learning has occurred.

There are eight levels of learning in Gagné's hierarchy. The simplest level is Signal Learning. Children on this level learn to make a general conditioned response to a given signal. For example, they may show startled movement when a loud clap is heard. Next in the progression is Stimulus-Response learning. At this level, children display a precise physical response to a distinct stimulus. Such learning usually involves voluntary motor behavior, including vocalization.

Chaining, which is often called skill learning, involves the linking together, or chaining, of two or more units of simple Stimulus-Response learning. The links are strictly physical and nonverbal. Verbal Association is the next level up and is also a form of chaining. However, the links are verbal units. This would include abilities as simple as naming an object to more complex tasks like rote memorization of a poem or formula. In the level of Multiple Discrimination

children link chains learned from previous levels on the hierarchy to form multiple discriminations.

Concept Learning is stated next in the hierarchy of learning. Here, children can respond to stimuli in terms of their abstract characteristics as opposed to concrete physical properties. For example, children can recognize objects as cubes even if they are different in respect to materials, color, texture, or size.

The level of Principle Learning is marked by the ability to chain two or more concepts. Children use this type of learning when relating a circle's circumference to its diameter.

The highest and most complex level in Gagné's hierarchy is Problem Solving. On this level, children apply principles that have been learned to achieve a goal. In the process of solving problems, children acquire new knowledge. This enables them to handle many other related problems.

Gagné and Bruner differed in their emphasis upon learning. Whereas Gagné emphasized the product of learning, Bruner was primarily concerned with the process of learning.

A difference exists among Piaget, Bruner, and Gagné regarding their attitudes toward children's

readiness for learning. Through research, Piaget concluded that children's readiness to learn depends upon maturation and intellectual development. On the other hand, Bruner felt that children are always ready to learn a concept in some form or manner. In contrast, Gagné related readiness to the successful development of subskills and subconcepts of each level on the hierarchy rather than the child.

Factors Important in Comprehension Process

The recent conceptions of reading comprehension are summarized in a diagram drawn by Cathy Wilson based on an interactive model developed by Rumelhart (Wilson, 1983). The diagram displays reader's prior knowledge and inferencing skills at the core. This reflects the fact that comprehension involves connecting information from the text to information already stored in the reader's mind. The information comes to the reader from the text. Then, the reader uses information about decoding, vocabulary meaning, grammar, cohesion, and passage structure to help connect the new information to what is already known. The output is meaning. A lack of information in any part of the process can cause comprehension difficulties.

Most contemporary definitions or descriptions of reading comprehension describe prior knowledge as a pathway to understanding new ideas (Readence, et al., 1981). For example, Pearson & Johnson (1978) said that "comprehension is building bridges between the new and the known" (p. 24). Bransford and Johnson (cited in Readence et al., 1981) showed that if the reader has no clue to the topic of the text, it may be difficult to understand or remember, even if the words are simple to understand.

Carpenter and Just (1986) stated three important ways that prior knowledge effects reading comprehension. These are:

1. It provides the vocabulary needed to understand a passage.

2. It is internally organized, providing a preexisting framework that the reader can use to absorb new information.

3. It provides the reader with some idea of what is or is not important, and about what is or is not likely to happen.

Prior knowledge, based largely on the individual's common cultural and experiental patterns, is organized in a reader's memory through a system of categories, or a cognitive structure. These

categories give an individual an efficient memory search of prior experiences during problem-solving tasks (Readence et al., 1981).

Rumelhart and Norman (cited in Readence et al., 1981) explained that the schema theory provides a more detailed explanation of comprehension. This theory of reading attempts to describe the comprehension process in terms of how the individual copes with new, familiar, or discordant information (Readence et al., 1981). It supports reading as a meaning based process. The total of all the experiences that define a readers' prior knowledge represent the schema he or she brings to the text. These experiences provide a structural framework for additional experiences (Widomski, 1983). Adams and Collins (cited in Widomski, 1983) noted that according to the schema theory, the written word does not carry meaning in itself. The relationship that exists between the reader's schema and the text activates existing knowledge to resolve the meaning of the text.

Researchers have attempted to show that the readers' schema plays an important role in reading comprehension. Pearson, Hanson, and Gordon (cited in Stevens, 1982) investigated the role of background information in correct passage reading using second

grade students as subjects. The students were tested on their background knowledge of spiders, and then given a passage to read about spiders. Those who had a "schema for spiders" prior to reading the passage read it significantly better, as judged by their answers to the comprehension questions about explicit and implicit information in the text.

According to Anderson, Pichert, and Shirey (1983), research has indicated that readers make inferences consistent with their schemata, and they recall more text information important to their schemata. Anderson et al. (1983) explained that schema allows a reader to place major themes, secondary themes, and supporting details in proper relation to one another.

Overview of Metacomprehension

Reading comprehension instruction can include three types of knowledge. These three types have been described by Paris, Lipson, and Wixson (cited in Baumann & Scmitt, 1986). The first type, declarative knowledge, refers to the "what" of comprehension instruction. This might include a simple description or definition of the skill. Procedural knowledge involves the "how" of comprehension instruction, such

as how the skill or strategy operates and how to use various steps or procedures that are part of the strategy. Finally, conditional knowledge involves the "why" and "when" of comprehension instruction. For example, why the strategy is important, why its mastery will improve comprehension, and when the strategy should and should not be used.

Reading instruction has been more successful in providing declarative and procedural knowledge than it has been in providing the conditional knowledge needed for monitoring and regulating the use of comprehension skills (Baumann & Schmitt, 1986). Conditional knowledge has been placed in the category of metacognition, or, when speaking of reading, metacomprehension. Paris, Lipson, & Wixson (1983) explained that conditional knowledge informs learners about the value and situational appropriateness of various strategies.

Brown (cited in Fitzgerald, 1983) gave four aspects that are critical for metacomprehension to occur. These four critical aspects are:

1. You know <u>when</u> you know (and when you do not know).
2. You know <u>what</u> it is that you know.
3. You know what it is that you need to know.

4. You know the usefulness of intervention strategies.

Therefore, a comparison of comprehension with metacomprehension shows that understanding the text is comprehension, but knowing you understand the text is metacomprehension (Fitzgerald, 1983).

Other researchers have examined the metacomprehension process. Brown, Bransford, Ferrara, & Campione (cited in Brown et al., 1986) explained that metacomprehension involves the knowledge of four major variables and how they interact to affect learning outcomes. First, is the knowledge readers have about the features of the text that influence comprehension and mamory, such as difficulty, clarity, or structure. In addition, the reader must be aware of the requirements of various tasks and purposes of reading. Thirdly, the reader must understand and apply the appropriate strategies for adequate comprehension of the text. Finally, the characteristics of the learner--such as ability, familiarity with the material, and motivation--play an important role in metacomprehension. The effective reader must learn to coordinate the interaction of these four variables.

Paris et al. (1984) performed an experimental study to examine the role of metacognitive processes in third and fifth graders' reading comprehension. One third grade and one fifth grade class from each of four schools were assigned randomly to either the treatment of control conditions. The experimental curriculum Informed Strategies for Learning (ISL) was used with its fundamental purpose of informing children about strategies that facilitate reading comprehension. The lessons in this curriculum were designed to illustrate strategies concretely, as well as to show children the effort required to use these strategies, and the benefits of their use. ISL provided information about declarative, procedural, and conditional knowledge about reading strategies in the form of practice and guided learning.

The training was divided into three phases that each lasted 5-6 weeks. The first phase provided instruction dealing with the awareness of reading goals, plans, and strategies. The children received training in specific strategies related to comprehending text meaning, in the second phase. The final phase emphasized comprehension monitoring in which the children learned about specific strategies

for evaluating and regulating their reading (Paris et al., 1984).

A major instrument used in the metacomprehension instruction was the bulletin boards with graphic displays of metaphors that matched the lesson themes. For example, the lesson on task evaluation used the metaphor "Be a reading detective" as a lead-in to examining clues to the passage topic, length, and difficulty.

Even though the control group did not receive the metacomprehension training, they were not ignored. They were tutored, shown movies, and taught group lessons on topics unrelated to reading (e. g., ecology and nutrition).

Several measures of reading comprehension were used for pretesting and posttesting the subjects in the experimental and control groups. The first two, the Comprehension subtest of the Gates-MacGinitie Reading Tests (GATES) and the Paragraph Reading subtest of the Tests of Reading Comprehension (TORC), are conventional measures of comprehension. The other two measures were an original version of the cloze procedure and error detection tasks.

The children in the experimental classes generally had greater knowledge about reading

strategies than children in control classes. They also performed significantly better on the cloze and error detection tasks. However, the scores of the experimental group children did not show significant changes on the GATES and TORC. Even so, this study indicates that children can be taught about the existence and use of reading strategies through informed, direct instructions in their regular classrooms (Paris et al., 1984).

Use of Metacomprehension in the Classroom

Studies show that there are a variety of effective activities and approaches that can be utilized for developing metacomprehension in the elementary classroom. Cohen (1983), in her study of third grade students, showed that it was possible to train elementary school students to generate questions while reading a short story, and that this self-questioning strategy enhanced their reading comprehension. To select the subjects for the test, a criterion-referenced pretest related to question generating was given to 60 children in three third grade classes. Only the children who received less than 85% on the pretest were used in the study. These

48 children were assigned randomly to experimental or control groups within classes.

The training program had two parts: training in question generation and application of questioning skills to reading short stories. Cohen designed materials for training the children to generate questions in the who, when, where, what, how, and why categories for short stories.

The criterion goal was that 85% of the children in the experimental groups would achieve 85% accuracy (47 points) on the criterion subtest of the posttest. This goal was reached. The experimental group scored 56% correct on the criterion pretest and 87% correct on the posttest. In fact, 87% of the treatment group demonstrated mastery of 85% or better. In contrast, the control groups' scores stayed about the same from pretest to posttest. Significant gains were also revealed on the standardized test that was administered (Cohen, 1983).

The basic cloze technique involves the systematic deletion of words from a text selection (Readence et al., 1981). Studies done by Shanahan, Kamil, and Tobin (1982) indicated some controversy concerning the effectiveness of the basic cloze procedure as an effective tool to improve reading comprehension.

Therefore, new applications of cloze were needed. Other research showed that the use of maps displaying the relationship among concepts would improve children's comprehension. Nearly a decade of research on story grammars has shown how important it is for children to know how stories are structured.

This pool of research was the basis for the Cloze Story Mapping (CSM) technique (Reutzel, 1986). The CSM technique was successful in providing students with a framework for organizing, monitoring, and integrating information obtained in a text, in a study of 101 fifth grade students in two elementary schools. Subjects were randomly assigned to one of the two instructional plans. Both groups read two 300-word passages, one narrative and one expository, taken from two current basal readers. The control group read the two passages after a Directed Reading-Thinking Activity. Questions were inserted in the margins of the text to help students monitor their comprehension. A discussion related to these questions followed reading time. Then, the members of the control group were told to prepare for a test by reviewing their answers to the text-related questions, taking notes, or using any other strategy they chose.

The Cloze Story Mapping group was introduced to the story using CSM projected onto an overhead screen. The Cloze Story Map is a graphic illustration of the text's main idea, major events, and major characters when completed. The main idea is placed in the middle, and other major events and characters are added in connected outlining shapes. A system is used to delete the content of every fifth shape in a clockwise fashion. As a group, students are then required to fill in the missing parts. Before reading, the students discussed the story through teacher-guided questioning related to the CSM and predicted possible answers for the information deleted. Then, the subjects were given a copy of the CSM to help them monitor their comprehension while they read the two passages. After reading, the Cloze Story Map group discussed the correct information that belonged in the deleted areas. Following the discussion, the group handed in the CSM copies and attempted to reproduce the map from memory (Reutzel, 1986).

Both the control and experimental groups were then asked to record on a blank piece of paper, all they could remember from their reading. The mean number of propositions recalled by the CSM group was

significantly greater on both the expository and narrative passages. Although this study was brief, its results suggest that the Cloze Mapping strategy has potential (Reutzel, 1986).

Retelling has been studied by several researchers (Gambrell et al., 1985; Morrow, 1985). A study in the fourth grade classroom was done by Gambrell et al. (1985) to study the effects of retelling (free recall) upon the comprehension and recall of text information. The subjects were drawn from nine fourth grade classrooms in four elementary schools. The participants were assigned randomly to one of two treatments conditions: retelling or illustrating. Four training sessions were conducted for both groups using an expository passage for each. The subjects in the retelling group were instructed to retell the important parts of the story, whereas the illustrating group was instructed to illustrate the important parts. Following the four training sessions, each group was given a cued recall test based on the passage "Puffins, Come Home." The test consisted of 10 literal and 10 inferential questions. After two days, a delayed recall test was administered to both groups. Statistically significant differences were found on all measures of reading comprehension and

recall, favoring the subjects who had received practice in retelling (Gambrell et al., 1985).

Summary

Effective reading comprehension instruction has become a major topic of concern for educators. Durkin's (1978-1979) classroom observations and basal manual evaluations (1981) spurred many researchers into a search for better instructional techniques (Johnston, 1985).

Durkin (1978-1979) emphasized that what is needed in today's reading sessions is teachers who are actively involved in instruction that is neither incidental, undirected, or nonexistent.

In his proposed reading instruction model for the late 1980's, Pearson (1985) stated that:

> True individualization has never meant that instruction is "delivered" individually, only that progress is "monitored" individually, and that what may be best for a given individual is not another worksheet but maybe a live body present to provide the guidance and feedback it will take to bring him or her to an independent level of performance. (p. 737)

The area of metacomprehension is still in its early stages of development (Forrest-Pressley & Waller, 1984). Although studies have shown that it can be beneficial to a child's reading comprehension (Paris et al., 1984), there is limited evidence that

the use of the metacognitive component in instructional situations actually will improve the probability that a specific strategy will be generalized to a new situation (Forrest-Pressley & Waller, 1984).

The theories of intellectual development in children developed by Piaget, Bruner, and Gagné (cited in Victor, 1980) have indicated that children in the third grade, ages seven, eight, and nine, may not be able to think about their thinking. Piaget suggested that children cannot think abstractly until they move into the stage of formal operations around eleven years of age.

Even so, a review of the research on reading comprehension instruction for elementary students, shows that direct instruction in the development of metacomprehension may be an answer to the need for improving children's reading comprehension. Knowing about comprehension strategies will not necessarily insure that students will use them when they read (Paris, 1985). Paris et al. (1984) stressed that "they need to learn when and why various strategies should be used to accomplish different purposes" (p. 1241).

CHAPTER III

METHODOLOGY

Research Hypothesis

It was the hypothesis of this study that direct instruction in the development of metacomprehension, the awareness of reading comprehension and use of reading strategies, in a third grade classroom would cause students to score significantly higher on a standardized reading comprehension test than students who pursued their normal reading comprehension curriculum using the basal reader during this period of time.

Subjects and Setting

The subjects in the study were 46 third graders from two intact classes. A class of 22 students from Silex Elementary School served as the experimental group. A class of 24 students from the Hawk Point Elementary School served as the control group for the study. Separate schools for the experimental and control classes were chosen since each school has only one third grade class. The two schools are similar in several ways. They are both public schools in small,

rural communities with populations under 400. They are located in a large agricultural area. Silex Elementary School, grades K-6, has approximately 150 students enrolled; Hawk Point Elementary School, grades K-4, has approximately 115 students enrolled.

Research Design

The untreated control group design with pretest and posttest was used for this study. It is the most commonly used quasi-experimental design (Vockell, 1983), and was selected for this study because the researcher worked with two intact groups that had been previously formed by the schools and could not be appointed randomly to control and experimental groups.

The comprehension level of the experimental group was compared to the control group. The reading comprehension subtest from the Gates MacGinitie, a standardized reading test, was used for pre- and posttesting.

The following variables were controlled in the study:

1. Eight- and nine-year-olds were used as subjects.

2. Both the experimental and control groups were located in small, public, rural schools.

3. Both teachers have nearly the same years of experience in a third grade classroom

4. Both the experimental and control groups used stories from the Houghton Mifflin reading series. The low, middle, and high ability reading groups within the control class were reading on the same levels, and in the same basal readers, as the low, middle, and high ability reading groups within the experimental class, respectively.

5. The "main idea unit," a supplemental reading unit required by the Hawk Point Elementary School system, was delayed until after the study to eliminate reading comprehension training in the control group beyond the basal reading series.

Instructional Materials

Both the experimental and control groups read stories in their second or third grade level text of the Houghton Mifflin reading series. The teacher of the control group asked comprehension questions from the Houghton Mifflin teacher's manual which accompanied each story and/or assigned comprehension questions found at the end of each story in the basal reader text. To make instructional time of both groups equal, the control group spent an hour a week

for the last four weeks of the study reading stories aloud in small groups that were not in the Houghton Mifflin basal text. Reading was monitored by the teacher using traditional comprehension questions related to the reading selections.

The teacher of the experimental group spent the same amount of time with each of her reading groups in direct instruction of the awareness of the reading process and the use of comprehension strategies. The following strategies were taught: (a) activating relevant background knowledge, (b) generating questions, (c) making predictions, (d) setting purposes for reading, and (e) summarizing.

At the beginning of the instruction in metacomprehension, the students in the experimental group were each given a paper bag, identified as a "bag of tricks for reading," to contain any written explanations of the what, why, how, and when of the five designated reading strategies.

The use of posters with metaphors to represent the strategy being taught, which was recommended in the Informed Strategies for Learning program (Paris et al., 1984), accompanied the metacomprehension lessons in the experimental classroom.

Other teacher-made posters were used to display important information pertaining to the five designated comprehension strategies. The poster entitled "Knowing That You Understand" was used to explain the metacomprehension process and was based on information compiled by Jill Fitzgerald (1983). The three Question-Answer-Relationships (QAR's) researched by Raphael (1986) were also displayed.

In addition, the eight story parts labeled by Spiegel and Fitzgerald (1986) as the setting, beginning, simple reaction, goal, attempt, outcome, and ending were shown on a poster for easy reference. Finally, some tips for asking good questions were listed and displayed. These tips were selected from the format of a training program on question generation done by Ruth Cohen (1983).

An overhead projector was used to display stories, questions, and information for the students during whole-class sessions.

Several teacher-made duplicating masters were compiled for guided and individual practice related to the five comprehension strategies. (See Appendix B for examples of these practice worksheets.)

Procedure

For the experimental and control classes, a permission letter was sent or given to each principal. A permission letter was also sent home with each child. These were signed by a parent or guardian and returned to me before the study began.

The Gates-MacGinitie standardized reading comprehension subtest, Level C, Form 1, was used as the pretest for both groups. It was administered after four weeks of school in order to allow the students to adjust to a new teacher and different surroundings. The scores of these tests and the posttests were statistically compared to determine differences between the experimental and control groups.

Intensive metacomprehension training took place in the experimental group for eight weeks, or a total of 38 school days. The eight-week period was spent in direct instruction, and reinforcement of the use and value of the five designated reading comprehension strategies: activating relevant background knowledge, generating questions, making predictions, setting purposes for reading, and summarizing. The metacomprehension training was presented in both a

whole-class setting and in an individual reading group setting.

The first seven weeks of instruction in metacomprehension included a 40-60 minute whole-class initial presentation of one of the designated reading comprehension strategies. Following this direct instruction by the teacher, the students were given guided practice with short stories selected by the teacher (Appendix A). Each comprehension strategy was also reinforced during the week in the context of the selections in the basal readers used by the individual reading groups.

The focus of the sessions during the first week was to present and reinforce the "activating relevant background knowledge" comprehension strategy. The second week was spent discussing and practicing elements of the metacomprehension process. During these sessions, the students were taught to become more aware of their comprehension of written text by keeping a written record of what was known and not known during reading. They were instructed to make guesses about what was not known and to check their guesses as they gained more information from the text.

The third week emphasized the importance of recognizing Question-Answer-Relationships (QAR's) to

clarify the approach to reading texts and answering questions (Raphael, 1984). The students were taught to discriminate between these three response situations: right there, think and search, and on your own. Three lessons on QAR's similar to those recommended by Raphael (1982) were presented to the whole class. (See Appendix A for a description of these lessons.)

During the fourth, fifth, sixth, and seventh weeks of the study, a new strategy was presented each week. The strategies were presented in a logical progression so that there was continual reinforcement and practice. They were presented in the following order: making predictions, setting purposes, summarizing, and generating questions.

A story framing activity was used to develop the strategy of summarizing in the experimental group. This is a sequence of spaces hooked together by key language elements, and is effective for helping children organize information (Fowler, 1982).

The last week of the study was spent reviewing the metacomprehension process and the five designated reading comprehension strategies.

Both the experimental and control groups spent an average of two hours and twenty minutes a week on

reading comprehension instruction and read a total of eight basal stories in their Houghton Mifflin basal readers. However, all reading comprehension instruction by the control group was based on the directions and assignments presented in the Houghton Mifflin basal reading series' teacher's manual, basal readers, and supplementary materials. The Houghton Mifflin reading series is designed to promote independent reading. The series uses teacher modeling, guided reading and discussion, and guided and independent practice to present decoding strategies and comprehension skills. The Teacher's Notebook (Teacher's Notebook, 1986) emphasizes that "students are shown how to use and apply skills and how to monitor their comprehension by checking their own understanding as they read" (p. 1).

After an eight-week instructional period, both the experimental and control groups took an alternate form of the Gates-MacGinitie standardized test.

The pretest and posttest scores of the low, middle, and high reading groups in the experimental class were compared to the scores of the respective groups in the control class. The results of the two tests were statistically analyzed.

Dependent Measures

Pretest--The Comprehension subtest of the Gates-MacGinitie Reading Tests, Level C, Form 1 was administered as a standardized pretesting measure. This subtest contains 22 different passages with two literal or inferential questions about each passage.

Posttest--Form 2 of the Gates-MacGinitie, Level C, comprehension subtest was administered.

Data Analysis

The data from the pretest and posttest scores was analyzed. After reducing the test results to a "t" score, a "t" test was run to determine the significance level of the results ($p < .10$).

CHAPTER IV

ANALYSIS OF DATA AND FINDINGS

Research Hypothesis

The research hypothesis was that direct instruction in the development of metacomprehension, the awareness of reading comprehension and use of reading strategies, in a third grade classroom would cause students to score significantly higher on a standardized reading comprehension test than students who pursued their normal reading comprehension curriculum using the basal reader during the same period of time.

To test the hypothesis, the Gates-MacGinitie standardized reading comprehension subtest, Form 1, was given as a pretest and Form 2 was given as a posttest. Tables 1 and 2 show the raw scores and gains of the experimental and control groups. They are included here because of the extreme variations and directions of the scores.

Table 1

Experimental Group Raw Scores

Student	Pretest	Posttest	Gain
A	23	23	0
B	27	28	1
C	27	26	-1
D	25	25	0
E	27	28	1
F	31	33	2
G	34	37	3
H	44	42	-2
I	21	23	2
J	44	42	-2
K	29	25	-4
L	27	31	4
M	36	36	0
N	25	28	3
O	39	40	1
P	32	30	-2

Table 2

Control Group Raw Scores

Student	Pretest	Posttest	Gain
A	32	35	3
B	36	37	1
C	39	29	-10
D	27	32	5
E	26	22	4
F	28	23	-5
G	38	30	-8
H	20	12	-8
I	17	25	8
J	28	40	12
K	23	23	0
L	35	36	1
M	39	39	0
N	41	40	-1
O	35	29	-6
P	22	42	20
Q	28	29	1
R	34	36	2
S	32	33	1

The t-test was used to test the significance of the gains made by the experimental group compared to the control group after the experiment.

The posttest mean gain score on the Gates-MacGinitie reading comprehension subtest was .375 for the experimental group and the mean gain score for the control group was .632. The initial calculations of the t-test showed that the mean gain score of the control group was much higher than the mean gain score of the experimental group, so it was not necessary to show further calculations. This data is shown in Table 3.

Table 3

Mean Gain Scores

Group	N	Mean
1. Experimental	16	.375
2. Control	19	.632

Summary of Findings

The control group showed a significantly higher mean gain score from pretest to posttest than the experimental group. The gain scores of the students in the control group were observably either extremely positive or negative, meaning that the students did extremely well or noticeably regressed (0 to 20 or -1 to -10). In comparison, the scores of the students in the experimental group varied slightly (0 to 4 or -1 to -4). The mean gain score of the control group was nearly twice the mean gain score of the experimental group.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The results of the data analysis demonstrated that the control group achieved a significantly higher mean gain score than the experimental group on the Gates-MacGinitie standardized reading comprehension subtest which was the instrument used to measure gains in reading comprehension.

The results of the data analysis do not support the hypothesis that direct instruction in the awareness of reading comprehension and the use of metacognitive reading strategies in a third grade classroom would create a significant gain in reading comprehension as measured by a standardized reading test compared to students who pursued a normal reading comprehension curriculum. The training in metacomprehension and the use of reading strategies seemed to have little effect on the reading comprehension ability of the experimental group. There were several possible explanations for the nonsignificant gains made by the children participating in the experimental program.

Limitations of Study

Both the experimental and control group were intact groups and could not be distributed by random selection for the study. Although the students from both groups were the same age, from similar schools, and were using the same reading series, they may have had significantly different mean IQ scores. This factor was not considered prior to the study.

The teaching styles and teacher training may have also played a role in the results of the study. The two groups had different teachers. It is possible that the teaching style of the instructor in the control group was more effective. Control for this factor, however, was included in the study by using the same reading series in the control group with few variations allowed beyond the teacher's manual instructions.

The materials for the metacomprehension lessons used in the experimental group were gathered primarily from articles in education journals found during the review of the literature. These articles gave only brief sketches of the procedures used for presenting the reading strategies. The procedures, which had been tried in previous research, were used by teachers who had received specific training before they were

expected to present the new material to the students. Such pre-study training was not available for the researcher in this study.

The articles also recommended several weeks for teaching each strategy. According to these recommendations, the length of this study, only eight weeks, did not allow for adequate exposure to the new material.

Although many of the articles used for the study suggested that the provided information could be used for children in a third grade classroom, ages seven, eight, and nine, theorists of cognitive development in children such as Piaget (cited in Kagan & Lang, 1978; Silverman, 1979; Hurlock, 1978) suggest that students of that age may not possess the mental abilities needed to deal with the aspects of metacomprehension. It is possible that information presented to the students may have merely added an element of confusion.

The gain score of student C in the control group is considered significantly lower than the mean gain score of the control group. In correlation with his usual classroom behavior, Student C may have rushed on the posttest and reached a lower score even though capable of doing better. Students R and P have gain

scores significantly higher than the mean gain score of the control group. It is common for Student J to be sick and to not complete work on time as a result. Sickness may have been a factor in her lower score on the pretest. Student P in the control group typically works below potential. He possibly took the posttest more seriously and did his best which produced a high gain score.

Summary and Recommendations

Metacomprehension training did not prove to increase the comprehension level of third grade students. This may be due to the fact that it was beyond their cognitive development. This would substantiate the theories of Piaget, Bruner, and Gagné who suggested that children seven, eight, and nine years old are not ready to think about their thinking.

However, metacomprehension training may have made students more aware of different reading strategies, but this was not measured by the standardized reading comprehension test.

Based upon the conclusions and limitations of this study, the following recommendations for further research are suggested:

1. If a similar study with third graders is conducted, a randomly selected population is suggested.

2. A study is needed in which the investigation is carried out for a longer period of time.

3. A study should be done using a larger population.

4. A study is needed using selected teachers who have been trained to teach the designated strategies.

Further research is needed before the results of this study can be viewed as conclusive.

The total realm of metacomprehension could be investigated using older students for subjects.

APPENDIX A

DESCRIPTION OF SAMPLE METACOMPREHENSION LESSONS

METACOMPREHENSION LESSONS

LESSON 1

TIME:	9:00 to 10:00
PLACE:	Classroom
INSTRUCTOR:	Teacher
OBJECTIVE:	To briefly introduce students to the five reading comprehension strategies, the procedures for the metacomprehension training, and to acquaint them in detail with the first strategy which is activating relevant background knowledge.
MATERIALS:	Student materials: Small paper bag, a yellow and a green strip of construction paper Posters: Five Reading Comprehension Strategies, and "The Purpose of Reading is to Get Meaning" (Wilson 1983) Selections: "Dragon in the Clock Box" (Craig, 1973), "The Smartest Cat" (Craig, 1973) Worksheets: Strategy worksheet and selection worksheet (see Appendix B)
DIRECTIONS AND PROCEDURES:	We will be learning how to better understand what you read. You have all been given a paper bag called your "Bag of Tricks for Reading." We will be adding new things to your bag each week. SHOW FIVE READING COMPREHENSION STRATEGIES POSTER. We will be learning four things about each strategy or skill. They are: (a) what it is, (b) why it is important, (c) how to use it, and (d) when to use it. SHOW AND DISCUSS POSTER THAT SHOWS THE PURPOSE FOR READING.

What-We will fill out the strategy worksheet for the first strategy which is activating relevant background knowledge. In other words, we will bring what we already know about something and put it with what we read. This is the "what" for the first strategy.

Why- The "why" for this strategy is it makes you better prepared to read with understanding. For example, if the selection you are reading is about mountain climbing, the author assumes you know something about that topic. If you don't, you'll have difficulty understanding the selection. I'm going to read a paragraph to you. Listen carefully.

> The procedure is quite simple. First you arrange things into different groups. Of course, one pile may be enough depending on how much there is to do. If you have to go somewhere else due to a lack of facilities, that is the next step. Otherwise you are pretty well set. It is important not to overdo things. (Beck, 1986, p. 14)

Comprehension is difficult without the title. The title is "Washing Clothes." Now listen to it again. READ AGAIN. It should be easier to understand now because you are able to bring your background knowledge about washing clothes to the paragraph.

How-PASS OUT YELLOW STRIPS. PREPARE TO READ "THE DRAGON AND THE CLOCK BOX" TO THE CHILDREN. We're going to talk about some background knowledge that will go along with our story. We can use the pictures and title to help us think about what we already know about dragons, boxes, and pets. WRITE IDEAS ON BOARD. CHILDREN COPY TWO IDEAS ON

YELLOW STRIP. We can also use our background knowledge to predict what we would do if we were a particular character in the story. Joshua, the boy in the story, gets a clock box from his mother. What would you do if you received a clock box? WRITE IDEAS ON THE BOARD. CHILDREN EACH COPY ONE IDEA ON THEIR YELLOW STRIPS. HAND OUT GREEN STRIPS OF CONSTRUCTION PAPER. What do you think Joshua will do with the clock box? Use the pictures to help you. WRITE IDEAS ON THE BOARD. CHILDREN EACH WRITE ONE IDEA ON THEIR GREEN STRIPS. Now we will weave our new ideas with the known ideas (Tierney & Cunningham, 1984). HAVE CHILDREN WEAVE OR INTERTWINE THE TWO STRIPS THAT HAVE BEEN SLIT AHEAD OF TIME.

As I read the story to you, listen for new information that will help you know what Joshua is doing with the clockbox. Keep in mind the background knowledge that we have thought of to help you understand the story. Allow your ideas to change as we get farther into the story. READ THE STORY. How did thinking about the relevant background knowledge before reading help you to understand the story better? What would have happened if you had not known anything about boxes or dragons before you started reading?

SUMMARIZE STRATEGY

<u>When</u>-You will need to think of relevant background knowledge before you read any type of story or informational article.

DISTRIBUTE COPIES OF <u>ALL SORTS OF THINGS</u> AND SELECTION WORKSHEET. STUDENTS SHOULD READ "THE SMARTEST CAT," pp. 264-270 AND COMPLETE SELECTION WORKSHEET.

LESSON 2

TIME: 9:00-9:50

PLACE: Classroom

INSTRUCTOR: Teacher

OBJECTIVE: To acquaint the students with the four aspects of metacomprehension.

MATERIALS:
Teacher: "Helping Readers Gain Self-Control Over Reading Comprehension" (Fitzgerald, 1983)
Overhead: "Playing Cards" selection by Baker & Brown (cited in Fitzgerald, 1983)
Poster: "Knowing That You Understand" (Brown, 1980)

DIRECTIONS AND PROCEDURES:

USE THE FOLLOWING PROCEDURE RECOMMENDED BY FITZGERALD (1983) TO MODEL COMPREHENSION MONITORING.

> When we are trying to read something, it is very important to think about what we are reading and to realize what we understand and don't understand. When I read, I try to keep track of what I am understanding and try to make guesses about what I am reading. We should all do that. Let me show you what I mean. (p. 251)

READ ALOUD THE FOLLOWING PARAGRAPH TO THE STUDENTS.

> He jumped out of the seat. He tried to get her to sit down so he could push her, but she refused. So the next time they were on the playground, he let her swing very high for a long time. (cited in Fitzgerald, 1983, p. 251)

Now I ask myself, "Where is this person?" Then I make guesses. It

might be in a wagon, at a church, or at school. I will write down in two columns the things I know and the things I don't know. DEMONSTRATE.

SHOW THE POSTER "KNOWING THAT YOU UNDERSTAND." The first aspect of metacomprehension is that you know <u>when</u> you know (and when you don't know). USE OVERHEAD TO DISPLAY "PLAYING CARDS" SELECTION.

> We each put our cards in a pile. We both turn over the top card in our pile. We look at the cards to see who has the special card. Then we turn over the next card in our pile to see who has the special card this time. In the end the person with the most cards wins the games.

If you realize that you cannot play the game with these instructions, you have shown that you have an awareness of when you know and when you don't know something.

The second aspect of comprehension is: You know <u>what</u> it is that you know. AS A GROUP, ANSWER THE FOLLOWING QUESTIONS (cited in Fitzgerald, 1983) ABOUT THE "PLAYING CARDS" SELECTION. TELL THE STUDENTS THEY CAN ANSWER "I DON'T KNOW."

> 1. How many cards does each player start with?
> 2. Where does each player put his/her card to start with?
> 3. What is each player's ultimate goal?
> 4. What does each player look at each card for?
> 5. How does a player get to keep cards? (p. 250)

Now we can rate our confidence in our answers by giving each answer a number from one to five. A one means we are very uncertain and a five means we are very confident of our answer. RATE ANSWERS WITH THE STUDENTS. We are

aware of what we do know if our right answers were rated high. We are aware of what we do not know if we rated our wrong answers low.

The third aspect of metacomprehension is: You know <u>what</u> it is that you need to know. We are going to list some questions that we would need to ask to give information to be able to carry out the card game. WRITE DOWN IDEAS THAT THE STUDENTS GIVE AND ADD SOME IDEAS OF YOUR OWN. Our ability to list these questions, shows us that we know what is missing.

The final key aspect of metacomprehension is using strategies to help if you don't understand. In other words, you know that you can probably do something to help you understand better. We will be learning how to use several helpful strategies.

SUMMARIZE.

LESSON 3

TIME: 9:00-9:30

PLACE: Classroom

INSTRUCTOR: Teacher

OBJECTIVE: To demonstrate the use of Question-Answer-Relationships (QAR's) as an aid for comprehending new texts and monitoring comprehension.

MATERIALS: Poster: "The Three QAR's" (Raphael, 1983)
Overhead transparencies: (blank)
Selections: Three short passages (approximately 3-4 sentences long) for group and individual practice
Worksheet: Guided practice page to accompany one of the short passages

DIRECTIONS AND PROCEDURES: SHOW POSTER OF THE THREE QAR'S

> We are going to talk about different kinds of questions and the best way to answer them. Sometimes your workbooks or I give questions that ask for information you can find easily in the book. Other times you won't find an answer there. We will describe three kinds of questions: right there, think and search, and on my own. Each type can be figured out by deciding where you get the information for the answer. We call this a Question-Answer-Relationship, or QAR for short. (Raphael, 1982, p. 189)

DISCUSS THE DIFFERENCE BETWEEN TEXT-BASED AND KNOWLEDGE BASED-RESPONSES. STRESS THE DISTINCTION BETWEEN THE TWO

TEXT-BASED STRATEGIES. For "right there" QAR's, both the question and the answer will be in the same sentence. For "think and search" QAR's, you have to put together information from at least two sentences.

TAKE STUDENTS THROUGH THE THREE PRACTICE STAGES (Raphael, 1982).
STAGE ONE: GIVE STUDENTS PASSAGE #1. SHOW QUESTIONS WITH ANSWERS AND QAR'S IDENTIFIED. DISCUSS WHY QUESTIONS AND ANSWERS REPRESENT THEIR RESPECTIVE QAR'S.

STAGE TWO: GIVE STUDENTS PASSAGES FOLLOWED BY QUESTIONS AND ANSWERS, BUT HAVE THE STUDENTS IDENTIFY THE QAR FOR EACH.

STAGE THREE: GIVE STUDENTS PASSAGES AND QUESTIONS ON THE PREPARED WORKSHEET (See Appendix B for an example) AND HAVE THEM READ THE PASSAGE, DECIDE ON QUESTION-ANSWERING STRATEGY, AND THEN WRITE THEIR RESPONSES IN THE BLANK NEXT TO THE QAR.

DISCUSS THEIR ANSWERS.

SUMMARIZE.

LESSON 4

TIME:	9:00-9:30
PLACE:	Classroom
INSTRUCTOR:	Teacher
OBJECTIVE:	Students will learn the meaning of making predictions, as well as why, how, and when to how to use the development of predictions as a strategy for reading comprehension.
MATERIALS:	Students: Strategy worksheet
DIRECTIONS AND PROCEDURES:	The strategy we are going to talk about in this lesson is one that you have heard about in our reading series at various times. We will learn how to make predictions before and during reading. We will be filling out a strategy worksheet for making predictions in order to clarify this strategy in our minds. EXPLAIN WHAT THE WORD PREDICTION MEANS BY TALKING ABOUT WEATHER FORECASTS. THEN LEAD A DISCUSSION ON MAKING PREDICTIONS IN READING BY FILLING OUT THE STRATEGY WORKSHEET AS A GROUP. (See Appendix B) READ A SHORT STORY TO THE CLASS FOR PRACTICE IN MAKING PREDICTIONS. ASK THEM TO MAKE PREDICTIONS BEFORE THE STORY IS READ BASED ON THE PICTURES. THEN HAVE THEM MAKE PREDICTIONS AS YOU PROGRESS THROUGH THE STORY AND HAVE THEM CHECK THEIR PREDICTIONS WITH WHAT IS READ. (The story used for this study was "Clouds," from the book entitled Mouse Tales by Arnold Lobel, 1972.)

LESSON 5

TIME:	9:00-9:30
PLACE:	Classroom
INSTRUCTOR:	Teacher
OBJECTIVE:	Students will become familiar with the what, why, how, and when of the strategy setting purposes and learn how to apply their knowledge to the stories in their Houghton Mifflin basal readers.
MATERIALS:	Students: Strategy worksheet and bookmarks related to basal reader selections
DIRECTIONS AND PROCEDURES:	GUIDE THE GROUP IN FILLING OUT THE STRATEGY WORKSHEET FOR THE STRATEGY OF SETTING PURPOSES. EXPLAIN HOW THE BEGINNING PAGE OF EACH SELECTION IN THEIR HOUGHTON MIFFLIN BASAL READERS STATES THE PURPOSE FOR READING. GIVE THE STUDENTS BOOKMARKS WHICH HAVE THE SPECIFIC PURPOSES FOR THEIR SELECTIONS WRITTEN ON THEM. (See Appendix B) INSTRUCT THEM TO LOOK AT THEIR BOOKMARK OCCASIONALLY AS THEY READ THEIR SELECTIONS IN ORDER TO KEEP THE PURPOSE FOR READING IN MIND.

LESSON 6

TIME:	9:00-9:30
PLACE:	Classroom
INSTRUCTOR:	Teacher
OBJECTIVE:	Students will learn to identify the structure of a typical story by the seven story parts that are represented in Mandler and Johnson's story grammar (cited in Spiegel and Fitgerald, 1986), and will use this strategy to summarize a story.
MATERIALS:	Poster: "The Parts of a Well Formed Story" (cited in Spiegel and Fitzgerald, 1986) Overhead: "Mrs. Cow" (Spiegel and Fitzgerald, 1986, p. 679)
DIRECTIONS AND PROCEDURES:	The stories that you read can be divided into different parts. We will be talking about those parts in our lesson today. If you can identify them in the stories you read, it will make it easier to remember the important details and to tell others about what you have read. SHOW POSTER OF STORY PARTS. Near the beginning of every story you will find the <u>setting</u>. The setting will introduce the main characters and tell when and where the story takes place. The <u>beginning</u> is an event that starts the action. It may present a problem to be solved by the main character. Next, the main character will have a <u>simple reaction</u>. This includes the character's thoughts about or reaction to the beginning.

The goal tells what the main character decided to or wanted to do about the beginning problem.

The attempt describes what the main character tries to do to reach that goal.

The outcome tells if the attempt was a success or not.

Finally, the ending brings the story to a close.

Now we will apply what we know about the seven story parts to a short story about Mrs. Cow. SHOW OVERHEAD OF MRS. COW STORY WITH THE IDENTIFICATION OF THE STORY PARTS AND DISCUSS EACH PART. (See Appendix B)

GIVE THE STUDENTS A SHORT STORY TO READ INDEPENDENTLY AND HAVE THEM IDENTIFY AND WRITE DOWN THE SEVEN STORY PARTS WITH A PARTNER.

LESSON 7

TIME:	9:00-9:20
PLACE:	Classroom
INSTRUCTOR:	Teacher
OBJECTIVE:	To introduce the students to some tips for asking good questions for the purpose of monitoring their own reading comprehension.
MATERIALS:	Poster: "Tips for Asking Questions" (Cohen, 1983)
DIRECTIONS AND PROCEDURES:	FOR THE PURPOSE OF PRESENTING AN OVERVIEW OF THE GENERATING QUESTIONS STRATEGY, READ AND BRIEFLY DISCUSS THE POSTER THAT DISPLAYS SEVERAL TIPS FOR ASKING QUESTIONS INCLUDING WHAT MAKES A SENTENCE A QUESTION, WHAT MAKES A GOOD QUESTION, AND WHEN TO ASK QUESTIONS IN THE PROCESS OF READING A SELECTION. (An outline of the information displayed on the poster can be found in Appendix B.)

Students were given the opportunity to practice using these tips in follow-up lessons related to their basal reader selections.

APPENDIX B

SAMPLES OF VARIOUS MATERIALS

USED DURING METACOMPREHENSION

LESSONS

LESSON 1

READING COMPREHENSION
STRATEGY WORKSHEET

(To be completed by students during group discussion)

Name of strategy or skill: (Activating Relevant Background Knowledge)

1. What it is:

   (It is bringing what you already know about something and putting it with what you read.)

2. Why it is important to learn:

   (It makes you better prepared to read with understanding. If you don't know anything about the topic of the story or article you will not understand as easily.)

3. How to use it:

   (Use the title and pictures to help you think what you already know about a topic. Predict what you would do if you were a certain character in a story. Weave the old ideas with the new ideas in the story.)

4. When to use it:

   (You use it before you read any type of story or article, and also as you are reading anything.)

Other:

LESSON 1

SELECTION WORKSHEET

Strategy: Background Knowledge
Selection: "The World's Smartest Cat"
(Margolis, 1973, pp. 264-270)

1. Look at the title and pictures that go with the story.

2. What do you know about cats?

3. How is a cat useful in a house?

4. What happens when you put a cat and mouse together?

5. What do you do if you know you don't have to work for what you get? Do you keep working for it?

6. Do you think the cat will keep trying to chase a mouse for his owner if he's given milk no matter what?

7. Read the story. In your mind, weave together the old and new ideas.

8. How was the cat the world's smartest cat?

LESSON 3

QAR'S PRACTICE PAGE

STORY (cited in Pearson, 1985)

Matthew was afraid Susan would beat him in the tennis match. He broke both of Susan's rackets the night before the match.

QUESTIONS (Write your answers by the correct QAR)

1. Why did Matthew break both of Susan's rackets?

Right There --

Think and Search --

On Your Own --

2. Who was afraid?

Right There --

Think and Search --

On Your Own --

3. Why was Matthew afraid?

Right There --

Think and Search --

On Your Own --

LESSON 4

READING COMPREHENSION
STRATEGY WORKSHEET

(To be completed by students during group discussion)

Name of strategy or skill: (Making Predictions)

1. What it is:

(It is thinking about what might happen next. You might predict character actions, problems the character will have, what will be done to solve those problems, or the ending. You can make guesses based on what you know and what you don't know.)

2. Why it is important to learn:

(It helps you understand what you read better if you put your predictions with what actually happens.)

3. How to use it:

(Use your background knowledge and what you are told in the story to figure out what might happen. Look at the pictures and title to predict.)

4. When to use it:

(You will use it to read fiction and nonfiction stories that include characters and actions.)

Other: (Your predictions may change as you gather more information.)

LESSON 5

READING COMPREHENSION
STRATEGY WORKSHEET

(To be completed by students during group discussion)

Name of strategy or skill: (Setting Purposes)

1. What it is:

   (It is your reason for reading the story--what you want to find out.)

2. Why it is important to learn:

   (It helps you focus or direct your attention on the story. It gives you a "target" to shoot for.)

3. How to use it:

   (Use your predictions to help you set purposes. Focus on your purpose as you read. Find details that go along with your purpose. When you finish reading decide if you have fulfilled your purpose. Did you "hit the target"?)

4. When to use it:

   (You will use it for reading informational articles as well as fiction and nonfiction stories.)

Other:

LESSON 5

BOOKMARKS FOR SETTING PURPOSES

YOUR PURPOSE FOR READING
"What's the Matter with Carruthers?"

*What is making Carruthers so grumpy?

Answer after reading:

YOUR PURPOSE FOR READING
"A Different Day"

*What will happen to make this a different day?

After reading, tell what happened to make it a different day:

YOUR PURPOSE FOR READING
"The Princess and the Prime Minister"

*Can the young Princess win the rule of her kingdom?

Answer after reading:
Explain:

LESSON 6

READING COMPREHENSION
STRATEGY WORKSHEET

(To be completed by students during group discussion)

Name of strategy or skill: (Summarizing)

1. What it is:

(It is telling briefly what a story is about or telling the main points of a story.)

2. Why it is important to learn:

(It is a good way to check for comprehension breakdowns. It helps you organize and clarify information.)

3. How to use it:

(Think of the topic of the article or the title of the story as well as the purpose for reading. Then notice details that go along with the topic, title, or purpose. Use these main points for retelling the article or story.)

4. When to use it:

(It can be used for reading any story or informational article to retell actions or information.)

Other:

LESSON 6

STORY PARTS

(Example used as an overhead transparency, cited in Spiegel & Fitzgerald, 1986)

Setting

One day Mrs. Cow was walking around the barnyard on Mr. Brown's farm.

Beginning

All of a sudden she spied Mr. Brown's garden, just outside the barnyard fence. The garden was full of ripe cabbages, tender green beans, juicy melons, and delicious squash.

Simple Reaction

Mrs. Cow said to herself, "My, those vegetables and fruits are very tempting. And I am so hungry."

The Goal

Mrs. Cow decided to get into the garden somehow.

The Attempt

So she trotted all the way back across the barnyard, until she was as far away from the garden fence as she could get. Then she lowered her head and ran as fast as she could right at the fence. Wham! She hit the fence hard.

The Outcome

The fence was old and it broke into 100 pieces. Mrs. Cow smiled in satisfaction and stepped daintly over the shattered fence, into the garden.

The Ending

Mr. Brown, of course, was not very pleased, and tied Mrs. Cow up in the barn for three days as a punishment. But Mrs. Cow was sure that it had been worth it!

LESSON 7

TIPS FOR ASKING QUESTIONS
(Poster)

What is a Question?
- (a) asks for an answer
- (b) ends with a question mark

What makes a good Question?
- (a) starts with a question word
  (examples: who, what, when, where, how, is)
- (b) can be answered by the story or relates to the story
- (c) asks about an important detail of the story
- (d) ones that ask for a yes/no answer should be followed by "Why?"

When do you ask Questions?
- (a) before you read
  --thinking of what it will be about and what will happen
- (b) during the story
- (c) at the end of the story
  --thinking about the story parts
  (characters, problem, goal, solution)

APPENDIX C

PARENT AND PRINCIPAL

CONSENT LETTERS

September 10, 1987

Dear Parents,

I am presently completing my Master's Degree in Remedial Reading at Lindenwood College in St. Charles, Missouri. A Master's Project is required by the college for those students who wish to receive a graduate degree in Education. To fulfill this requirement, I will be conducting a classroom study during October and November.

My third grade students will receive direct instruction to develop their knowledge of the existence, use, and value of the following reading comprehension strategies:

(a) Activating relevant background knowledge
(b) Generating questions
(c) Making predictions
(d) Setting purposes for reading, and
(e) Summarizing

My students will be compared to the third grade class in another school which will receive regular instruction in reading comprehension as described in the Houghton-Mifflin reading series.

Two standardized reading comprehension tests will be given to pretest and posttest the two third grade classes. The results will be compared to see if the treatment made a significant difference in reading comprehension.

I am asking your permission to allow your child to participate in this study which I will be conducting in my classroom. Your child will remain anonymous in the published results. It is important that all students are included in the study. Please sign the permission slip below and return by September 17, 1987. Thank you for your cooperation.

Sincerely,

Lois Funk

Lois Funk

☐ I give my permission to allow _____ to participate in the proposed reading comprehension study in the third grade classroom at Silex Elementary.

☐ I do not want my child to participate in the study. (Please give reason)

_____
(Parent or Guardian Signature)

September 10, 1987

Dear Mr. Heintzelman,

I am presently completing my Master's Degree in Remedial Reading at Lindenwood College in St. Charles, Missouri. A Master's Project is required by the college for those students who wish to receive a graduate degree in Education. To fulfill this requirement, I will be conducting a classroom study during October and November.

My third grade students will receive direct instruction to develop their knowledge of the existence, use, and value of the following reading comprehension strategies:

(a) Activating relevant background knowledge
(b) Generating questions
(c) Making predictions
(d) Setting purposes for reading, and
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My students will be compared to the third grade class in another school which will receive regular instruction in reading comprehension as described in the Houghton-Mifflin reading series.

Two standardized reading comprehension tests will be given to pretest and posttest the two third grade classes. The results will be compared to see if the treatment made a significant difference in reading comprehension.

I am asking your permission to allow me to conduct the proposed study in my classroom. Please sign the permission slip below and return as soon as possible. Thank you for your cooperation.

Sincerely,

Lois Funk

Lois Funk

☒ On behalf of Silex Elementary School, I give my permission for the proposed study to be conducted in the third grade classroom.

☐ I will not allow the proposed study to take place in the third grade classroom at Silex Elementary.

Orbit Heintzelman
(Principal's Signature)

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