

UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

RETHINKING PROFESSIONAL DEVELOPMENT CONCERNING
COMPREHENSION STRATEGY INSTRUCTION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

By
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Norman, Oklahoma
2007

UMI Number: 3263441



UMI Microform 3263441

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RETHINKING PROFESSIONAL DEVELOPMENT CONCERNING
COMPREHENSION STRATEGY INSTRUCTION

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF
INSTRUCTIONAL LEADERSHIP AND ACADEMIC CURRICULUM

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ACKNOWLEDGEMENTS

"From now on I will tell you of new things, of hidden things unknown to you. They are created now, and not long ago; you have not heard of them before today. So you cannot say, 'Yes, I knew of them.' Isaiah 48: 6, 7

Lord, you gave me this scripture long ago and you have certainly fulfilled it. I have done a new thing because of you and I am truly thankful.

I am also very thankful to my husband Terry and my children Lindsey and Eric for their love, encouragement and support throughout this process.

I thank all of my friends who prayed diligently for me but especially Richard Lineberry, Glenna Miller and the late Richard McPhail who saw me through many of my struggles.

I owe a debt of gratitude to Sara Ann Beach Ph.D. who challenged me to do my best and gave me her expertise in the field of Reading.

Lastly, I want to thank my doctoral committee especially those I have worked with closely over the past few years. You have been a wonderful support system and without you I would not have accomplished this great endeavor.

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ABSTRACT

The focus of this mixed methods study was to determine if one form of professional development was more effective than another in promoting teacher change in incorporating comprehension strategies to support students learning from text in the content areas. Data from personal interviews, lesson plans, and field notes of on-site observations of classroom comprehension instruction were used to determine change in teachers' beliefs and practices. Specifically, the study asked the following questions: How does an inquiry model of professional development compare with an interactive model for promoting teacher development in incorporating comprehension strategies in content area reading instruction? How does the participation in each of the models support the teachers' use of comprehension strategies? How do the interactions of the teachers in the professional development models support their use of comprehension strategies? Is there a difference in student comprehension strategy usage and the student's ability to answer higher-level questions that depends on whether they are in a classroom of teachers participating in an inquiry group or in a classroom of those participating in an interactive model of professional development?

Two groups of middle school content area teachers participated in six weeks of professional development in the teaching of comprehension strategies. One group of teachers received six 1-hour workshops on five different research tested comprehension teaching strategies. The other group of teachers participated in a comprehension strategy inquiry group where the teachers chose what they wanted to study regarding comprehension instruction. The inquiry group teachers were also given opportunity to reflect on their teaching of the comprehension strategies in subsequent sessions. Results

showed that teachers in the inquiry group reported teaching more comprehension strategies than the inquiry group. These teachers were also planning and were observed teaching more comprehension strategies than the workshop group. Inquiry group teachers said that the professional development supported their continued teaching of comprehension strategies by allowing them to discuss in small groups and reflect on their teaching.

Student participants included only 6th grade science students of participating teachers. Data sources from students included a survey to determine what comprehension strategies the students said they use and to what extent they use them and a group of informal reading inventory for information regarding the student's ability to answer grade level literal, inferential, evaluative, and vocabulary questions. For the students, a multivariate analysis of variance (MANOVA) was conducted to determine whether the groups were equal on the pretest measures. No significant differences were found between the two groups on the pretest measures of the two dependent variables, MARSI strategy subtests and RIC questions at the multivariate level. A 2 group x 3 MANOVA with repeated measures was then conducted on the two dependent variables to determine changes of strategy awareness and question answering ability over time. Results of a 2 x 3 multivariate analysis of variance (MANOVA) with repeated measures showed significant differences between the two groups, showing that the interactive group was more aware of strategy use at the beginning of the study than the inquiry group students. Univariate analysis showed significant differences between the groups on all three subtests with the interactive group being more aware of using all three different strategy types than the inquiry group. There were no significant differences at the multivariate or

univariate level for question answering ability. After further exploring patterns in the means through the use of profile plots, it appeared that both groups of students increased in their awareness of support strategies, which were the ones taught in professional development. However, after the professional development the students' awareness decreased. There were mixed results with the questions, with inquiry group students increasing in the ability to answer literal and inferential questions from pre to post test one, while the interactive groups increased in answering inferential questions from pre to post test one. Both groups decreased from posttest one to posttest two.

This study illustrated the benefits that teachers can gain from a more personalized type of professional development that includes discussion and reflection upon their learning and teaching. In turn, it appears that students in the classrooms of teachers who are supported by an inquiry group environment can make gains in awareness of comprehension strategies that may result in increased understanding of text content.

CHAPTER ONE

Introduction

Even though reading has been at the forefront of the agenda of school administrators and policy makers for some time, adolescents' need for literacy instruction at the middle and high school level seems to have taken a back seat. Large amounts of resources from state and federal agencies have been appropriated for early literacy development over the past few years. However, literacy instruction does not end at third grade. Adolescents or students in middle school and high school continue to develop as readers and continue to need support.

Adolescents' needs for literacy instruction are different from and more complex than those of younger readers. As students reach middle school age, reading becomes more demanding, requiring readers to pull together skills and processes to make sense of the content rich texts they are challenged to read. By the time students reach middle school, they are also expected to be more self-regulated in their learning. The textbooks they read are more complex. Students are expected to read the text independently, make inferences, organize and synthesize information, and determine the author's purpose across various topics. More sophisticated comprehension is needed to read this more complex text, to research and report on topics, to use technology such as the internet, and to prepare projects or presentations.

Achievement levels for eighth grade students as reported by the National Assessment for Educational Progress (NAEP) in 2005 showed no appreciable gains in reading ability. In fact, the scores have remained relatively flat, fluctuating only four percentage points since 1992. The NAEP (2005) assesses reading achievement at

three levels: Basic, Proficient, and Advanced. Students who are able to read at the Proficient level are considered competent readers at their grade level, the standard all readers should attain. However, according to NAEP (2005) assessment results, only 26% of the eighth grade students scored at the Proficient level and only 3% reached the Advanced level. The majority of these students (42%) scored at the Basic level and 29% fell below the Basic level. These scores indicate that a large number of students struggle with making simple inferences and only partially master how to construct meaning from text at the eighth grade level. With 71% of eighth grade students reading at or below the Basic level, students who are only partially able to master the knowledge available in text are going to continue to struggle as texts become more difficult.

Middle school students, those who are enrolled in grades 6, 7 and 8, come to school with varying degrees of reading ability. Proficient middle school readers are fluent readers with extensive vocabularies. These readers use their prior knowledge to construct meaning from text. When reading content area text, proficient middle school readers know when their comprehension breaks down and use comprehension strategies to aid in their understanding of the text. Some middle school students struggle with reading because they expend a lot of energy decoding words, while others may be able to decode but lack the prior knowledge needed to comprehend new ideas. These students need to read more comfortable material to increase reading fluency and almost all students need some form of vocabulary building instruction to make sense of new ideas in text (Moore, Bean, Birdyshaw & Rycik, 1999). Other middle school students are not aware of their need to use their prior knowledge or comprehension strategies to solve problems in reading but rely on the text, their peers, or teachers to make meaning. In

order to become proficient readers, middle school students need to use comprehension strategies. These strategies include (a) making predictions, (b) generating questions during reading, (c) constructing mental images, (d) monitoring comprehension, and (e) summarizing (Pressley, Goodchild, Fleet, Zajchowski & Evans, 1989). Comprehension strategies require readers to be strategic during reading, consciously evoking their procedural knowledge. As they become more adept at using a comprehension strategy, it becomes more automatic and is built into their repertoire of reading skills (Alexander & Jetton, 2000). When students become proficient at using comprehension strategies they are not only able to summarize text consciously when the need arises but also automatically while reading. These actions free students from using procedural knowledge that slows reading down to acquire declarative knowledge more effectively in their long term memory (Alexander & Jetton, 2000).

Even though middle school readers are not aware of the need to use comprehension strategies as a means to understanding text, their teachers recognize that using prior knowledge, visualizing, and monitoring while reading are all effective comprehension strategies (Bennett, 2003). While teachers are aware of strategies that make reading more meaningful there is still a discrepancy between what they know and what they teach in the content areas. For example, at the middle school level language arts teachers focus on bringing literature in the classroom to engage students with interesting text and give them more practice with reading to improve fluency and hopefully to improve comprehension but don't teach them the comprehension strategies they recognize as effective to understanding text.

Middle school content teachers try to provide students, regardless of reading proficiency, with the content necessary to learn and participate in class in a given subject area. In the past, these teachers have been reluctant to teach comprehension strategies because they felt they lacked the ability and understanding of the pedagogy, having only been required to take one course in teaching reading in the content areas (Romine, Come, & McKenna, 1996). Much of the current instruction in the content areas is orchestrated through a transmission model of teaching, including presenting information through lecture, notes on the overhead, or chalkboard, or reading and either answering questions or summarizing the chapter. This model does not require students to create meaningful learning through interaction with the text (Hinchman, Alvermann, Boyd, Brozo & Vacca, 2003/2004). A student centered participatory model of instruction, on the other hand, includes peer interaction in literature circles and cooperative learning groups and the teacher scaffolding learning through metacognitive conversations about problem solving strategies. This model provides students with the tools they need to utilize their prior knowledge, monitor their own comprehension, and work independently with the text. These tools give students strategies to apply to new learning situations, thus creating life long learners (Hinchman, Alvermann, Boyd, Brozo & Vacca, 2003/2004). In order to implement this type of comprehension instruction, teachers need more knowledge about comprehension strategies, the pedagogy necessary for execution, and confidence in their ability to teach comprehension strategies. In order to support teachers in building a knowledge base of participatory instruction, teachers need access to models of professional development that are themselves participatory.

Portfolios, journaling, and book clubs or study groups are multiple frameworks for professional development that provide teachers with knowledge expansion, confidence building, and supported experiences in participatory learning. An inquiry group is another example of this type of framework for professional development. In inquiry groups, teachers engage in reflection on and study of particular topics of interest to the group. Research on inquiry groups has suggested that knowledge acquired and ownership in instruction through collaboration led to more effective teaching (Anders, Hoffman & Duffy, 2000). While this is a step in the right direction, more research is needed regarding how different types of professional development support teachers in literacy instruction and in understanding the connection between professional development and its effect on student learning (Anders, Hoffman & Duffy, 2000).

Purpose of the Study

The purpose of this study, then, is to explore how two types of professional development supported teachers' comprehension strategy instruction in their content area classrooms. A secondary purpose was to determine if the professional development impacted student learning. The questions guiding the research were:

Purpose 1: Professional Development

How does an inquiry model of professional development compare with an interactive model in promoting teacher development in incorporating comprehension strategies in content area reading instruction?

- a. How does the participation in each of the models support the teachers' use of comprehension strategies?

b. How do the interactions of the teachers in the professional development models support their use of comprehension strategies?

Purpose 2: Student Learning

Is there a difference in student comprehension strategy use and the student's ability to answer higher-level questions depending on whether they are in the classroom of teachers participating in an inquiry group or those in an interactive model of professional development?

Theoretical Framework

This research is grounded in a view of reading as an ongoing developmental process that is embedded in a readers' social and cultural environment. Reading is making sense of text. Therefore, reading is based on the reader's word level skills, including their ability to decode unknown words, their store of words recognized by sight, and their level of vocabulary knowledge. As they process text, readers also use prior knowledge and comprehension strategies to construct ideas.

My definition of reading is grounded in the work of Snow and Sweet (2003), Pressley (2000), Ruddell and Ruddell (1994) and Rosenblatt (1994). These researchers believe that reading is a complex process that includes, but is not limited to, decoding, fluency and comprehension. A proficient reader, according to Snow & Sweet (2003), is one who uses his cognitive abilities such as attention, critical thinking, visualization, and memory to process the text. Snow & Sweet (2003) also assert that the process of reading is ongoing and developmental and that motivation and social cultural context play a significant role in the readers' ability to comprehend. According to Pressley (2000), reading is a process that depends on word level skills, vocabulary, and comprehension

skills. Readers consciously and unconsciously construct ideas from the text based on their prior knowledge. They activate reading processes such as prediction, constructing images, monitoring comprehension, summarizing, and interpretation (Pressley, 2000; Ruddell & Ruddell, 1994). This relationship is an ongoing process where reading and relating to the text is not an end in itself but a journey of growth (Rosenblatt, 1994).

This view of reading is also grounded in Vygotsky's (1978) social constructivist view of learning. Students come from many diverse backgrounds and bring with them signs, symbols, texts, languages, and situations set in their own culture. From the sociocultural perspective, learning to read is not just about decoding and comprehending text but going beyond that and developing cognitive skills necessary for reading efficiently in all areas of the curriculum (Kozulin, 2003). Learning in this perspective is mediated by another person in the context of sociocultural activities. This mediator determines the learning potential of each student in the zone of proximal development. This zone conceptualized by Vygotsky (1978) is the difference between the students' ability to problem solve independently and their ability to solve problems with the support of an expert other. The mediator within the zone of proximal development scaffolds learning for them by using psychological tools. A psychological tool is a cognitive device used by the learner to support him as he moves toward more independent work. For example, when learning about comprehension strategies, students work with these psychological tools with teacher support in the context of reading. As the student appropriates these comprehension strategies, they are able to apply them across different texts with different tasks as generalized tools (Kozulin, 2003). These psychological tools are part of a comprehensive process whereby teachers mediate

student learning through purposeful instruction within the student's zone of proximal development by using an instructional concept called scaffolding. Scaffolding has many definitions, but I prefer Pressley's (2002b) metaphor, describing it as a means for supporting a building in the process of being constructed. As the building takes shape and becomes more self-supporting, less scaffolding is needed to support its foundation. Scaffolding is applied differently based on students differing abilities within their zone of proximal development (Vygotsky, 1978). As with all learners, teachers go through a similar process when learning to teach reading. Teachers need scaffolding to appropriate their own set of psychological tools within their own zone of proximal development.

Definition of Terms

There are several terms used in this study, which while they may be understood in general ways, have specific meanings within this research. The following definitions are meant to place these terms in the perspective of this particular study.

Comprehension Strategies are cognitive strategies that students use to aid in the comprehension of text. They include making predictions, visualizing, monitoring, questioning, summarizing, and interpreting.

Comprehension Strategy Instruction is the use of instructional strategies that help students use comprehension strategies. Representative instructional strategies are: KWL Charts, Question/Answer Relationships, Summarization, and Text Structures.

Professional Development is a course or program in professional education used for experienced professionals to enhance their practical skills, advance them in the latest knowledge or skills in their field, and/or support change in the organization (Dall'Alba & Sandberg, 2006).

Teacher Development is an internal process of change both in teachers' attitude toward their work and where professional performance may improve (Evans, 2002).

Inquiry Group is a form of professional development where teachers meet in collaborative groups to discuss topics and issues within their practice and give and receive feedback on their practice as needed. Teachers are producers and decision makers of the knowledge received (Tillema & Imants, 2005).

Interactive Group is a form of professional development where teachers interact with each other and an outside trainer who chooses and presents information the trainer or other outside source deems important (Tillema & Imants, 2005).

Higher Level Questions are questions that require students to make inferences draw conclusions, interpret an authors meaning and make evaluations based on their interpretation.

Lower Level Questions are questions that can be answered word by word from information read in the text.

CHAPTER 2

Review of Literature

Introduction

In order to understand what types of staff development supports middle school content area teachers' comprehension instruction, it was important to investigate reading as it relates to adolescent literacy and adolescents' need for learning and using comprehension strategies in a socio-cultural context. I will also review the literature regarding effective literacy instruction in the area of teaching comprehension strategies and what teachers believe about incorporating these strategies in their teaching. And finally, I will consider models of professional development and how these models support teachers' use of comprehension strategies in their content area classrooms.

Reading Instruction in Middle Grades

I am defining Adolescent Literacy as the multiple dimensions of reading and writing of students transitioning from elementary to middle school and eventually to high school. These multiple literacies include the knowledge and skills needed for academic reading as well as the reading required in everyday living and connections to the world (Moje, Young, Readence & Moore, 2000). The term Adolescent Literacy was first used by Moore, Bean, Birdyshaw, and Rycik (1999) in their position statement for the International Reading Association (IRA) on adolescent literacy needs and the teaching of literacy at the middle and high school level. The term Adolescent Literacy extended the conception of literacy for adolescents by encompassing the formerly used terms Secondary and Content Area Reading. Those terms confined reading and writing to the academic subject areas and thus restricted its usefulness to the expanding range of

adolescent reading resources. Reading for adolescents requires them to embrace multiple literacies within changing textual and media landscapes (Luke & Elkins, 1999). Forms of text such as the internet, CD-ROM, film, and newspapers, expand the notion of text that is considered traditionally school-based text (Moje, Young, Readence & Moore, 2000). As a result, adolescent readers need literacy skills and strategies embedded in the context of various texts they encounter in school and in their lives. Even though adolescents, or in the context of this study, middle school students, are bombarded with multiple texts, content area texts play a large part in their academic learning. As readers get older they face many challenges with reading and comprehending content area texts. The use of comprehension strategies has been seen as effective in helping them navigate through more complex text. This study focuses on the area of adolescent literacy at the middle school level, and specifically Grades 6-8. In this section I will describe the characteristics of middle school readers and characteristics of content area text. In addition I will review the literature of content area reading instruction which is also a specific focus of this study.

Middle School Readers

According to Pressley (2000), reading proficiently is a process that depends on word level skills, which help in building vocabulary and reading fluency. Word level skills are lower processes students use to make sense of text, such as decoding by recognition of sound symbol relationships. Proficient middle school readers decode words by recognizing chunks of letters, such as blends and digraphs, prefixes and suffixes, as well as Latin and Greek roots and rimes (Pressley, 2000), or as whole words. These readers also use these word parts to decode by using the syntactic and semantic

cueing systems that aid in meaningful word identification and build fluency in reading. Reading fluently aids readers by allowing them to use less of their working memory for decoding and more for comprehension of text. Word-level skills also assist readers in developing vocabulary. Most vocabulary is acquired through the context of reading. So it is important for middle school readers to have a variety of materials available for reading to expose them to words in a variety of contexts to aid in deeper meaning (Pressley, 2000).

Proficient middle school readers also use higher level processing by consciously and unconsciously constructing ideas from the text based on schema activation (Pressley, 2000). Schemas are conceptual structures used to slot categorical knowledge of a concept that helps the reader to understand a particular idea (Anderson, 2000). A reader's schema affects both learning and remembering of information in text. Readers use schema to recall important information from a text by going over the structures in the schema to acquire information to aid in recall. For example when reading about tips for playing golf on a particular course the reader will use a schema about golf to recall which club, stance and swing she previously used to see if the tip would benefit her game. Readers make inferences and elaborations using schema by generating a hypothesis using their prior knowledge along with information in the text to fill in the missing information. For instance, when readers are presented with a cartoon in the comic section of the paper that show people in a line walking past a person dressed as a devil complete with horns, a tail, and a sign on the wall saying "this is the first day of the rest of your life," the schema structure for Hell may be activated for those readers having an understanding of the Judeo-Christian belief system. However, if the reader has no schema for the belief

system or an insufficient schema for it he may not make the elaboration that going to Hell is a bad thing. If the information does not fit the existing schema, then the reader may not comprehend it or may distort the given information (Ruddell & Unrau, 1994).

Proficient readers also use schema to determine important aspects of a text and thus know where to give the most attention, which helps the reader to summarize the important information and delete anything trivial. The organization, extent and depth of knowledge and the interconnectedness between the reader's background experiences is important to adding to existing schema. If the information does not fit the existing schema, then the reader may restructure the schema structures to accommodate the information or reject it completely (Kucer, 2001). This can lead to the loss of important meanings or misinterpretations of the text.

Proficient middle school readers also use conscious and controlled processes, called strategic processes. These processes include setting a purpose for reading, choosing relevant information particular to the reader's goal, making associations between new information and their prior knowledge, figuring out meanings for novel words, and critically evaluating the text about how to use the information in the future.

Since comprehension is a multifaceted process, different strategies are needed for different challenges that occur while reading. A good definition of a strategy is "a thoughtful and effortful mental act designed to maintain existing mental competencies when those competencies are taxed" (Anderson & Roit, 1994 p.126). Strategic reading involves deliberate action by the reader. The strategic reader chooses a strategy to use as a goal of reading or as a means to solving a reading problem, both of which are intentional, effortful means to an end (Paris, Lipson & Wixson, 1994). Metacognition or

thinking about one's thinking processes is central to strategic reading. Metacognition, as defined by Van Den Broek & Kremer (2000), is the conditional knowledge of when to apply strategies as a function of text complexity, situational constraints, and the reader's own cognitive abilities. The decisions readers make regarding what is important in the text and how to integrate it with their background knowledge or adjust their reading speed are important to the reading process. Middle school readers who are highly metacognitive possess knowledge of their strengths and weaknesses as readers. They come to the reading task with an understanding of how to use their prior experiences and monitor their understanding of new text as they set goals specific to accomplishing the task at hand (Brown, 2002). Comprehension strategies such as activating prior knowledge, prediction, constructing mental images, organizing, questioning, summarizing and interpreting (Baker & Brown, 1984) are procedural, purposeful, effortful, willful, essential, and facilitative in nature (Alexander & Jetton, 2000). An awareness of purposes for reading and the knowledge of troubleshooting strategies to repair comprehension failure are necessary to being a strategic reader (Paris, Lipson & Wixson, 1994).

Not all middle school readers are proficient readers. Middle school readers come from diverse backgrounds and experiences. Some of these readers' struggle because they divide their attention between decoding and comprehending, while others may be able to read fluently but read without meaning and thus struggle with making sense of text. And still others decode text but do not monitor their comprehension as they read and therefore are not aware of when their comprehension breaks down. Some students need to read more comfortable material to increase reading fluency and almost all students need some

form of vocabulary building instruction to make sense of new ideas in text (Moore, Bean, Birdyshaw & Rycik, 1999). Middle school students may come with some reading strategies they learned in elementary grades, however, more reading strategies are needed to make sense of abstract, complex subjects (Moore, Bean, Birdyshaw, Rycik, 1999). For many of these less proficient readers, content area reading can be a daunting task.

Content Area Reading

In this study content area reading includes reading subject matter text specifically science, social studies and literature. Reading in the content areas can be problematic for some middle school students. The vocabulary in these texts is significantly more difficult than in most narrative text. Vocabulary words in content text are more than just words that describe a particular characteristic but are labels that describe larger concepts. For example, in order for readers to understand what makes up an atom they need to learn words like electron, neutron and proton and how they work together. The reader needs to have the background knowledge in the particular content area to understand the text and to also use these words as building blocks to apply to future learning. Authors of content area texts often do not take into consideration a readers' prior knowledge. In an analysis of four social studies texts used for fourth and fifth grade readers, Beck, McKeown, & Grumoll (1989) found that authors of the social studies texts did not give enough background information about concepts in the text but assumed that students had the depth of knowledge needed to make those connections. The authors also found that the text did not provide clear explanations about concepts that would support readers in making inferences among events and ideas. To further understand the prior knowledge of these content area readers, fifth and sixth grade

students were interviewed about the Revolutionary War (McKeown & Beck, 1990). The fifth graders were interviewed prior to studying the topic in their social studies text. The sixth graders had already studied this period in American History. Accounts from both groups showed only vague and inaccurate knowledge of that period of time. Most of the students had some information about ideas central to the Revolutionary War, such as fighting for freedom, but were confused about who fought the war and the outcome. Sixth grade students did have more knowledge than fifth graders but not significantly more. The inadequate presentation of content in the text was suggested as a factor in the sixth graders lack of knowledge about more specific aspects of the topic. Content text is not always written coherently enough for students to get the information they need to make inferences about the text (Beck, McKeown, & Grumoll, 1989). Additionally, the structure of content texts is not limited to one type of structure. These expository texts may reflect a number of different structures, the most common ones being problem/solution, compare/contrast, cause/effect, question/answer, sequence and description. Some texts contain more than one structure within a given chapter.

Overview of Content Area Reading Instruction

Content area reading instruction came about as a specialty area in the 1900's in recognition of readers' need to learn various strategies in order to be able to read and study particular subject matter content and read for different purposes (Moore, Readence and Rickleman, 1983). Although this specialty area was initially effective in promoting content area reading in the first part of the century, it declined in the middle years, as a result of the behaviorism movement. It emerged again during the cognitive revolution in the seminal work of Herber's (1970) *Teaching Reading in the Content Areas* (Moore,

Readence & Rickleman, 1983). Herber's (1970) focus was on two areas of concern: where reading instruction was provided and by whom, and the effects of reading instruction on student learning of content. Reading instruction prior to Herber's (1970) book had been relegated to the reading teacher while content area teachers taught their content. However, even though students showed improvement on reading tests these improvements did not carry over into their content areas. Herber (1970) called for content area teachers to address reading instruction while teaching subject matter. After that time more research in the area of content area teaching strategies was conducted. Alvermann & Moore (1991) reviewed the literature on content area teaching strategies of the 1970's and 80's. The authors found that the content teaching strategies showed moderate support for students with more able readers benefiting the most. There were several limitations to the research. It was limited by its application to actual classroom practice and had limited teacher input into the actual instruction. Most of the participants in the studies were instructed by the researcher. Other limitations were limited texts where the texts were either designed by the researcher or borrowed from another source.

Content Area Teaching Strategies

My current review of research in comprehension strategy instruction focuses on the teaching strategies that help students use comprehension strategies, such as activating prior knowledge, prediction, organizing, questioning, and summarizing (Baker & Brown, 1984), and the effectiveness of these teaching strategies in improving the comprehension of middle school students' reading in content area text.

This first group of studies focused on teaching students individual comprehension strategies or comparing the teaching of a single comprehension strategy to another form of comprehension instruction and the strategy's effect on student learning.

KWL Chart. Ogle (1986), developed the K-W-L Chart to activate the readers' prior knowledge when used with content area text. Before reading students filled out this three column chart by writing down what they Knew about a particular topic or portion of text, what they Wanted to Learn about a topic or text, and then after reading or studying a topic, write down what they Learned.

Cantrell, Fusaro & Dougherty (2000) conducted a quasi-experimental study using a modified KWL Chart in a journal format comparing it to summary journal writing with seventh grade social studies students. Eighty-nine students were enrolled in one of four social studies classes; two in the morning and two in the afternoon, taught by the same teacher. The two morning classes and subsequently the two afternoon classes were randomly assigned to either the KWL journal group or the summary journal group. The first author modeled each strategy for the four groups of students. Students in the KWL journaling groups followed the directions of the KWL chart but wrote information as journal entries rather than short statements over topics in their social studies text. Students in the journal summary groups were asked to turn topic and chapter headings into questions and summarize their answers. Students using KWL Chart journal writing significantly outperformed students using summary journal writing as assessed by teacher constructed multiple choice tests over content from the social studies text studied. Results suggested that the KWL Chart was more effective than journal summarization because students were able to engage in a before writing component that helped students

relate their prior knowledge to what they wrote after reading. Another consideration was that summarization was simply more difficult for middle school students unless explicitly taught. The quasi-experimental design of this study restricts the generalization of these findings beyond the participants in this study.

Mapping. Berkowitz (1984) examined the effects of two kinds of mapping strategies to organize and aide in sixth graders' recall of expository text. Ninety-nine sixth grade students in four social studies classes participated in this investigation. Two experimental groups were instructed in map-construction and map-study procedures. Two control groups were assigned to question answering and rereading. Teachers were trained in all four instructional procedures and rotated to all groups to teach each of the procedures. They were also given a lesson plan checklist reminding them how to conduct each lesson with follow up visits by the author to check for consistency. All groups were directed to read an assigned passage and then instructed to study the passage according to the instruction given in their assigned group. In the map construction group students constructed a map from their readings and compared it to a model map, then studied both maps and retold what they remembered from their reading to a partner. In the map study group students were presented with a researcher constructed map that the teacher presented and went over. They studied the map and told a partner what they remembered. The question-answer group answered questions in writing, were told the correct answers by their teachers, and studied the answers. Finally in the rereading group students read, reread and studied the text. Upon completion of each procedure students were instructed to then tell a partner what they remembered. Results showed that the map construction group outperformed the map study, question answer, or read reread

group on short answer tests on recall of main ideas. Competent readers recalled more answers than less competent readers. Also, students who were in the map-study group where students studied maps created by the researcher scored the lowest of all the groups, which suggested that students needed to be more actively involved in using study strategies to facilitate recall of information.

QAR. Question-Answer-Relationships or QARs (Raphael, 1982) was developed to draw attention to the types of questions asked in content area text. Four types of questions were introduced, text-based questions were called Right There and Think and Search, while knowledge-based questions were identified as Author and You and On My Own. Raphael and Pearson (1985) studied the role of knowledge of sources of information in students question answering abilities. Fifty-nine sixth graders were assigned to treatment and control groups. Treatment groups were instructed in QARs and practiced, over a period of four days, with text passages developed by the researchers. Prior to the assessment, the control group received brief information about the types of questions in QARs and was told that some of the questions could not be answered directly from the text. Both groups read and answered questions from reading passages created by the authors. Answers from the passage questions were scored based on the students' ability to match the question to the correct QAR and answer it correctly. QAR instruction significantly enhanced students' awareness of task demands on questions based on their ability to identify the type of question being asked. Instruction in QARs significantly improved the quality of the students' answers to text-based and knowledge based questions mediated by reading ability. Readers with high ability levels did better on knowledge based questions whereas average to low ability readers did better on text-

based questions. These outcomes suggest that giving readers information about the relationship between questions and their sources of information increases students overall performance in reading comprehension.

Graham and Wong (1993) investigated the effectiveness of modifying QARs (Raphael, 1982) and the efficacy of comparing two different types of instruction, self-instruction versus didactic, using the modified strategy with fifth and sixth grade average and poor readers. The authors modified the QARs by creating a mnemonic device called the 3H's, "Here", "Hidden", and "in my Head," to make it easier for readers to remember. Students were randomly assigned to three groups: didactic, self-regulation, or control. Reading passages for instruction and assessment were modified from fifth and sixth grade curriculum. Both treatment groups received instruction in the 3Hs. Students in the didactic group were given a prompt card to help in remembering the 3Hs. Students practiced reading passages orally, identified the type of question, and predicted where the answer might be located. Students in the self-regulation group were given questions to ask themselves about the passages and questions in the task and asked to think aloud regarding the steps. The 3H strategy was effective in improving readers' comprehension as assessed by questions from the reading passages. Students in the self-regulation group outperformed students in the didactic teaching group on reading passages. These results suggest that making students aware of the need to monitor their own comprehension while learning about content may have contributed to the success of the self-instruction component.

Generating questions. A strategy similar to Question Answer Relationships is a strategy called generating self-questions. In this strategy students generate higher level

questions from text in order to increase their ability to make inferences and draw conclusions from text. In this particular study, Davey and McBride (2001) investigated the effects of generating self questions on students literal and inferential comprehension processes. Fifty-two sixth graders were assigned to either a question-generating group or a read-reread group. In the question-generating group, students were asked to generate two good think type questions around the most important ideas from the passage read prior to answering the questions. Students in this group were not allowed to look back at the passage during the question-generating activity. In the read-reread group, students were told to read, re-read, and study each passage prior to answering the questions. Results significantly favored the question-generating group over the read-reread group on inferential questions but not literal questions. These results suggested that readers who generate questions from expository text are more successful in recalling higher order information from text.

Summarizing. Rinehart, Stahl and Erickson (1986) studied the effects of explicit and direct instruction in summarization. Seventy sixth grade students in two classes participated in the study. One class was assigned to the experimental group and the other to the control. Students in the experimental group were given explicit instruction in summarizing, consisting of direct explanation, modeling, practice with feedback and breaking down of complex skills. Students were also taught how to monitor, check, and evaluate their use of summarization. Teachers received one and one-half hours of training along with scripts of the summarization procedure to teach their class. Text from social studies books not currently used in the class was adapted as instructional material for the study. Students in the control group did not receive any of the summarization

instruction but did their usual reading from basal readers and worksheets. Students in the summarization instruction group recalled more major information from the social studies text and were able to include more significant information in their summaries of short paragraphs than their control counterparts.

Reciprocal teaching. Other studies examined the effects of teaching small collections of comprehension strategies on students' reading comprehension and focused primarily on Reciprocal Teaching. Reciprocal Teaching (Palinscar & Brown, 1984) included four comprehension strategies: questioning, summarizing, clarifying and predicting. In the first study using Reciprocal Teaching, 24 seventh grade students identified by their teachers as good decoders but poor comprehenders, but not identified as learning disabled or mentally handicapped, participated in the study. Initially, 12 of the student participants were divided into two groups of six subjects each. Six months later 12 other students were assigned to two more groups, one received instruction in locating information and the other was given daily assessments. The three treatment groups received 20 days of instruction. Comprehension group one received instruction using Reciprocal Teaching. Students in group two received instruction in how to find the information needed to answer text-explicit questions by looking for specific words in the text, that is, look at several areas of the text to answer text-implicit questions and use prior knowledge to answer script-implicit questions. Group three students only received daily assessments without intervention, and group four, the control group, received pre and posttests only. Results of the daily classroom comprehension assessments for all groups showed that students who received instruction in Reciprocal Teaching improved their comprehension scores over groups who answered questions by locating information

and practiced taking the assessments. Furthermore, the dialogue teachers used in their instruction of Reciprocal Teaching was seen as significant in improving their ability to use the four strategies of questioning, summarizing, clarifying, and predicting, and, asking them questions about their use of the strategies, guided them in gaining expertise in using them with important content. Students in the Reciprocal Teaching group were able to improve their ability to answer main idea questions. All six students in the Reciprocal Teaching group were answering 40% or more of the main ideas questions by the end of the study and maintained their improved level of performance eight weeks after the intervention.

Palinscar and Brown (1984b) conducted a follow-up study using sixth, seventh and eighth grade students. These students were taught the Reciprocal Teaching Strategies by two regular classroom teachers and two resource teachers over the course of three weeks. The first author modeled the four strategies for the teachers. The teachers practiced the procedures with the first author and then modeled and practiced the strategies with a group of seventh grade students who did not participate in the study. All other procedures and materials in this study were the same as the first study. All students made significant gains on assessment tests by answering 70% of the main idea questions correctly by the end of the study.

Lysynchuk, Pressley, and Vye (1990) investigated the effects of Reciprocal Teaching on seventh grade students' comprehension, as measured by standardized tests. Thirty-six seventh grade students were randomly assigned to either a Reciprocal Teaching condition or a control condition. Students in the Reciprocal Teaching condition were instructed in the four strategies. Students in the control condition were given the

same passages to read silently while the researcher helped with vocabulary and unknown words. Seventh grade reading passages were used for teaching the strategies.

Participants were taught over the course of 13 days similar to the Palinscar and Brown (1984) model of dialoguing with students to instruct them in the strategies. At the end of each teaching session, students were given a 200 word passage to read several times until they felt they understood it, and then were asked to retell the story aloud. On other teaching days, students were asked to answer 10 comprehension questions from the reading. The Reciprocal Teaching group showed improvement on a standardized reading test over a seventh grade group who received no strategy instruction.

Klinger and Vaughn (1996) investigated the effect of two comprehension strategy instructional approaches using Reciprocal Teaching with two groups of learning disabled seventh and eighth grade students who were considered good decoders but poor comprehenders. These students were assigned to either Reciprocal Teaching with cooperative grouping or Reciprocal Teaching with cross-age tutoring. Over a period of 13 days, all students were initially taught an expanded version of the Reciprocal Teaching strategies by the first author. The original Reciprocal Teaching strategies of predicting, clarifying, questioning, and summarizing were expanded more explicitly for the learning disabled students. The strategies were predict about the topic, brainstorm to activate prior knowledge, clarify words or unclear ideas, highlight main idea, summarize main idea and important details, ask and answer questions. In the cooperative group students read passages and used the strategies. In the cross-age tutoring group students taught the strategies to a sixth grade student. Results showed no significant difference between the using the strategies in cooperative groups or in tutoring other students. However, results

from pre and post test measures showed overall significant growth in comprehension on standardized measures. However, without the use of a control group the findings are tempered.

Summary

In this review I have included an overview of the dynamics of middle school content area reading. In middle school grades, students are required to use reading to learn in the content subjects. This requirement may challenge some middle school students who do not have the comprehension and metacognitive skills that enable them to be successful.

Comprehension strategy instruction was seen as effective in improving comprehension of students while reading content area text. The bulk of these studies were conducted with students in sixth, seventh and eighth grade. Some studies were conducted with sixth graders in elementary school settings which can be different from middle school because the students are generally with a single teacher all day and not compartmentalized according to subject. As with the previous studies of the 70's and 80's the students in these studies were primarily instructed by the researcher.

Researchers customarily try to control for bias by eliminating the teacher variable.

However, in Alvermann and Moore's (1991) review of teaching strategies they found that successful treatments were generally those in which the teacher was an active participant.

When they analyzed the strategies that were found effective, 61% of the studies showed the teacher as the instructor versus 48% when it was the experimenter.

Teacher Beliefs, Knowledge and Professional Practices

Getting teachers to implement comprehension strategy instruction in their content area classrooms is challenging at best. Middle school classes are compartmentalized by content area and with that compartmentalizing come a status hierarchy among subject area disciplines (O'Brien, Stewart & Moje, 1995). Middle school teachers are influenced by the need to deliver the curriculum through a controlled framework with the goal of raising standardized test scores. As a result of these influences content area teachers sometimes see comprehension strategy instruction as either a novelty or an added burden to their teaching (O'Brien, Stewart & Moje, 1995). What teachers believe about teaching and the knowledge they possess regarding their pedagogy influence their professional practices. Understanding what influences teachers' beliefs and practices regarding the teaching comprehension strategies within those content area subjects are important to understanding how to help them take ownership in this type of instruction. In this section I will review literature on teachers' beliefs, knowledge and professional practices.

Teacher Beliefs

Preservice and inservice teachers are influenced by their experiences as former students, teachers, and the contexts they have or are currently experiencing (Hall, 2005). For example, if content area reading was relegated to read the chapter and answer the questions students who become teachers are more likely to continue in this vein. Donahue (2000) wanted to know that if his preservice teachers were given time to read and write outside their content area would their beliefs change about how they viewed teaching reading in their respective subject area. Ten preservice science teachers were asked to focus on three questions during their content area reading and writing course:

What does it mean to be literate? How do I help students become readers and writers?

What is the connection between literacy and learning in a subject area? The coursework focused on laying a foundation for literacy education with an emphasis on learning specific strategies for helping students improve in reading and writing. The preservice teachers read and wrote journals and responded to other preservice teachers' journals. Initially the new science teachers reflected on their own abilities as readers and writers. One belief held by half of the teachers was that only English majors know how to read and write. Another belief was that being science majors divorced them from writing as they had not been required to do much writing in their coursework previously. By the end of the course all of the teachers were able to connect their reading and writing to the content or the process of reading to their teaching. Many of the preservice teachers left the course with the belief that teaching reading in science was important by helping their students develop a wide range of reading skills through a wide range of texts. This research suggests that content area reading courses may stimulate students to act on newfound beliefs in their new classrooms.

Preservice and inservice teachers' beliefs can filter their instructional decisions. Two studies are reviewed here comparing preservice and inservice teacher's beliefs about content reading instruction to their decisions regarding instruction and their practices in light of their beliefs. Konopak, and Readence (1994) wanted to examine how academic and professional experience affected teachers' decision making regarding instruction. They asked 58 preservice and 46 inservice teachers currently enrolled in a content reading methods course to complete two sets of belief statements about the reading process. The belief statements contained three theoretical perspectives toward reading.

Text-based beliefs stressed the text as the primary source of information and promoted a skill and drill approach to teaching with the teacher at the center of instruction. Reader-based beliefs emphasized the students' role in bringing meaning to the text based on their prior knowledge which placed the teacher in a role as a model who guided instruction. Interactive beliefs stressed both reader- and text-based knowledge where the teacher both directed the lesson and allowed for students differences. Teachers were also asked to choose from three different lesson plans on decoding, vocabulary and comprehension instruction based on the same categories as the belief statements. The text-based lesson plan emphasized skill and drill practice with the teacher stipulating correct student responses. The reader-based plan emphasized students using prior knowledge to bring meaning to the text while the teacher modeled and guided their learning. Lastly, the interactive lesson stressed that students use both text information and personal knowledge to comprehend text using a variety of comprehension strategies while the teacher directed the lesson but allowed for individual differences. Results showed that preservice and inservice teachers differed across belief statements but were similar in their lesson choices. Preservice teachers chose the interactive explanation of how reading takes place while the inservice teachers chose the reader-based explanation. Both chose a reader-based approach on how reading develops. In choosing the vocabulary and comprehension lesson plans, both groups chose the reader-based plans. On consistency between beliefs and instructional choices, the inservice teachers were more consistent in their choices of both reader-based belief explanations and lesson plans, whereas the preservice teachers differed in their choices of the interactive beliefs explanation on how reading takes place and their choice of reader-based plans. Konopak and Readence

(1994) concluded that the preservice teachers had not had enough experience in teaching to unify their beliefs about reading and instruction. In addition the researchers surmised that the interactive beliefs were possibly on a continuum between text-based and reader-based beliefs. Overall, the results suggested that both preservice and inservice teachers' beliefs do influence their instructional choices. However, as the teachers were not studied in an actual instructional situation, it is difficult to assume their decisions would be consistent with their actual practices.

Wilson, Konopak & Readence (1992) conducted a case study of an English teacher that examined the degree of consistency between the teachers' beliefs regarding comprehension strategy instruction and the actual instruction. The same belief statements used in the Konopak and Readence (1994) study regarding reading process and development were used in this study. The researchers collected lesson plans; observed this teacher during instruction; and conducted a teacher interview that focused on her instructional objectives and activities, as well as, some questions about what might restrict her instructional decisions and actions. The belief statements the teacher chose were reader-based statements reflecting the importance of the students' prior knowledge and allowing for different interpretations of the text. Consistently, the teachers' lesson plans reflected the same reader-based beliefs with the teacher being a model and guiding lessons. However, the lesson observation revealed inconsistencies between the teacher's beliefs and plans. Even though the teacher believed that the use of comprehension strategies were important to the reading process, the only strategy in use during the lesson was reading aloud. The evaluation of the students' knowledge was in the form of an objective test and any discussion was directed by the teachers' interpretation of the text.

This study suggested that even though the teachers' beliefs were reader-based her instruction was inconsistent with those beliefs. Some reasons for the inconsistency were possibly revealed in the teacher's answers to questions regarding constraints that might influence her teaching. She suggested that the diverse abilities of her students and the mandated curriculum required by the district influenced her instructional decisions. Of course, this study was confined to one teacher in one subject area and thus limits its generalizing across subject areas and teachers.

Preservice and inservice teachers' instructional decisions and practices are influenced by the beliefs about how reading develops and how reading takes place. Content area coursework can also influence preservice teachers' beliefs about the importance of teaching reading in the content areas. However, their decisions and practices are also influenced by outside sources such as mandated curriculum demands of subject areas and the need to meet and address diverse reading abilities among students.

Teacher Knowledge

The next group of studies explored inservice teachers' knowledge of teaching comprehension strategies in their content area classrooms. A study by Douville, Pugalee & Wallace (2003) asked 55 fourth and fifth grade science teachers in a survey to report their practices of integrating literacy into their science lessons. The survey asked for a typical science lesson where the teachers had integrated literacy. Teachers were asked to name three to five reading strategies that they found most useful in integrating reading in the lesson and the planning and resources used to implement the integration of literacy. Results showed that elementary teachers' understanding of reading strategies were to

teach writing in journals and answering open ended questions. The teachers did not teach any content area reading strategies.

Bennett (2003), a middle school language arts teacher, wanted to explore whether her students were aware of the comprehension strategies proficient readers used when reading text. She also wanted to know whether their content area teachers and special needs teachers knew about comprehension strategies and were teaching them to their students. She made the assumption that even though teachers used content area text that required skilled reading they did not know how to teach comprehension strategies or even possibly what they were. First she gave her students the Metacognitive Awareness Reading Strategies Inventory, or MARS (Mokhtari & Reichard, 2002), which is used to determine what reading strategies students or adults were aware of using before, during, and after reading text. Then she gave the same survey to their content area teachers and the special needs teachers. Most of their teachers were able to recognize those strategies they used to help them comprehend text. However, most of their students did not recognize those strategies used by proficient readers. When the teachers were shown the results of their surveys and the students' surveys they became much more interested in learning about these comprehension strategies. Making preservice and inservice teachers aware of comprehension strategies that good readers use can influence them to think about including them in their instruction (Bennett, 2003).

Teacher Practices

Some pre-service and inservice teachers report that they do teach some comprehension strategies. The following studies examine preservice and inservice teachers' reports of their current practices of the teaching of comprehension strategies.

Bean and colleagues (Bean, 1997, Bean & Zulich, 1992) explored the effect cooperating teachers had on preservice teachers' teaching of comprehension strategies. Bean and Zulich (1992) conducted a case study to explore the beliefs and practices of three preservice content area teachers regarding the relationship between the content area course they were taking and their field experience. Data were collected using dialogue journals during a practicum and a follow-up interview after their student teaching experience. The interview focused on their recall and teaching of comprehension strategies they had learned from their content reading class and what had influenced their beliefs and practice. The frequency of comments in the dialogue journals revealed three major categories in these teachers' beliefs about teaching comprehension strategies: (a) the value of content area reading; (b) preservice teacher thoughts; and (c) the relationship with their cooperating teacher and students. All three preservice teachers saw the value in teaching comprehension strategies and were able to implement some of them in their field experience. Their cooperating teachers were open to allowing them to teach the comprehension strategies in their classrooms, and the preservice teachers were able to be reflective in their teaching practices. However, during their student teaching experience, two out of the three pre-service teachers were stifled by their cooperating teachers' more traditional teaching methods of lecture and note taking. The cooperating teacher in all of these cases influenced the pre-service teachers' choice of whether or not to teach comprehension strategies by either being open or closed to the exchange of new ideas. The cooperating teachers' attitudes impacted the preservice teachers' abilities to discuss their practices, reflect on their teaching of comprehension strategies, and refine plans for future teaching (Bean & Zulich, 1992).

Bean (1997) also examined preservice teachers' selection and teaching of comprehension strategies and the degree of implementation during a practicum attached to a content area reading course. Bean (1997) also looked at the aspects of the practicum that supported or interfered with the preservice teachers' instruction. Twenty-seven preservice teachers, enrolled in a content area reading course, were initially selected to participate in the study. Following their completion of the course, ten of the 27 preservice teachers were subsequently enrolled in a five day observation practicum followed by student teaching. These 10 preservice teachers were interviewed for the study because they were representative of the content areas and because the other 17 preservice teachers delayed enrollment in the five day practicum or student teaching. During the content area reading course, the preservice teachers were taught a variety of comprehension teaching strategies and asked to choose appropriate ones to teach in a micro-teaching unit assignment related to their various disciplines. Each of the 27 preservice teachers in the course chose one strategy from a variety of 14, including graphic organizers, prereading, questions, KWL, and word maps. Subsequently, when comparing the comprehension teaching strategies originally chosen by the 10 preservice teachers interviewed to the teaching strategies they taught during their practicum or their student teaching, only 2 of the 10 preservice teachers continued to use the same teaching strategy they originally selected during the course. However, 8 out of the 10 continued to use at least one of the teaching strategies introduced in the content literacy course. The preservice teachers reported three influences on their teaching of comprehension strategies. The most dominant of the three was the cooperating teachers' support of teaching comprehension strategies. The preservice teachers took signals from the

cooperating teacher on when and when not to teach the strategies. The second influence was whether or not a particular teaching strategy would fit into how the particular discipline was structured. And third, preservice teachers' struggled with issues between implementing strategy instruction that was more student centered versus a teacher directed environment that gave them more classroom control (Bean, 1997).

In these previous studies, preservice teachers appear to value the importance of teaching comprehension strategies they learn in content area coursework and have beliefs that strategies would be effective with students. However, it appears that their teaching of these strategies was constrained by the cooperating classroom teachers in their practicum and student teaching experiences. The preservice teachers in this study were also influenced by other issues that also influence inservice teachers' teaching of comprehension strategies, such as matching the teaching strategy with the content and keeping control of student behavior in the classroom.

Barry (2002) surveyed 550 former preservice teachers to determine what comprehension teaching strategies they had implemented in their classrooms, how effective they believed they were, and whether or not they would recommend them. Teachers examined a list of comprehension teaching strategies they had previously been taught in a content area reading course. They were asked to rate the teaching strategies in order of effectiveness and whether or not they would recommend them to other teachers. Of all the teachers who returned the survey, each one said they used at least one of the listed strategies. The average number of comprehension teaching strategies the teachers said they taught was 12. The teachers, who felt the comprehension teaching strategies were useful in helping students make connections with text, changed and adapted them to

their content area. Barriers to implementation were that comprehension strategy instruction was time-consuming, difficult to implement and assess effectively, and the lack of instruction in how to implement. They also struggled with whether to teach strategies or cover the material. This study suggested that inservice teachers say they utilize some strategies from their content literacy coursework but they still struggled with some of the same issues of implementation as reported by pre-service in the previous study. Also as this was a self-report survey, it is difficult to know whether the teachers actually used the strategies in their classrooms. A follow up study of some of the teachers surveyed using observations of their actual teaching would be beneficial.

Summary

These studies focused on teachers' beliefs, knowledge, and practices regarding teaching comprehension strategies. Preservice and inservice teachers' beliefs and practices about teaching comprehension strategies were influenced by their content area reading coursework and their beliefs about how reading developed. Outside forces, such as cooperating teachers, school curriculum demands, and student behaviors, were other influences as to whether or not teachers' beliefs about teaching comprehension strategies translated to their classroom practices. Teachers' awareness and understanding of their own strategy use can influence their students' awareness and make the teachers more aware of the need to teach comprehension strategies. This would suggest that more research into how to support teacher implementation would be warranted.

Professional Development

In order for teachers to meet the reading needs of students in the 21st century, teachers need to change their teaching practices. With the intention of making

professional development more effective, researchers need to understand the teacher development process that brings teachers to the decisions to change their practice and the reasoning behind those changes (Pressley & El-Dinary, 1997).

Professional Skill Development

Teacher development, according to Evans (2002) is an internal process of teacher behavioral change that occurs sequentially. Dall’Alba and Sandburg (2006) refer to this process as professional skill development. These authors understand this development to proceed in five stages: Novice, Advanced Beginner, Competent, Proficient, and Expert. At the Novice stage teachers usually follow techniques and methods they have been taught, which they understand how to use within their specific domains. At the Advanced Beginner stage, teachers continue to follow the techniques and methods they have been taught but have developed enough experience to apply them in different situations. Teachers at the competent stage set goals and have a plan for how and when to apply the techniques and methods. Even though the Novice, Advanced Beginner, and Competent teacher have the knowledge to follow and apply the techniques and methods, they still do not completely own them. However, the Proficient teacher now has enough experience to intuitively know when and where different situations need specific practices. Finally, at the Expert stage, the teacher has been transformed from the implementer of techniques and methods to the expert with skillful know-how based on deep situational experience. Even though Dall’Alba and Sandburg (2006) agree that teachers go through the stages of novice to expert when learning a new skill they also acknowledge that the progression is not necessarily linear. They propose that the progression can have both vertical and horizontal dimensions. In their model the vertical

dimension is the level of skill progression and the horizontal dimension is identified as the variations of embodied understanding of practice. As teachers embed their learned skills in situational contexts, they can make the transition from a novice to an expert, taking on different dimensions that are unique to each teacher. For example, a teacher attends professional development about a new strategy for teaching cause and effect. She may not realize that the one she was using was not as effective until she is able to confidently implement the new one. This teacher development process is integral to understanding how teachers' process new knowledge acquired through professional development, in conversations with colleagues or in other contexts of acquiring educational knowledge. However, as professional development is an important element of conveying this knowledge, more consideration is warranted in how it can be effective or ineffective in the teacher development process.

Professional Development

Professional Development is used as one way to help teachers develop the tools they need to improve their instruction. There are differing views on what professional development is and how it should be implemented to be effective in supporting teachers. Schools are required to provide some of the professional development each year to support classroom instruction. Typically teachers attend presentations and workshops for a few days each year. Traditional staff development has not led directly to long-term improvement in practice (Guskey & Huberman 1995, Joyce & Showers, 1995). Typical professional development is imposed by an outside authority and is rarely sustained or followed up. It also reflects a more passive stance for the learner. Professional

development is conducted periodically throughout the school year and usually lacks focus and consistency for teachers or the school (King, 2002).

Research of the 1980's and 90's focused more on process-product reporting on instructional procedures and content covered. Pearson and Fielding (1991) explained a subtle difference between explicit instruction and scaffolded instruction whereas the later required the teacher to analyze the learner's developing understanding to determine the direction for instruction, unlike explicit instruction that has a predetermined plan for teaching. More emphasis on teacher reflection and teacher behaviors based on their beliefs was being explored, predicting that these beliefs drive instruction (Anders, Hoffman & Duffy, 2000). This process of teacher learning was a developing model for constructing more effective professional development programs. These programs focused on the complexities of teacher change, increased awareness of the contexts in which teachers teach, and more sensitivity to the possibilities of collaboration among educators (Anders et. al., 2000). Some examples of long-term professional development have suggested positive features and frameworks, such as (a) portfolios reflecting teachers' beliefs about instruction, (b) journaling as a mediating tool for reflecting on implementation, (c) book clubs/literacy groups/study groups of teachers, and (d) changes in teacher practices and inquiry group or action research (Anders et. al, 2000). A study was conducted to describe the professional development in reading instruction across the nation (Hughes, Cash, Klinger & Ahwee, 2001). A survey was mailed to randomly selected school districts to gather information about professional development programs, program content, program structure, and post-program accountability. Results from the survey showed that the most common professional development topics were specific

reading programs (65%), such as Reading Recovery and Success for All, while specific reading practices ran a close second (64%). These practices included Making Words (Cunningham & Cunningham, 1992) and Collaborative Strategic Reading (Klinger & Vaughn, 1996). The most frequent format for professional development as reported in the survey was the 1-day workshop(s) (70%) followed by half-day (64%) and multi-day workshops (55%). About one-fourth of the directors did state that longer-term professional development was offered but was not as common as the others. When asked about resources or follow-up support for post-professional development, the most common resources were handouts (64%) and supplemental materials (51%) and support was offered in the format of contact information from the presenter to answer any questions about the professional development. Other forms of support, such as classroom observation, feedback, or support groups, were provided by less than one-third of the districts. Only 50% of the directors reported an affirmative response when asked about how teachers integrated instruction received from professional development into their classrooms on a daily basis. The directors who responded positively felt that about 8% of the teachers integrated the instruction received in professional development programs and 69% only integrated the instruction part of the time. This study suggests that there is still much improvement needed in the area of professional development as it relates to changing teaching instruction.

Since professional development is considered to be an important mechanism for teacher development, and previous formats have not been successful in bringing about teacher change, I would like to compare some models and their effectiveness in the teacher development process.

Professional Development Models

Tillema & Imants (1995) describe three models of professional development that stress the construction of knowledge important for development: Dissemination, Interactive, and Inquiry Models. Each model varies in how much voice teachers have in determining what to learn.

The dissemination model is the most well known professional development and has provided the impetus for much research into teacher change. In this model, research based information is presented to teachers for them to study and learn and hopefully implement in their classrooms. The advantage of this model is that it gives teachers explicit information and access to a wide research base. Criticism of this model is that change is based on something that is done to teachers rather than with or by teachers. The expert disseminates information, the teacher takes the information and, if she finds it useful, assimilates it into her current practice (Tillema & Imants, 1995). Surveys completed by teachers about this type of short term workshop showed that they did not find them enjoyable or useful (Richardson & Anders, 2005).

The interactive model is one in which teachers are considered experts. The consultant works closely with them to communicate information. Innovative programs use this model and the teachers are allowed to critique the results and implement the program under the control and evaluation of the consultant. A criticism of this model would be that the teachers are still receiving knowledge and are not the producers of knowledge (Tillema & Imants, 1995).

The inquiry model views teachers as constructing their own knowledge and using it for their own purpose of studying classroom phenomena. This model is a shift away in

the way teacher change is conceptualized. Instead of being linear, teacher change is viewed as a growth process that is complex where teachers are engaged in active learning and reflection (Clark & Hollingsworth, 2002). The control of this model is in the hands of the teacher. Another advantage of this model is that it is more motivating to teachers when embedded in a school-based program. Teachers who construct their own knowledge become more serious in the validation of that knowledge (Tillema & Imants, 1995).

A model of professional development that reflects this idea of active learning and reflection is the Interconnected Model proposed by Clark and Hollingsworth (2002). This model proposes four domains: The External Domain, Personal Domain, Domain of Practice, and Domain of Consequence. The External Domain is where external information or stimulus is received and is considered separate because this domain is located outside of the teachers' personal control. The other three domains are within the teachers' control. The Personal Domain covers the teachers' knowledge, beliefs and attitudes about teaching. The Domain of Practice concerns the teachers' professional practice and experimentation with new ideas. Finally, the Domain of Consequences is the consequences of the teachers' knowledge, attitudes and beliefs as well as professional practice on student outcomes. Change in one domain is mediated in another domain through reflection and enaction. The term enaction is defined by the authors as the action that takes place in the Domain of Practice as a result of a change of attitude or belief in the teachers' Personal Domain. This model encompasses previous staff development models by modeling strategies in professional development but the difference is that the instruction is long-term and ongoing so the teachers can reflect on their process of

implementing new learning as well as get feedback from the consultant. This model of teacher development can be more effective in perpetuating teacher change because it takes into account not just teacher practice but teacher growth. It recognizes the individuality of teachers' learning and practice.

Teachers surveyed about the types of professional development they enjoyed and found useful between one-day workshops, graduate courses, workshops combined with coaching and follow up classroom observation and inquiry approaches ranked coaching and inquiry opportunities for examining their practice the highest (Richardson and Anders, 2005)

One criticism of this model, however, is that it is grounded in qualitative studies and has not been compared to any previous staff development model to determine a causal comparative outcome.

Inquiry Groups

A type of professional development that promotes this notion of enactment in the Clarke and Hollingsworth (2002) model of teacher development are inquiry groups. These inquiry groups gave teachers control in both the content and process of acquiring new information. As it is a relatively new area, educators had a variety of definitions and criteria they use to describe these groups. Some groups used inquiry groups to explore teacher conversations about their teacher development and how that sustained teacher learning (Rust, 1998). Others explored how inquiry groups facilitated teacher change using specific criteria. King (2002) set specific criteria for inquiry groups which included; having control over process and content, critically discussing issues of school mission, curriculum, instruction, or student learning, address areas of disagreement and

entertaining diverse viewpoints drawing upon relevant data and research to inform deliberations and sustaining a focus on a topic or problem, and reaching a collective decision. Crockett (2002) described his inquiry group as a recursive cycle consisting of four stages: (a) identifying teaching and learning problems, (b) lesson planning (c) reflecting on the lesson taught, and (d) assessing the lesson's student work products. In order to understand the impact of these inquiry groups on teacher development, I would like to review the research in this area and also look at its affect, when applicable, on student learning.

Teacher conversations and inquiries were the centerpiece of a qualitative study by Rust (1998), who wanted to examine the issues of teacher development associated with preservice and inservice teachers. Undergraduates and recent graduates from an urban teacher education program met periodically for two years, to discuss issues that included instruction, classroom management, curriculum and administration. Results suggested that the inquiry group's strength was in its voluntary nature and freedom to come when you wanted. The mixture of preservice and inservice teachers allowed for broad learning that was applicable to the participant's lives as teachers. The peer group helped support first and second year teachers in becoming independent autonomous educators. This study supports the notion of teachers, working together to solve-problems in education, can create their own opportunities for learning (Cochran-Smith & Lytle, 1992).

A study of an inquiry group (Nieto, 2003) explored the questions of "What keeps teacher's going?" as a way to challenge the notion of what it means to be a "highly qualified teacher" as defined by the No Child Left Behind Act (2001). The author collaborated with a group of initially 12 and then 8 remaining teachers for one year. She

discovered seven themes that described the main reasons this group of teachers remained in teaching. They were “autobiography, love, hope, and possibility, anger and desperation, intellectual work, democratic practice, and the ability to shape the future” (p.390). Her study of the inquiry group gave her an understanding of the importance of creating these types of communities of teachers to remain connected to their profession, students, and one another. This study suggested that a different approach is needed from the “fixing” students or “filling” teachers with ideas approaches that are currently popular. Of course a limitation to these two previous studies is the notion that it is voluntary and that the teachers who attend are already motivated to change their teaching. More research in how to encourage all teachers to participate in these types of groups would be suggested. These studies do not suggest how these groups support students learning in the classroom which is a teacher’s primary focus. The next few studies investigate how inquiry groups can be used to facilitate teacher change.

King (2002) examined two elementary schools using inquiry based professional development and how it contributed to teacher change. Teachers in these groups received staff development from outside sources in the district, but teachers were also allowed release time to meet in inquiry groups as well as network with teachers from other schools. One of the schools met all of the criteria set by the school district for high levels of inquiry for teachers by having control over process and product, discussing relevant issues to school mission, curriculum, instruction or student learning, entertaining diverse viewpoints allowing research to inform discussions and focusing on a topic to reach a collective decision. Teachers in one of the two schools met all but one criterion. They did not have control over the content they would study due to the all school

implementation of Success for All or SFA (Slavin, Madden, Dolan, & Wasik, 1996) reading program. The focus of inquiry for that school was on how well they were implementing the school wide program. Meetings were held for eight weeks at 45 minute sessions. In their meetings they interacted and received feedback from the facilitators and used the feedback to reflect on their practices. Inquiry groups at the other school met all five elements of criteria. Teachers in those groups focused on clarifying specific outcomes in literacy and math at all grade levels. They met bi-monthly for three hours. Results showed that even when teachers were required to implement a particular program, they still felt that their discussions helped them to learn instructional strategies that helped their students reading. Inquiry groups supported teachers shared commitment to common goals, collaboration and influence in school wide decisions.

Crockett (2002) focused on whether certain aspects of inquiry group interactions generated inquiry that pointed teachers in the direction of reconsidering their beliefs and practices. Four teachers of combination fourth, fifth and sixth grade classes participated in an inquiry group focused on improving their mathematics instruction. The assumption in this study was that any inquiry group aimed at changing teachers' beliefs and practices should be aimed at teachers' everyday activities. Results showed that these "practical" activities were starting points for inquiry into their beliefs about mathematics learning and instructional practices. Open-ended problems which invited discussion did not bring out any beliefs that caused teachers to reconsider their practices; it just caused them to want to find the correct answer. Analyzing student work was effective in creating conflict and generating thinking from the teachers into what was mathematical understanding. However, this study only covered one lesson cycle so it was not possible

to establish that analyzing student work would change the teachers' beliefs to promote improved lesson planning.

Bray (2002) explored different questions about how middle school teachers could change their practice using inquiry groups. Twenty three teachers met in six groups nine times during the year. Each group was responsible for choosing a particular question to answer that was relevant to improving the learning of their middle school students. The subject matter of the questions included: (a) how teachers could improve their practice, (b) incorporating technology in the classroom, (c) changing the school culture, (d) altering the structure of the middle school to improve student learning, and (e) the use of collaborative inquiry. Groups had no formal interaction but relied on teachers with previous inquiry group experience to facilitate the meetings. Teachers in the inquiry groups reported renewed efforts for self-improvement, teacher change in practices, structural and cultural change in school staff and the creation of teacher networks. Teachers in this study believed that inquiry furnished them with a learning strategy that was context specific.

Another study of inquiry groups was conducted in a middle school, professional development school or PDS (Galassi, Brader-Araje, Brooks, Dennison, Jones, Mebane, Parrish, Richer, White and Vesilind, 2000). The emphasis of the study was to explore 3 of 12 collaborative inquiry groups each focusing on one of a variety of subject areas: (a) authentic assessment, (b) community of learners, (c) collaboration in language arts, (d) differentiation, (e) "big ideas" book group, (f) heterogeneous grouping in mathematics, (g) individualized reading instruction, (h) Paideia Seminars, (i) progression (looping), (j) physical education, (k) resiliency/mentoring, and (l) technology integration. Each group

was facilitated by a leader or co-leaders consisting of a university faculty member, classroom teacher(s) and some middle school students. The groups engaged in a variety of research related activities ranging from reading and discussing pertinent literature to designing and analyzing data from a research-evaluation study. The three groups that were the focus of the study were the progression (looping), the “big ideas” book group and the resiliency/mentoring group and their experiences in these groups. They were asked to write anecdotal notes related to their experiences in each group. Results from these groups showed the most important theme encountered was teacher ownership. Teachers in the “big ideas” book group first “owned” their meeting time and place and the books they read. During the process of meeting they evolved into deeper ownership by making connections to what they were reading and discussing to their experiences with their students in their classrooms. In the resiliency group, ownership came in the form of teacher change toward ownership of discipline problems in their classrooms and finally the progression group’s sense of ownership came from teachers’ investment in a new innovation thus giving them a sense of control over their practice.

In contrast to the previous study, another study (MeBane, Galassi, 2001) was conducted in the same PDS middle school and focused on the reactions and responses of first year participants in the inquiry group professional development process and its affect on their continued participation. Sixty-six of the previous 86 participants were surveyed regarding their level of satisfaction in participating in their inquiry group and also asked for recommendations for making it more successful. Results for satisfaction in the PDS experience fell into four categories: (a) it provided an opportunity to share ideas and experiences; (b) it was judged interesting or worthwhile for an unspecified reason; (c) it

resulted in participants learning, receiving feedback or accomplishing goals; or (d) because of some quality of the inquiry group (e.g. supportive environment). Four categories that accounted for dissatisfaction were: (a) too many meetings, and too often; (b) need for leadership and outside assistance; (c) goals too large or too small; and (d) group size being too large or too small. Some of the perceived barriers to participation in the inquiry groups were: (a) lack of time, (b) no barriers, (c) work overload, (d) group factors, (e) expertise assistance, and (f) communication via e-mail and internet. Even though all of the participants in this study were required to participate in the professional development inquiry groups it seemed that benefits were balanced with the negative aspects. Teachers did get something from participating in the groups including possible leadership opportunities. However, time constraints and work overload as well as technological communication difficulties were factors that still needed to be considered when providing this type of professional development in the future.

The research on inquiry groups is varied and limited. As it is a new area for researchers, more research needs to be conducted. The previous studies have focused on the affect of inquiry groups in supporting teacher learning through peer and collegial conversations. Other studies examined the effectiveness of inquiry groups in changing teachers' beliefs, and practices in instruction. Even though there were positive results from these studies they were limited by their qualitative nature and could not give a causal comparative outcome. More research that compares inquiry groups to the typical professional development workshop could help take this research in a positive direction.

Summary

Professional skill development is a process of behavioral change in teachers' beliefs and practices. In this process teachers go through stages from novice to expert but the process is not necessarily linear but is both vertical and horizontal as the teacher embeds their new learning in her own situational contexts. There are various models of professional development that are used as an impetus in this process by providing new information for teachers to take with them to their classroom. However, the previous forms of professional development have not affected teacher change significantly because they do not provide the time for discussion, reflection and implementation teachers need to move through the developmental stages to expert teachers. New kinds of professional development specifically inquiry groups show some promise in meeting the needs of teachers as they allow them to discuss, reflect and take ownership of their learning.

Conclusions

Reading is still an important component for middle school students given the various abilities for fluency and comprehension that they bring to the content area teachers' classroom. Content area text is complex with its variety of structures and multifaceted ideas. These texts can be difficult for middle school students to read and understand unless they are given tools such as comprehension strategies to help them make sense of the text. Teaching students' comprehension teaching strategies such as: (a) KWL Chart, (b) Question-Answer Relationships, (c) summarizing and (d) understanding text structures has benefited students by improving their reading comprehension. Content area teachers also have a daunting task of helping students to understand the content text specific to their particular domain and teaching

comprehension strategies seems to be a superfluous addition to an already full agenda. However, professional development such as inquiry groups that help teachers to implement comprehension strategy instruction through group discussion, reflection and feedback on implementation has shown promising results in getting teachers to change their beliefs about other types of instruction and when compared to other types of professional development may be shown as effective in comprehension strategy instruction as well.

CHAPTER 3

Methodology

The mixed methods design employed in this study used both qualitative and quantitative data. The basis for this mixed methods approach is on the pragmatic knowledge that seeks to collect diverse types of data, both qualitative and quantitative, to have a better understanding of the research problem (Creswell, 2003). The purpose of this study was two-fold. First, I wanted to explore two different types of professional development, an inquiry group, and an interactive workshop group, and the effect of each type of professional development on teacher implementation of comprehension strategy instruction. Second, I wanted to determine if the teacher change in either group affected their students' use of comprehension strategies and comprehension of content texts. The research questions for this study were:

Teachers

1. How does the interactive model of professional development compare with the inquiry model in promoting teacher development in incorporating comprehension strategies to support students learning from text in the content areas?
 - 1a. How does the participation in each of the models support the teachers use of comprehension strategies?
 - 1b. How do the interactions of the teachers in the professional development models support their use of comprehension strategies?

Students

2. Is there a difference in student comprehension strategy use and the student's ability to answer higher-level questions depending on whether they are in the

classroom of teachers participating in a six-week comprehension inquiry group or those in a six-week interactive comprehension workshop?

To answer question 1, a case study approach was utilized to explore the inner workings of professional development in each model, how teachers processed the transition from learning how to teach comprehension strategies to using them in their classroom, and teachers' perceptions of the usefulness of the model of professional development in which they participated.

To answer question 2, I used a quasi-experimental design approach to determine a causal effect of teacher change on students reading ability and strategy use.

The Teacher Study

Participants

The participants in this study were teachers from two middle schools in two rural communities who volunteered to participate in the professional development activities. To be eligible for the study, teachers had to teach language arts, science or social studies to sixth, seventh or eighth grade students. Initially there were nine volunteers, however, only seven teachers met the criteria for inclusion in the study because one teacher was a reading specialist and the other was a substitute. The inquiry group contained five teachers while the interactive workshop group contained two. I chose pseudonyms to use for all teachers in all reports of the study.

Recruitment

I contacted the principals of the two middle schools in two rural school districts, described the research to them, and asked them if their school would like to participate. The principals agreed and allowed me some time in a faculty meeting to recruit their

teachers as participants. Principals also gave me permission to recruit students of the participating teachers for the study. At the faculty meetings, I presented the study to the teachers. I informed the teachers recruited for the inquiry group of the opportunity for them to participate in a Comprehension Strategy Inquiry Group for a period of six weeks about the teaching of reading comprehension strategies in their classrooms (See Appendix A for script and sign up sheet). I also informed the teachers in the interactive workshop group about their opportunity to attend a six-week workshop one day a week on five content area teaching strategies (See Appendix B for script and sign up sheet). At the end of each meeting, I gave the teachers who were interested in volunteering an informed consent form and asked them to read and return it signed within three days if they chose to participate (See Appendix C & D). Upon receipt of the informed consent, I scheduled the professional development sessions with each group.

Data Collection

Data Sources

Data sources included an open-ended survey, teacher lesson plans, teacher interviews and classroom observations. The survey and lesson plans were collected and observations were scheduled four times throughout the study: (a) prior to the professional development, (b) three weeks after the professional development started, (c) after it was completed, and (d) six weeks later. The interviews were scheduled and conducted three times, once before the professional development, once after and again six weeks later. These data sources were collected at these times to look for changes in teacher perceptions toward and behavior in teaching comprehension strategies. Each data source gave me different information to triangulate and thus enhanced the validity of my data.

Survey

The survey, adapted from Konopak, & Readence (1994) and Lenski, Wham & Griffey (1997), was designed to elicit responses about teachers' beliefs concerning how students comprehend content area text using statements such as "The meaning of a content text is usually a joint product of reader knowledge and text information." Other statements like "Teachers should model how to learn from text material so that students gradually acquire their own independent reading strategies" explored their beliefs about comprehension instruction. Belief statements were derived from three divergent explanations of the reading process, text based (Gough, 1985), reader based (Goodman, 1985), and interactive (Rumelhart, 1985). Other statements were derived from three different descriptions of teaching practices defined as (a) "traditional:" someone who uses primarily teacher directed instruction and sees students as blank slates; (b) "eclectic:" someone who uses both traditional and constructivist teaching methods which sometimes conflict and who are unsure about how student's learn; and (c) "constructivist:" someone who practices holistic instruction, integrates curriculum and views students use of prior knowledge in constructing meaning (Lenski, Wham & Griffey, 1997). I chose a sample of questions from both surveys that I felt addressed teachers' beliefs regarding the reading process as either text-based, reflecting a more traditional view of teaching, as interactive having a more eclectic teaching style. or as reader-based having a constructivist view of teaching. The teachers were asked to rate the belief statements taught in the content areas using a Likert scale of 1 (strongly disagree) to 4 (strongly agree). The survey also provided a list of comprehension teaching strategies previously reviewed in comprehension research as beneficial for improving

students' comprehension of text, and I asked the teachers to circle the strategies with which they were familiar and put a checkmark next to those that they currently used in their content subject area. (See Appendix E for the full survey). I used a common set of questions, taken from the survey, as a starting point for the teacher interviews. These questions came from a sampling of text based and reader based belief statements. I then designed follow up questions to extract more information from each teacher about the answers they had marked on the survey.

Interviews

The purpose of the interviews was to elicit the reasoning behind teachers' particular views about the reading process and their teaching of reading. The initial interview occurred one week prior to the professional development. I asked the teachers to set aside a particular time and place for a 20 to 30 minute interview. I interviewed the teacher's in either their classroom, the teacher's lounge or in the front office during their planning period. I used a common set of questions as a starting point.

I chose examples of reader based and text based belief statements from the survey (See Appendix F). I asked each teacher to explain why she thought this way. I also asked the teachers to discuss a lesson they had previously taught around comprehension and their perceptions of whether that lesson was effective in supporting student learning.

The purpose of the second interview was to determine whether the teachers had learned from the professional development and, if so, what was useful. I also wanted to discuss whether the strategies from professional development had changed the way they viewed comprehension development (See Appendix F).

The third interview, which occurred six weeks after the professional development was completed, focused on whether or not the teachers were still using the strategies acquired from the professional development and how the professional development they had received supported their instruction (See Appendix F). I audio taped each interview transcribed the tapes to a laptop computer.

Lesson Plans

A third data source was the reading comprehension lesson plans the teachers had already used in their content area. The purpose of these lesson plans was to provide information regarding the planning, procedures, resources, and assessments that each teacher used for comprehension instruction as well as to determine if the teachers planned the teaching of comprehension strategies in their content instruction. I provided the teachers with a lesson plan form to complete. The following elements were included on this form: (a) the title of the lesson; (b) objective(s) or goals of the lesson; (c) procedures of the lesson, including if the lesson was introduced, any modeling or instructing, the provision of guided practice and/or independent practice and any lesson closure; (d) the materials used in the lesson; and (e) any assessments used to determine to what extent the students understood the lesson (See Appendix G). I asked the teachers to explain each aspect of their lesson in detail.

Observations

The fourth data source was observations. The purpose of the observations was to examine to what extent the teachers actually taught comprehension strategies in their classroom. During the data collection meeting, I asked the teachers what days and times I could schedule an observation in their classroom of a reading comprehension lesson.

Using the dates and times I received from the teachers, I scheduled the observations during the first two weeks following the data collection meeting. Observations were conducted during a 50 minute class period. Field notes were taken, on a laptop or by hand, of the teachers' behaviors and interactions with students during that time. The observers were not aware of the type of professional development in which the teachers they observed participated nor any other pertinent information about the research

The observers were a former classroom teacher/ reading specialist, a preservice teacher and a student majoring in finance. I trained each observer to take field notes describing teacher behaviors and interactions with students during a lesson. To train the observers, I first defined and described what field notes were. Then I discussed the importance of being objective in there observations and of choosing words that were more neutral to describe teacher behaviors as a way of controlling for bias in the observation. The observers read examples of actual field notes and discussed them by looking at the types of language used by the observer. After the discussion, the observers and I watched a videotaped lesson together and practiced taking field notes. I compared my field notes with the observer's field notes by reading each line aloud, looking for language used and consistency between what I saw and the observer saw. If there were any inconsistencies between the field notes taken from the observations, we watched another videotaped lesson and practiced taking field notes again until inter-observer consistency reached above 90%. Next, the observers and I practiced taking field notes while observing a reading lesson in a practicing teacher's classroom. Again, I checked for inter-observer consistency using these observations. Next, the trained observers observed in the classroom of a study participant. During the study, the researcher joined

the trained observer in an actual observation in order to check and maintain inter-observer consistency. Field notes were again examined line by line to determine consistency between the behaviors observed by the researcher and by the trained observers. The consistency between trained observers and the researcher was above 90% at all times based on consistency of field notes taken between both observer and researcher.

Teacher Interactions

Each professional development session was audio taped. This fifth data source provided a way to explore the dynamics of the teachers' interaction in both an inquiry group setting and an interactive workshop setting while learning about comprehension strategy instruction. I audio taped the participants by placing a tape recorder on a table in the middle of each group. I transcribed the audio tapes to a laptop computer.

Procedures

Once the teachers volunteered to participate in the study and returned their signed informed consents, I scheduled a data collection meeting to establish a baseline of teachers' behaviors and perceptions toward comprehension strategy instruction. During each of the first meetings, I asked the teachers to fill out some demographic information (See Appendix H) on them, complete the teacher beliefs survey and write a detailed lesson plan of a reading comprehension lesson they had previously taught in their content area classes. After the two items were completed and collected, I asked the teachers to provide some days, in the next two weeks, they would be available for an observer to come and take field notes during a reading comprehension lesson. Once the teachers had decided on the days they would be available, I dispatched an observer to observe during

one of the days offered by each teacher and took field notes of the lesson presented at that time. One of the teachers only taught one content area science class besides math. So in order to make things standard for all the teachers after the initial observation I chose to observe each teacher in the same class period at the same time. (See Table 1) I asked the teachers, at each data collection meeting, which days and times they would be available to have someone come in to observe them while they conducted a reading comprehension lesson.

Table 1

Teacher Observations

Participant/Subject Area	1 st Observation	2 nd Observation	3 rd Observation	4 th Observation
Inquiry Group				
Jamie Lee 6 th Grade Social Studies	12/13/04 12:45 – 1:30	2/25/05 12:45 – 1:30	4/5/05 12:45 – 1:30	5/12/05 12:45 – 1:30
Hazel 6 th Grade English	12/13/05 2:25-3:10	Out with surgery.	3/31/05 8:35-9:20	5/12/05 8:35-9:20
Susie 6 th Grade Science	12/13/05 1:35-2:20	2/25/05 1:35-2:20	3/31/05 1:35-2:20	5/12/05 1:35-2:20
Mary 8 th Grade English	12/13/05 11:05–12:05	2/25/05 11:05-12:05	3/31/05 11:05-12:05	5/12/05 11:05-12:05
Kate 8 th Grade English	12/13/04 10:15-11:00	2/25/05 10:15-11:00	3/31/05 10:15 – 11:00	5/12/05 10:15-11:00
Interactive Group				
Mrs. Clark 6 th Grade Science	12/09/05 1:15-2:05	2/28/05 1:15–2:05	4/6/05 1:15-2:05	5/12/05 8:05-8:50
Ron 6 th Grade Science	12/15/05 12:20-1:10	3/1/05 12:20-1:10	4/6/05 12:20-1:10	5/17/05 9:50-10:45

However, they were not aware of which class or time chosen for the observation. Even though I decided to observe in the same class each time, I made exceptions with three teachers. After the first observation, Hazel was absent during the second round of

observations due to a major operation. Upon her return, she was only working half days so I scheduled her third and fourth observation time during her morning English class. The other two teachers, Ms. Clark, and Ron, were not available during the times chosen for the last observation due to after school conflicts and end of the school year activities so I chose another day and time from among those made available.

Once I collected the baseline data, I started the interactive workshop and the inquiry group. I scheduled the meetings for the inquiry group once a week in the teachers lounge, during lunch and Channel 1 time. I scheduled the meetings for the interactive workshop group once a week after school, in one of the teachers' classroom. The professional development continued for a period of six weeks.

I collected surveys and lesson plans at a second data collection meeting one week following three weeks of professional development sessions. Observations were scheduled and conducted again at that time. One week following the end of the professional development sessions, I scheduled another data collection meeting to collect surveys and lesson plans as well as schedule an observation and follow up interview. Finally, six weeks after the professional development sessions took place a final data collection meeting was held where surveys and lesson plans were collected along with a follow up observation and interview to determine if the changes in teachers' perceptions and behaviors in teaching comprehension strategies were continuing.

Participants

Inquiry Group

The Inquiry Group took place at Weston Middle School, which was located in a rural community near a large university in a southwestern state. (All names of

participants and schools are pseudonyms). This rural community was located 15 miles from the nearest metropolitan area and had a population of 513 as of the 2003 census. The school district served 700 students and had one elementary school (Pre-K-3), one intermediate school (4-5), one middle school (6–8) and one high school (9-12). The district employed 45 teachers with a teacher student ratio of 16:1. The school district as a whole had 29% of the students receiving free and reduced lunch. Students in the district were 1% African American, 11% American Indian, <1% Asian, 6% Hispanic and 83% White. The middle school had a population of 208 students with an average of 16 students per class, 34% of the middle school students received free and reduced lunch. Weston Middle School students were 12% American Indian, 1% Asian, 6% Hispanic and 82% White. The inquiry group consisted of five teachers, Jamie Lee, Hazel, Susie, Mary and Kate.

Jamie Lee, a 54-year-old white female, taught three sections of sixth grade reading and writing class and three sections of sixth grade Social Studies. She had been teaching in that position for the past five of her thirty years of experience. Her highest level of education was a bachelor's degree. Jamie Lee strongly believed that background knowledge and experience played a major role in students' comprehension of content text and that the meaning of a content text is usually a joint product of reader knowledge and text information. Her beliefs about implementing reading instruction included the idea that in her social studies classes reading instruction should be delivered to the whole class. She felt that her classes were too large to individualize in a 40-minute class period. Jamie Lee also believed that teachers should model content area reading strategies to help students acquire these strategies independently. She reported that she had modeled

context clues, how to recognize fact and opinion and cause and effect. Making predictions, she felt, was something they did not do much of in social studies unless the reading gave them opportunity. Jamie Lee's favorite professional development experiences were in making hands-on activities and games for her students. She stated that she would like to attend more workshops with these types of activities, something she could actually take back and use in her class.

Hazel, a 43-year-old white female, also with a bachelor's degree, taught two sections of seventh grade reading and writing, one section of seventh grade geography and three sections of sixth grade English. She had taught these classes for 12 of her 12 ½ years of teaching experience. Hazel believed that she should deliver content area reading instruction to the whole class but was not opposed to going back over information, as the students needed it individually. Modeling how to learn from text was important to Hazel. She stated that she would talk to students about the bolded material in the text, help them to look for the important ideas and talk about how to find information in the text to answer questions. In English Hazel believed that material should be broken down into specific topics especially when describing cultures or talking about nouns. She also believed that when it came to teaching comprehension, that you taught a general overview of the subject but then came back and taught elements that were more specific. Providing clear precise presentations during instruction was important to Hazel. She felt that by making instruction clear, attempting different ways of teaching in order to meet the needs of all her students was essential. In English instruction, she used an older textbook because she did not feel that the district adopted English text was effective in getting her students to identify the different parts of speech. She wanted to make sure her

students received other ways of learning English concepts. Hazel reported that the professional development she had received over her career had been vague. Other than a few motivational speakers, she said, nothing stood out as being especially helpful with her teaching. She would like more ideas for teaching either from what was working in other school districts or new programs introduced to her. One professional development opportunity she did remember that was helpful was an Accelerated Reader Workshop because representatives for the program introduced how the program worked prior to the district purchasing the program and it appeared to help students reading levels improve.

Susie, a 49-year-old white female, taught one section of seventh grade math, two sections of eighth grade pre-algebra, one section of eighth grade Algebra and one sixth grade science class. She also helped in the library during one of her class periods. She had one and one-half years of teaching experience and had a Bachelors degree. Coming from a math background, Susie felt that individualizing instruction was important in all content areas. She also believed that modeling strategies was important and she said she modeled by pointing out illustrations, tables and vocabulary words in the science text. Susie initially disagreed that teachers should discuss what students know about a topic before teaching it in order to activate prior knowledge before every lesson but then said that she did not think discussing the topic was necessary all of the time. Being a visual person, Susie believed that presentations geared toward all of the learning modalities and broken down into small chunks helped students to digest it more efficiently. She explained that her classroom was not equipped for science experiments so she had to work with what was available, for example, using notebook paper to explain air resistance and friction to her students. Other ways she helped her students to navigate

through their text was to look at the headings using the sections to find the main ideas of each chapter. Susie's degree was in Geology. She completed an alternative certification program and received her license in the teaching of math and science. She had attended a summer camp workshop last summer on ecology that she felt was helpful in giving her a different perspective on how to teach science. Susie felt that she would benefit from more professional development in her content area or with cross-curricular content area activities. She wanted to see what others were doing in their classroom that she might be able to use.

Mary taught three classes of sixth grade math, one seventh grade English class, one eighth grade English class and one seventh grade reading and writing class. She had taught those same classes for all of her 8 years of teaching. She was a 31-year-old white female who had just recently completed her Masters degree in counseling. Mary disagreed strongly that content area reading instruction should always be delivered to the whole class. She explained that the word "always" was the reason for her belief because sometimes you have to pull students aside for individual instruction. Another belief Mary strongly held was that teachers should model how to learn from text material. She explained that if the teacher models how they read the text then students will notice it more readily than if you just tell them what to do. Mary also believed that prior knowledge played a significant role in a student's understanding of text as well as making the student more interested and more willing to read. She did not think that breaking content down into specific topics was necessary for every student because students are at different levels and have different needs. However, Mary did agree that the more clear and precise the presentation, the less time a teacher would have to spend reteaching a

concept. Giving numerous of examples in her presentation on using modifiers in grammar had been beneficial for getting her students to understand that concept. Since Mary had just completed her Masters in Counseling, most of her professional development had been in that area. She had participated in hands on types of math workshops, which she had used in her math classes. She had not had any workshops in English. Having only taught English for two years, Mary was an overflow teacher for English and used other teachers' plans for her instruction. She said that more instruction in teaching this content area would help her to understand the process better and make it her own.

Kate, a 52-year-old white female with a Bachelors degree, taught two sections of seventh grade English and two sections of eighth grade English as well as two sections of eighth grade reading and writing. She had taught these classes for twelve of her 29 years of teaching experience. Kate believed that teaching to the whole class was the most efficient way to teach content. Sometimes her classes contained 30-35 students and trying to instruct more individually in a 45 minute class period was quite a challenge. She also strongly believed that students do not just learn how to read the textbook on their own but that teachers should model how to learn from text material in all the content areas. She believed that one way to help students was to discuss what they knew about a topic before they read it so that the teacher could see any misconceptions the student might have as well as build on what they know. Kate believed that students learn content best when it is broken down especially in English. For example, when working with parts of speech such as infinitives, she believed that teachers needed to discuss infinitives as nouns and then as adjectives and adverbs separately before putting them together. She

also believed that teachers also needed to make sure their students had a clear understanding of a topic before the students started working on it independently. Kate believed that clear precise presentations could support students in working independently. Other ways that Kate supported students learning from text she said was to point out the index, table of contents and other reference tools. Kate felt that the most beneficial professional development that she had attended was when the English teachers got together to align curriculum. This activity helped her know what to teach and what not to teach at her grade level. Other types of professional development that she had received through her district were motivational speakers and people from the State Department of Education. The professional development that she deemed as not effective was the kind where the trainer gave handouts to the group and read from them. Kate stated that she would rather have more workshops with information that focused on specific content that she could take back to her classroom and use.

Interactive Workshop Group

Adair Middle School was the site of the interactive workshop. This middle school, located in a bedroom community near a large university, was about 5 miles from the nearest metropolitan area and contained an estimated population of 5,400 people. The school district had two elementary schools, one with grades Pre-Kindergarten and First, one with grades two and three; one intermediate school with grades four and five; one middle school with grades six through eight; and one high school with grades nine through twelve. The district served a little over 2,740 students. The district employed 195 teachers with a student teacher ratio of 20:1. The district reported that 52% of the students received free and reduced lunch. Student ethnicity was reported as 1% African

American, 7% American Indian, <1% Asian, 3% Hispanic and 89% White. Adair middle school had a population of 671. The student population was 1% African American, 8% American Indian <1% Asian, 2% Hispanic and 88% White. Two sixth grade science teachers, Mrs. Clark and Ron participated in the interactive workshop group.

Mrs. Clark was a 57-year-old Hispanic female who had taught sixth grade science for fourteen years was Teacher of the Year at her school site and for the district during the year of the study. She had a Bachelors degree. Mrs. Clark believed in whole class instruction. She said that if the teacher had constructed a good lesson about a skill that students needed then they should all be learning the skill. She said she did make exception for those students who might have a learning disability and might need different instruction. She also believed students needed to see the teacher model how to learn from text because that is how human beings learn. Mrs. Clark also held that the content did not need to be broken down to make it more manageable but integrating it into other subject areas such as math and science would make it more relevant to their lives. Mrs. Clark believed in the importance of clear, precise presentations. Teachers needed, she felt, to scaffold for students to make the content meaningful and easier to understand. One example she used was in writing paragraphs. She gave her students an outlining tool with questions that had to answer by the reading the paragraphs in the text. She said that she did not use the classroom science text but did use science magazines. The school policy was that students never brought their textbook to class but instead used it at home for assigned readings for homework. She had a class set of textbooks to use during class instruction. In talking about professional development, Mrs. Clark explained that when she first started teaching she thought that content was the most important thing

for her to teach. As she has attended different workshops, she changed her view, looking for ways to reach students through the content. Another important aspect of professional development for Mrs. Clark was getting feedback on her teaching. She attended another workshop where she learned skills to use in her classroom. Following each workshop, trainers would come to observe her teach the skill and the next week she would receive feedback. She felt that this was the most beneficial type of professional development because the trainers would give her feedback on her teaching.

Ron was a 46-year-old white male with a Bachelors degree and 23 years teaching of experience. He had been teaching sixth grade Science for the past two years. Ron believed teachers needed to teach to the whole class so that the students could get the explanation without having to go over it more than one time. He also held the belief that if teachers modeled how to learn from text material then students might get it more from reading on their own. Ron pointed out the italicized words to his students and they reviewed the more difficult vocabulary before reading a text. He also felt that students learn content best when it is broken down into specific topics because that is the way he has always done it and he felt that it helped the students to focus better. Ron also believed content teachers needed to give clear presentations. One way he felt that a content teacher could give a clear presentation was by doing hands on experiments. Looking at the pictures of the things students would be using and going over the terminology gave the students a better understanding of the concepts taught. One professional development workshop that changed Ron's teaching was about teachers having positive expectations and attitudes toward students. He felt that more workshops

like that one where he learned about motivating students and disciplining students would be most beneficial to his teaching.

Professional Development

Inquiry Group

I designed inquiry group around the first three aspects the three stages of Cochran's inquiry group model. This model included: (a) identifying teaching and learning problems, (b) lesson planning, and (c) reflecting on the lesson taught. The first session occurred in the teachers' lounge of Weston Middle School. I began the session by defining the term "inquiry group". I told the teachers that an inquiry group gave them control over their own professional development by involving them in decisions about what they needed or wanted to learn, in this case about comprehension strategy instruction. I told them that my role was that of facilitator to suggest, research, and model the strategies that they wanted to learn more about. I also explained that at the end of each session, they would write a lesson plan on the strategy learned to use the following week in their classroom. I also stated that at the meeting following their implementation I would give them an opportunity to reflect on their instruction. The teachers then filled out a form called What Do We Plan to Study (IRA 2002) (Appendix I)? This was used as a guide to planning the content to be learned. The teachers wrote what they did well in the area of comprehension instruction, what they questioned, or were unsure of, or needed to know more about in the area of comprehension strategies, and what their priorities were in learning about comprehension strategy instruction. These questions became as a springboard for discussion among the teachers regarding their understanding of comprehension strategy instruction. They discussed their strengths

including introducing vocabulary, asking questions and reviewing previously taught topics to activate prior knowledge. The teachers also described skills with which they felt their students were struggling. They felt that their students could answer questions when the words were the same in the text but struggled when finding answers that were not explicitly stated. They also felt their students had trouble with activating prior knowledge before reading, remembering definitions to vocabulary, paraphrasing and summarizing text after reading. The English teachers in the group also wanted to learn more about writing strategies. Based on their concerns, I wrote down and suggested several strategies that I thought might be helpful. They included Question-Answer Relationships (QAR's), summarization, KWL Chart, Quickwrites, Double Entry Journal, Reading/Learning Log, word or concept sorts and text structures. After constructing the list, I asked the teachers what strategies they wanted me to model in the professional development sessions. Upon looking at the list, the teachers said that they had heard of some of the strategies but were not sure if they had used them. They told me to start at the beginning of the list and model each one at subsequent meetings, as time permitted, and if they remembered using them then be prepared to present another one. In order to model the strategies more efficiently, I decided to group them by categories such as questions, summarization, activating prior knowledge and writing.

In weeks two through six, I modeled the strategies the teachers had chosen in our previous discussion. I also used articles about adolescents and comprehension instruction to model the strategies so that the teachers could see how the strategies could be embedded in a content area and followed up with handouts to take back to their classrooms.

Table 2: Inquiry Group Sessions

Week	Strategy	Article/text	Handout
Week 2	Question/Answer Relationships (QAR's) Generating Self-Questions	Reading Comprehension Instruction for Secondary Students: Challenges for Struggling Students and Teachers by Mastropieri, Scruggs & Graetz (2003)	QAR Question Categories and Examples Generating Self-Questions Categories and Examples of questions.
Week 3	Summarization strategy	Adolescent Literacy: A Position Statement by Moore, Bean, Birdyshaw & Rycik (1999)	3 column graphic organizer for main ideas, details and summaries.
Week 4	Quickwrites	Reading Adolescents; Reading Identities, Looking Back to See Ahead by Alvermann (2002)	Informational handout about Quickwrites.
Week 5	Dual entry journal	Reading Adolescents; Reading Identities, Looking Back to See Ahead by Alvermann (2002)	Informational handout about Dual Entry Journals
Week 6	KWL chart	Literacy Learning A Family Matter (1998) Newman, Caperelli, Kee	KWL Chart

In the second meeting, I modeled two strategies, one from the list, Question-Answer Relationships, and another, Generating Self-Questions, which I felt was similar in content but gave the teachers an alternative way of looking at a questioning strategy. I defined the four types of QAR questions: (a) “right there,” (b) “think and search,” (c) “author and you,” and (d) “on your own.” I gave the teachers a paragraph to read which included examples of each type of question to identify and use later with their students. Once I had modeled each type of question and felt the teachers understood and could identify them, I gave them an article titled Reading Comprehension Instruction For Secondary Students: Challenges for Struggling Students and Teachers by Mastropiere, Scruggs & Graetz (2003) to read. I also gave them questions from the article to identify and answer. While teaching the strategy, Generating Self Questions, I modeled how to create three different types of questions from text: (a) On the Surface, (b) Under the Surface, and (c) Life Application. Using the same article, the teachers created their own questions using these categories. During the session, the teachers discussed the strategies and asked questions to clarify any misunderstandings regarding implementation. At the end of the strategy session, the teachers generated a lesson plan where they prepared to use the strategy in their content area. The teachers also shared their lesson plans with others in the group to give ideas and get feedback. The teachers were given a week to implement the teaching strategy(s) in their classrooms.

At the third session, the teachers filled out a reflection sheet about their comprehension strategy lesson (See Appendix J). This sheet allowed the teachers to discuss their implementation of strategies in their classroom. The reflection prompted them to look at successful aspects of their lesson, what they noticed about the students’

learning, what they noticed about or would change about their implementation. I gave the teachers opportunities to share how they felt about their implementation of the strategy and whether or not the professional development supported the implementation. They also discussed how their students responded to using the strategy and whether or not they were motivated to use it. The teachers also discussed the ways they felt they could have taught the strategy more effectively and thus improve their teaching. After the teachers reflected, I modeled the next strategy, summarization using a 3 column graphic organizer to find main ideas, details and create summaries. The teachers read *Adolescent Literacy: A Position Statement* by Moore, Bean, Birdyshaw & Rycik (1999) to learn the summarization strategy and again wrote a lesson plan to use the following week in their classroom instruction.

In the fourth session, the teachers reflected on their strategy instruction from the previous week, and in this session, I asked the teachers to reflect on what they had learned thus far in the professional development. We used the topics previously discussed in the What Do We Plan to Study survey to discuss whether they needed further feedback on any of the topics and if they wanted to add more. The purpose of this reflection was to continue to give the teachers control over the professional development implementation in the inquiry group model. The teachers said that they were satisfied with what they had learned thus far, and wanted to continue to learn new strategies to take back to their classrooms. The strategy I modeled in this session was Quickwrites where students freely write about a topic prior to, during or after reading to give the teacher an understanding of what the students know or have learned about a particular topic. To use this strategy in the professional development session the teachers were

given Reading Adolescents: Reading Identities, Looking Back to See Ahead, by Donna Alvermann (2002), to read and write about and then wrote a lesson plan using the strategy in their class that week.

In the last two professional development sessions, the teachers continued to reflect and discuss their lesson implementation from the previous week. In the fifth session, I modeled a dual entry journal where students read and chose quotes from the reading to write on one side of a two column graphic organizer and then reflect upon the quote in the other column. The teachers continued to read the Alvermann (2002) article in this session, chose quotes from the article, wrote reflections of what the quotes meant to them and discussed them in the group. In the sixth session I modeled the KWL chart strategy, using the topic of family literacy and the article Literacy Learning A Family Matter (1998) Newman, Caperelli, Kee to find out what they knew about family literacy, what they wanted to learn and finally upon reading, what they learned from the article. After modeling each of those strategies, I again asked the teachers to generate a new lesson plan to use that week. We met the next week to reflect on the teachers' strategy instruction from the previous week. This was the final meeting.

Interactive Workshop Group.

Teachers in this group also met once a week for a period of six weeks. Each week during the six interactive workshop sessions, I introduced and modeled one of five reading comprehension strategies outlined in the table below:

Table 3: Interactive Workshop Sessions

Week	Strategy	Article/Text	Handout
Week 1	K W L Chart	K-W-L: A teaching model that develops active reading of expository text by Ogle (1986)	KWL Chart
Week 2	Question-Answer Relationships (QAR's)	Reading Comprehension Instruction for Secondary Students: Challenges for Struggling Students and Teachers by Mastropieri, Scruggs & Graetz (2003)	QAR Question Categories and Examples
Week 3	Self-Questioning	Reading Comprehension Instruction for Secondary Students: Challenges for Struggling Students and Teachers by Mastropieri, Scruggs & Graetz (2003)	Self-Question Categories and Examples
Week 4	Text Structures: Description, Sequence & Compare/Contrast	Science Textbook	Graphic organizers: webbing, sequence chart and 2 column

Table 3: Cont.

Week 5	Text Structures: Cause and Effect, Problem/Solution	Science Textbook	graphic organizer
Week 6	Summarization	Literacy Learning A Family Matter (1998) Newman, Caperelli, Kee	3 column graphic organizer for main ideas, details and summaries.

All of the sessions continued in the following manner: During each workshop, I introduced each strategy by defining and discussing each type of strategy and its purpose. I modeled how to implement these strategies in a whole class situation. I had the teachers read articles regarding reading comprehension and adolescent literacy or their content area textbook and interact with the other participating teachers in the procedures of describing the strategy, modeling its use, role-playing the implementation of the strategy with the class and calling on students to demonstrate the implementation of the strategy. I also provided handouts that the teachers could use in teaching the strategy(s) to their students. I assigned articles for the teachers to read and they applied the strategies learned to that context. We interacted during the professional development by discussing how to use each strategy in their content area. At the end of each session, the teachers wrote a lesson plan to implement this strategy in their particular content area and shared what they planned to do the following week.

The Student Study

Recruitment

After scheduling a time with the participating teachers, I met with the students in each of the teachers' class periods and explained that if they chose to participate that I would ask them to take a reading test and fill out a survey three different times (See

Appendix L for script). All students in the class were given a parent letter and permission form (See Appendix M and N) and were encouraged to take it home, get it signed and return it to their teacher by the end of the week, even if they were not given permission or chose not to participate. Prior to receiving the permission forms, the teachers were asked to create a list of their students and to categorize them by above average, average and low average readers. I collected the lists of students and all of the parent permission forms from the teachers and scheduled the first testing session to meet in the library during the students lunch period. I provided lunch for all the students who attended with parent permission. At that meeting, I read the informed assent form to the students regarding the responsibilities of participating in the study (See Appendix O for informed assent form). I asked the students to sign the form if they still chose to participate, however if they chose not to participate I told them they could finish their lunch and leave the library.

Data Sources

Data sources for student study included a self-report assessment on strategy use and a group informal reading inventory as well as a demographic questionnaire (See Appendix P). The Metacognitive Awareness of Reading Strategies Inventory (MARSI; Mokhtari & Reichard, 2001; Appendix Q) measured students' awareness of strategy use while reading content area text. The authors designed the inventory on the premise that proficient readers are aware of what they are reading and have a set of strategies for constructing meaning from text. Mokhtari & Reichard (2001) developed the MARSI using reviews of recent research in the area of reading comprehension. The 30 item assessment asked students to identify the types of reading strategies they say they use.

Students identified how often they used strategies in three categories: Global Reading Strategies (e.g. “I have a purpose in mind when I read”), Problem-Solving Strategies (e.g. “When the text becomes difficult I reread to increase your understanding”), and Support Reading Strategies (e.g. “I take notes while reading”). The Likert scale in the inventory asked students to describe how much or how little they used a strategy, using a scale ranging from 1 (I never or almost never do this) to 5 (I always or almost always do this). I scored the instrument by recording the scores under each category of the subscales on the scoring sheet provided by the inventory. The scores in the category were added together to get a subscale score. The authors used factor analysis to determine the structure of the scale and other researchers as expert judges to review items for readability, clarity and redundancy. The authors used Chronbach’s alpha to determine reliability on the instrument for each subscale and for each grade level. Coefficients ranged from .89 to .93 with a total sample reliability coefficient of .93 in their sample.

The narrative and expository passages from the Reading Inventory for the Classroom (Flynt & Cooter, 2004) gave me information about students’ ability to answer different types and levels of questions when reading both narrative and expository text. Both types of text were chosen in order to simulate the type of reading that the students would be doing in their content area classes. I chose reading grade levels fifth through ninth grade because middle school students vary in their reading ability in a single content area classroom. Flynt and Cooter (2004) state that they determined the reading difficulty levels of the passages using a combination of the Fry Readability Graph (1968) and the Harris-Jacobson Readability Formula (1975). Flynt and Cooter (2004) created questions for both the narrative and expository passages and labeled them according to

hierarchical levels (literal, inferential and evaluative). For the first and last round of assessment, I randomly chose two narrative and three expository passages. In the first reading packet, I put the sixth grade level and seventh grade level narrative passages in the front, followed by the fifth grade level expository passage, and then the eighth and ninth grade narrative passages in order of text difficulty. Narrative passages were put first because they usually have less difficult vocabulary than expository. In the second round of assessments, I also randomly chose two narrative and three expository passages, each of different levels, but this time put them in order of grade level difficulty, because the expository passage levels were at the eighth and ninth grade levels. I scored the questions using the answer key provided in the reading inventory. As the questions for the passages were short answer, another doctoral student/reading specialist and a practicing classroom teacher assisted with the scoring. Interrater reliability was determined by randomly choosing a packet of passage answers. I discussed each answer with the two raters and came to an agreement on what was an acceptable answer for each question. I conducted this protocol for both packets. Next, the raters and I randomly chose a packet from the ones remaining and scored them. Once we finished scoring, we compared answers. If we disagreed, we discussed our differences until we came to an agreement. Finally, the raters and I randomly chose another packet and scored each one. This time we checked our answers without discussion to determine a percentage of interrater reliability. If the percentage was less than 90%, we went through the process again with discussion and then scored without discussion again to reach above 90%. After this initial reliability check, we scored the passages. I conducted another interrater

reliability check half way through the scoring and toward the end to maintain a minimum of 90% interrater reliability.

Procedures

The students who signed the assent form remained in the library and I gave them instructions on how to fill out demographic information. After they completed the demographic information form, I administered the reading strategies inventory and the group informal reading inventory. I handed each student a MARSİ (Mokhtari & Reichard, 2001). I read and explained the instructions for filling out the survey. I allowed the students to work at their own pace in filling out the survey and asked them to turn in the survey when it was completed. When the students were finished with the survey, I explained the instructions for the Flynt and Cooter (2004) group informal reading inventory. I gave the students were all five passages to read along with a packet of questions for each of the five passages. I told the students they were to read the first selection silently, turn the selection over and then answer the corresponding questions without looking back at the passage because I wanted to know what information they could recall from reading the passage. Once they had finished reading and answering questions from the first passage, they could read the second and were to continue until they read all the passages or decided to stop participating. I again allowed the students to work at their own pace to read and answer questions from the packets.

At the end of the professional development, I again asked the students to complete a post MARSİ (Mokhtari & Reichard, 2001) and IRI (Flynt & Cooter, 2004). The passages in the second data collection were a different version than given earlier. Six weeks after the professional development, I again asked the students to read and answer

the questions from the same IRI (Flynt & Cooter, 2004) packet from the first data collection time as well as the MARSII (Mokhtari & Reichard, 2001).

Data Analysis

Teacher Study

Interviews.

I began the analysis with the interviews. I took out the transcripts of the initial interviews and randomly chose two for code development. I read those two interviews and used open coding to extract phrases from the teachers' responses about their perceptions of their roles and knowledge about teaching comprehension in their content area classrooms. I reviewed these phrases and grouped them into larger categories. Within each large category, I identified themes. For example, in the "What To Teach" category one theme that emerged was "Curriculum." Within each theme, there were aspects that I identified as sub-themes. For example, under curriculum, the concept "General Information" emerged. Each category, theme, and sub-theme, became initial codes, which I defined in detail and identified. Table 3 illustrates these codes. I used these initial codes to code the rest of the interviews adding or subsuming codes as necessary. Once I had finished coding the initial interviews, I coded the second and third interviews using these codes. From the codes, I created a matrix listing each participant and each interview collected each time. I summarized the coded information from each interview to look for changes over time.

Table 4

Summary of Coding Categories for Teachers Perception of Their Roles and Their Knowledge regarding Teaching Comprehension Strategies

Category	Theme	Sub- Theme	Definition	Examples
What to Teach	Curriculum	General Information	General information in the discipline	Key ideas
		Programs	Basal Readers, English Programs	Shurley English
		Specific Topics	Information specific to topics the class is studying	Infinitives as nouns
		Vocabulary	Vocabulary in the text pertinent to the topic being studied	Difficult vocabulary
	Comprehension Strategies	Using Context Clues	Using the words surrounding a target word to determine its meaning,	techniques, like context clues
		Using Text Features	Using extra features of the text as a guide to meaning	Bold print pictures, graphs, table of contents, index

Table 4: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
	Comprehension Skills	Recognizing Cause & Effect	Identify causes and their resulting effects.	know cause and effect
		Recognizing Fact & Opinion	Differentiating between factual information versus personal opinion.	Recognizing facts and opinion.
		Identifying the Main Idea	Ideas central to the text	About, the main idea
		Identifying Story Elements	Elements that construct a storyline	literary terms
How To Teach	Class Organization	Whole Class	Teach to all of the students in class at the same time.	Just give it, discussed information
		Small Groups	Divide students into small groups for instruction.	kids divide up and we get into groups
		Individual	Work with students one on one.	I work with individual students
	Teacher Behaviors	Breakdown Information	Breaks down information to smaller units	Breakdown materials,

Table 4: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
		Provide Activities	Prepare materials and activities to reinforce concepts	Hands on activities, showed pictures, batteries, wires.
		Have Students Read	Students read the text orally or silently	they read excerpts, they just read
		Asks Questions	Asks questions about information in the text,	I will take an excerpt and ask 6 or 8 questions
Why I Teach That Way	Classroom Organization	Class Size	Number of students in a class at a given time.	I have 30-35 students,
		Reach all Students	Reasons for teaching to the whole class.	so that the students get the explanation without going over it more than one time.
		Learn from each other	Reasons students are divided into smaller groups for instruction.	they usually remember what their group did more than what I did
		Time	Amount of time for instruction.	If you give instruction 2,3,4 then you don't have 40 minutes.

Table 4: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
	Beliefs About Instruction	Teachers Prior Experiences	Experiences teachers have had with previous instruction	I had a teacher in high school, that everyday he walked in and said read the chapter and do the questions at the end and he sat their and read a newspaper, I hated that class and I hated social studies,
		Smaller Chunks of Information	Reasons for teaching information in specific topics	If students are focused on specific topics there going to learn it better.
		Student Participation Important	Reasons for using materials or examples for students to practice independently	If they have some part in what's going on, then their going to learn more, you know
		Cover More Material	Reasons to not read the textbook.	I can cover so much more doing it the way I do I guess.
		Scaffold Instruction	Reasons to model instruction for students and monitor their progress while learning.	You either have to do something prior (to assigning work) or during

Table 4: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
		Make Predictions	Reasons to ask students what's going to happen next in text.	It reinforces their memory a lot, they pay more attention and they retain
		Read More	Reasons for using comprehension strategies	I just worry about not doing enough reading
What Teachers Learned from Professional Development	Teaching Comprehension Strategies	QAR's	Types of questions that are used in text	Yes, I used like those questions you taught us.
		KWL	A chart used to what students know, want to learn and have learned about a topic.	The one that I just recently did was the KWL.
		Summarizing	Covering the main points of a text	Like summarizing when they had to take a main idea and write details

Table 4: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
Comprehension Strategies They Still Use From Professional Development		KWL	A chart used to find out what students know, want to learn and have learned about a topic.	I've done the KWL chart several times.
		QAR's	Types of questions that are used in text	I'm using the four levels of questions
		Summarization	Covering the main points of a text.	I like the summarizing
Reasons Teachers Continued To Use Comprehension Strategies	See Students Benefit		Comprehension Strategies are useful to students	cause I just wanted them to be successful and I just know they're not going to be successful if I don't do something
	Integrate Comprehension Strategies in Content		Reasons to teach comprehension strategies while reading content area text.	I teach reading and writing also so I'd like to improve those skills while we're in social studies
	Ease of Implementation		Not difficult to teach	It was probably the simplest to implement

Table 4: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
Reasons Teachers Not Using Comprehension Strategies	Lack Of Time To Implement		Not enough instructional time to implement strategy instruction	It's hard to work in your schedule
	Lack of Immediate Application		Teacher was not able to immediately use strategies in classroom	If I couldn't use it at that time I didn't get interested.
How Professional Development Supported Teachers	Trainer Interaction		Trainer worked together with teachers in activities.	Just going over them (comprehension strategies) with you.
	Immediate Application		Teacher immediately applied what they learned in professional development.	I had students that I could apply it to right away.
	Discussions		Talking to trainer and colleagues about instruction..	The discussions we had.
	Small Group		Trainer worked with less than 6 people in a group	There were two of us too that was helpful
	Training Time		Trainer worked with teachers over a number of training sessions	It was an ongoing thing that went on for a period of time.

Table 4: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
How Professional Development Did Not Support Teachers	Lack of Time For Implementation		Time needed to teach strategies	I felt overwhelmed next year I'll have more time to incorporate strategies.
	Lack of Time For Training		Time needed to attend training sessions	I would have changed the timing.

I followed the same process and randomly chose two lesson plans for code development. I read the lesson plans using open coding to extract phrases about what they planned to teach during a comprehension lesson in their content area classrooms. I reviewed these phrases for categories. I reviewed these phrases and grouped them into larger categories. Within each large category, I identified themes. For example, in the “Planned Teacher Actions,” category one theme that emerged was “Demonstrate.” Within each theme, there were aspects that I identified as sub-themes. For example under “Specific Topics,” the concept “Summarize” emerged. Each category, theme and sub-theme became initial codes, which I defined in detail and identified. Table 5 illustrates these codes.

Table 5

Summary of Coding Categories for the Teachers' Lesson Plans about What They Planned

To Teach During a Comprehension Lesson

Category	Theme	Sub-Theme	Definition	Examples
Lesson Objective	Specific Topics		To learn information specific to the topics the class is studying.	To gain an overview of cells and their parts
	Vocabulary		To learn vocabulary and their meanings	Vocabulary enhancement
	Theme		To identify the theme of a story	Theme of story
	Cause & Effect		To identify the causes of and resulting effects of an event.	Recognizing cause & effect.
	Learn to Use Comprehension Strategies	Summarize	Cover the main points of a topic, chapter, article.	Summarize each chapter
		Question/Answer Relationship's	Identify four levels of questions, from literal to evaluative.	Identify four levels of questions.
Planned Teachers Actions	Demonstrate	Specific Topic	Show an example of information specific to the topic being studied.	Use books, cardboard ramp, milk cartons, a toy car to show potential and kinetic energy

Table 5: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
	Activate Students Prior Knowledge		Find out what students already know about a topic	Talk about prior knowledge
Category	Theme	Sub-Theme	Definition	Examples
Planned Student Activities	Read		Read information	Students independently read the topic
	Discuss		Talk about information	Discuss
	Answer Questions		Answer questions while reading text.	Fill in blanks on reading study guide.
	Define Vocabulary		Write definitions to key vocabulary	Define key vocabulary
	Use Comprehension Strategies		Students use different strategies to help them read their text.	Summarize each chapter, QAR, Webbing
	Work in Groups	Small Group	Students work in groups completing activities.	Teacher monitors groups
	Work Individually	Individuals	Students work independently completing activities	Students independently read the topic and fill in reading study guide.

Table 5: (Continued)

Category	Theme	Sub- Theme	Definition	Examples
	Teacher Supplied		Materials specifically for reading and answering questions.	Reading Study Guide
	Equipment		Materials used by students to complete an activity.	Each student has 1 bulb, 1 dry cell & 1 ribbon and activity sheet.
	Book or Article		Text used to read information	Literature book
	Talk		Talk about topic with students	Discuss
	Introduce Vocabulary		Discuss vocabulary specific to the discipline	Vocabulary enhancement.
Product or Outcome	Quiz		Define vocabulary or recall information specific to topic	Weekly-vocabulary /content quiz
	Artifact	Worksheet	Evidence of student work	Chart
		Assignment	Students assigned to write on a topic.	Write own biography
		Summary	Cover the main points	Summary of encyclopedia article
		Discussion	Students responses to teacher and each other	Cultural Connections

I used these initial codes to code the rest of the lesson plans, adding or subsuming codes as necessary. Once I had finished coding the initial lesson plans, I coded the second, third, and fourth lesson plans using these codes.

From the codes, I created a matrix listing each participant and each lesson plan collected each time. I summarized the coded information from each lesson plan to look for changes over time.

I also coded field notes of observations of teachers' classroom instruction to look at what they taught in the area of reading comprehension in their content area classrooms. I read and extracted phrases from the field notes of two participants chosen at random.

Table 6 illustrates these codes

Table 6

A summary of coding categories of observations made during classroom comprehension instruction.

Category	Theme	Definition	Examples
What Was Taught	Declarative Knowledge	Information specific to the topics the class is studying	Can someone give me an example of renewable energy?
	Procedural Knowledge	Information specific to completing a task.	I want you to get out a sheet of paper. At the top of the paper write "nonrenewable resources."
	Comprehension Strategies	Reading strategies that aid in understanding text	I am going to model how to summarize
How It Was Taught	Present Questions Orally	Ask questions and respond orally to students' questions answers during discussion.	Can someone give me an example of renewable energy?

Table 6: (Continued)

Category	Theme	Definition	Examples
	Discuss	Teacher and student talk about a topic	they talk briefly about it
	Write Notes	Teacher writes notes on board for students to copy.	writes notes on the blackboard for students to copy down.
	Monitor Students Progress	Check on students while they are working	Is walking around collecting worksheets and checking work.
	Comprehension Strategies Not As Modeled	Teacher taught comprehension strategies differently from professional development models	Let's take that one paragraph. Wrote electric eel on board. What's the next thing it tells us? Wrote on board.
	Have Students Read	Students read the text orally or silently	"You all need to be reading."
	Comprehension Strategies As Modeled	Teacher models comprehension strategies as they were modeled in professional development	What we are going to do is make 3 columns on our paper. One says Main idea, Summaries, Details
	Webbing	Teacher draws a web to organize information	Teacher writes Germany on the board. She makes a cluster around it that includes shady past-war-Hitler and wall-torn down.
	Equipment	Use equipment to demonstrate an example of information	Teacher passes around black light

Table 6: (Continued)

Category	Theme	Definition	Examples
	Present	Teachers have student present information in text.	Has each student teach a different section of the lesson.
Make Written Assignments		Assigned writing in different forms to turn in later.	Define vocabulary, complete worksheet, write summaries, journal, quiz, answer questions
Group Students	Small Group	Students work together in small groups.	Asks if one group has any questions
	Individually	Students work by themselves	". Said they are going to work on it individually because some work faster than others
Student Behaviors	Completing Assignments	Working individually on assigned work given during instruction	Are working on their worksheets, defining vocabulary, presenting, grading papers.
	Ask Teacher Questions	Students ask questions of teacher to clarify.	S. walks up to T. at desk to ask a question.
	Answers Questions Orally	Student answers questions asked by the teacher	S. answers
	Read	Read silently or orally about topic	Students read from handout taking turns
	Group Work	Students work together in small groups	Boy next to me asks another boy what do we do? He helps him click a few times.
	Note Taking	Students are writing down notes from text.	Some students are taking notes
	Use Comprehension Strategies	Students use strategies that aid in understanding of text.	Students write journals, students write summaries.

I reviewed these phrases and grouped them into larger categories. Within each large category, I identified themes. For example, in the “What Was Taught” category, I identified themes such as, “Declarative Knowledge.” I then turned each category and theme into a code, which I defined in detail and showed examples. I used these initial codes to code the rest of the field notes adding or subsuming codes as necessary. Once I applied the codes to both the initial sets, I applied the codes to the other field notes. I used these initial codes to code the rest of the observation field notes adding or subsuming codes as necessary. Once I had finished coding the initial observation field notes, I coded the second, third and fourth observation field notes using these codes.

From the codes, I created a matrix listing each participant and each set of field notes taken from each observation time. I summarized the coded information from each lesson plan to look for changes over time.

Finally, I analyzed information from transcribed audiotapes of interactions between teachers during the professional development sessions. A priori categories were identified that would provide information on group dynamics. With these interactions, I identified categories such as “Questions.” Within each large category, I identified themes such as, “Kind” and sub-themes such as “informational.” I then turned each category and theme into a code, which I defined in detail and identified examples. I used these initial codes to code the rest of the transcribed audiotapes adding or subsuming codes as necessary. Once I applied the codes to both the initial sets, I applied the codes to the other field notes. Table 7 illustrates these codes.

Table 7:

Summary of Coding Categories for the Dynamics of Interactions among Teachers during Professional Development Group Sessions

Category	Theme	Sub-Theme	Definition	Example
Questions	Kind	Informational	Asked a question to acquire information.	What kinds of things do you do when you teaching Reading? Or your English class really?
		Procedural	Asked a question about how to do something.	(KWL Chart) that would be more on an individual level?
		Clarify Information	Clear up any misunderstandings about information on a topic.	Relate it to English?
		Clarify Procedures	Clear up any misunderstandings about how to do a procedure.	So that's under what we do well, what we already do?
	Who Did They Ask?	Group	Asks no one in particular.	What kinds of things do you want to learn?
		Facilitator	Peer directly asks facilitator.	So that's under what we do well, what we already do?
		Peer	Facilitator or peer directly asks peer teacher.	You mean literal questions?
	Who Responded to Whom?	Facilitator To Peer	Facilitator responds to peer's question.	Yeah, put those kinds of things down, what you do. Social Studies, Geography, Science.
Questioning		Peer To Facilitator	Anyone in the group except the facilitator responds the question.	Anything that I get for teaching reading strategies will be good for me, I need to know a lot.

Table 7: (Continued)

Category	Theme	Sub-Theme	Definition	Example
		Peer To Peer	Anyone in the group besides the facilitator responds to someone in the group besides the facilitator.	Kim-yeah reading right, right, Susie- but in those they're just looking for there's the answer. Katie – where's the answer? I can't find it. yeah, Susie- exactly. Katie – it's not in there. Susie - exactly,
		Facilitator to Group	Facilitator responds to all of the group members at the same time.	So I put text structure on the bottom in case we get to that one.
		Group to Facilitator	Group responds corporately to facilitator.	(all agree)
Talk Type	Declarative	What They Know	Statements identifying what they know about teaching comprehension strategies	Well we have things for them to listen for authors strategies, listen for idioms
		What They Want To Know.	Statements identifying what they want to know about teaching comprehension strategies.	When they read a question, if it's in the exact same words they can find the answer, but if they word it differently, they just don't get the gist. What do I do?
		Teaching Comprehension Strategies	Statements of information about teaching comprehension strategies	Ok, we are doing QAR's today, I'm doing a couple, I decided to group them with generating self-questions.

Table 7: (Continued)

Category	Theme	Sub-Theme	Definition	Example
Talk Type	Declarative	Clarifying Information	Statements to clarify information	Ok you ask the question to generate information?
		Activity	Statements made in activities while learning the teaching strategies	Think and Search Cause it's not all together, it's in different parts and in different sentences and we had to put it all together.
		Prior Experience	Statements to previous experiences in teaching comprehension.	In his class today I told them to read it but those kids didn't want to have to read the text they just wanted to answer the questions.
Talk Type	Procedural	Teach Procedures	Statements made about how to teach comprehension strategies.	draw their own picture and write in their own definition of these QAR's,
		Clarifying Procedures	Statements to clarify procedures	The column says; what do we question. What do we need to know more about.
		Comprehension Strategies Plan To Teach	Statements of how they plan to teach a comprehension strategy	You could take an article ...read it and fill out the sheet and tell me what you found.
	Reflective	Problems With Teaching Comprehension Strategies	Statements of reasons for not using comprehension strategies	What's happened in my class is that I've tried journals but this year I've got 143 students I just can't journal with my kids and get them back if their forced to do it every week.

Table 7: (Continued)

Category	Theme	Sub-Theme	Definition	Example
		Comprehension Strategies Might Work	Statements of reasons comprehension strategies might work.	So if we can learn how to answer those types of questions and work with what's expected of that type of question they'll do better on their reading test. That is a real life application.
		Comprehension Strategies They Taught	Statements of what comprehension strategies they taught.	We talked about what the different ones meant you know the right there, the author and me and that gave the kids a better idea of what type of answers
		How Teaching Comprehension Strategies Effected Their Teaching	Statements about how teaching comprehension strategies effected their teaching	I didn't have to do that much instruction time after we went over it (summarization)
		Why Teaching Comprehension Strategies Worked	Statements of reasons comprehension strategies worked.	They (students) knew that it was going to have to be something that they would have input on as well as pulling from the text so that made it really good I thought.
		Things to Change About Teaching Comprehension Strategies Things To Change	Statements of reasons to change comprehension strategy instruction.	I don't think I spent enough time on the explanation.

Table 7: (Continued)

Category	Theme	Sub-Theme	Definition	Example
	Informal	Personal Information	Statements made about personal situations	I've looked back in my checkbook and I've done that a couple of times too, but I guess people can cash them okay
		School Information	Statements made about school situations	He took a blue marker and wrote on the back of Alfonzo's neck, Spencer.

From the codes, I created a matrix listing each participant and each type of interaction. I summarized the coded information from each participant to look for types of interactions that may have contributed to supporting the teachers learning of comprehension strategies. I also created another matrix to identifying who each participant questioned and responded to in order to determine whether who they talked to contributed to supporting the teachers learning of comprehension strategies.

Interrater reliability was determined by randomly choosing a set of data from each of the different types of data available. The interraters used were the same doctoral student/reading specialist and a practicing classroom teacher who assisted with scoring the student tests. With samples of each piece of data I discussed how I chose the codes and explained what they meant with examples from the data. The two raters and I coded a piece of data together, discussed the codes we didn't agree on and came to an agreement on whether a code matched a particular piece of data. I conducted this protocol for all of the different data sources. Next, the raters and I randomly chose another piece of data from the ones remaining and coded them. Once we finished coding, we compared codes. If we disagreed, we discussed our differences until we came to an

agreement. Finally, the raters and I randomly chose another piece of data and coded each one. This time we checked our coding without discussion to determine a percentage of interrater reliability. If the percentage was less than 90%, we went through the process again with discussion and then scored without discussion again to reach above 90%. After this initial reliability check, we coded samples from the rest of the data. I conducted another interrater reliability check half way through the scoring and toward the end to maintain a minimum of 90% interrater reliability.

Student Study

Descriptive Data

In the inquiry group the teachers represented all three grade levels, sixth, seventh and eighth but in the interactive group only sixth grade students were represented. In order to keep the groups similar I filtered out any data that was not specific to sixth graders. The means and standard deviations for the pre and post Metacognitive Awareness of Reading Strategies inventory (MARSI) (2001) (Mokhtari & Reichard, 2002) and the Reading Inventory for the Classroom (RIC) (Flynt & Cooter, 2004) were computed. My next step was to examine the cell sizes. In the first data collection there were 27 students in the interactive group and 25 in the inquiry group respectively but by the third session the sizes had been reduced to 12 students in the interactive group and 14 in the inquiry group due to attrition. Subsequently, I selected all of the students from both groups who had completed the MARSI and RIC on all three occasions for further analysis. Correlation coefficients were computed among the three strategy subsets and three levels of questions.

A multivariate analysis of variance (MANOVA) was conducted to determine whether the groups were equal on the pretest measures. No significant differences were found between the two groups on the 2 dependent variables, MARS strategy subtests ($\text{Wilks } \Lambda = .83, F(3, 22) = 1.48, p = .25$) and RIC questions at the multivariate level ($\text{Wilks } \Lambda = .90, F(3, 22) = .77, p < .05$). There were also no significant differences in groups at the univariate level for either dependent variable F was from .024 to 3.51, p from .073 to .877. A 2 group x 3 times MANOVA with repeated measures was then conducted on the two dependent variables to determine changes on strategy awareness and question answering ability over time. Finally, due to the low power because of the small cell sizes I chose a significance level of .10 to detect potential differences.

CHAPTER FOUR

Findings

Teachers

Analysis of the data revealed some similarities and differences in teacher behaviors between teachers in the inquiry and the interactive professional development models regarding the support they received while learning how to teach comprehension strategies. In the following section, these similarities and differences will be discussed by looking at the categories and themes of each piece of data and how the professional development promoted the teaching of comprehension strategies instruction. Secondly, the discussion will examine how the participation in and interactions of the teachers in each of the professional development groups supported their teaching of comprehension strategies in their content area classrooms. Final analysis will reveal the effect of teacher practices on the student's use of comprehension strategies and their ability to answer higher level questions based on being the student of a teacher in the inquiry group or interactive group professional development.

Supporting Comprehension Strategy Instruction

Beliefs.

Prior to conducting the professional development both groups of teachers shared similar beliefs about teaching comprehension in their content area classrooms. They reported that it was important to teach specific topics, introduce vocabulary and use some published programs. They also felt that instruction should be conducted to the whole class with follow-up help for individual students and occasional small group work. They also agreed that the material they taught should be broken down into smaller chunks to

help students understand the information. For both groups of teachers, asking questions to stimulate discussions, reading aloud and hands on activities were important to their delivery of instruction in order to reach all students at various levels of ability with the amount of time allotted to each class period. A few of the teachers also believed that it was important to model instruction, to understand student's prior knowledge as well as believing that all students needed to participate in class activities and become independent learners. These beliefs were based on their prior teaching experiences. One teacher in the interactive group also believed it was not important to read the text in order to cover all of the material that needed to be taught.

After the professional development both groups of teachers were asked if the professional development had changed their view of comprehension instruction. All but one teacher in the inquiry group said that the professional development had enlightened them with different ways of teaching comprehension; one learned that journal writing was not just for English class but worked as well in social studies. Others felt that it helped them meet the needs of their students by giving them alternative ways to interact with the text. In the interactive group one teacher responded to the question by saying that comprehension instruction was important to helping kids learn. While the other teacher said it made her more aware of the need to monitor students and be aware of their prior knowledge in spite of the fact that she did not have the students do a lot of reading.

Teaching Comprehension Strategies.

Inquiry group teachers reported teaching more comprehension teaching strategies than did the interactive teachers. Teachers in both groups agreed that the teacher/facilitator interactions, discussions in small groups, immediate application to the

classroom and extended time of the professional development supported their teaching of comprehension strategies. However, teachers in the inquiry group also reported that the reflections in the professional development sessions helped them to think more deeply about their instruction. The concerns that all of the teachers addressed regarding the professional development were the lack of time for training and implementation in the classroom.

Prior to the professional development the teachers in both groups shared their experience with teaching comprehension strategies. Some of the teachers in the inquiry group had previous experience with teaching some comprehension strategies like context clues and text features and comprehension skills like cause and effect and fact and opinion. One teacher in the interactive group had also used Question Answer Relationships or QAR's (Raphael, date).

After the professional development the teachers in the inquiry group reported that they had learned at least one new comprehension teaching strategy and a few had learned two. These strategies included the KWL Chart (Ogle, 1986), journaling, summarization, QAR's (Raphael, date). (See Table 8 Below)

Mrs. Clark in the interactive group did not report having learned any of the strategies but felt she learned the importance of needing to improve instruction by modeling, monitoring student's progress and the need for students to read. However, she also reported that she still felt the way she taught still served her purpose of covering the material. Teachers in both groups felt that several factors supported their teaching of comprehension strategies in their classroom. These factors included the teacher-facilitator interactions, discussions in small groups, and immediate application of the strategies in

their classrooms. Teachers in the inquiry group also said that reflections about their teaching shared in the group and the extended professional development over a longer period of time also supported their teaching.

Table 8

Comprehension Teaching Strategies Learned

	Teachers	Comprehension Teaching Strategy
Inquiry Group	Jamie Lee Social Studies	QAR's ,Quickwrites
	Hazel English	Dual Entry Journals
	Kate English	Summarization
	Mary English	Summarization,KWL
	Susie Science	KWL Chart (Ogle, 1986)
Interactive Group	Ron Science	QAR's
	Mrs. Clark Science	Did not report learning a strategy.

Six weeks after the professional development all of the teachers in the inquiry group stated that they continued to teach at least two of the comprehension strategies while the teachers in the interactive group only reported still teaching one strategy. In the inquiry group some of the teachers reported continuing to teach different comprehension teaching strategies from the ones they previously reported learning. Others reported still using the ones they learned but adding another. These strategies included QAR's (Raphael, date), Quickwrites, Dual Entry Journaling, KWL Chart (Ogle, 1986) and summarization. (See Table 9 Below)

Table 9

Comprehension Teaching Strategies Teachers Report Continuing to Use

	Teachers	Comprehension Teaching Strategy Learned	Comprehension Teaching Strategy Continued to Use
Inquiry Group	Jamie Lee Social Studies	QAR's, Quickwrites	KWL Chart (Ogle, 1986) Summarization
	Hazel English	Dual Entry Journals	KWL Chart QAR's
	Kate English	Summarization	Summarization KWL Chart
	Mary English	Summarization KWL	QAR's (Raphael, date) Journaling
	Susie Science	KWL Chart (Ogle, 1986)	KWL Chart QAR's
Interactive Group	Ron Science	QAR's	QAR's
	Mrs. Clark Science		KWL Chart

Several factors contributed to teachers' decisions to continue to teach comprehension strategies. Seeing students benefit was the most mentioned factor from teachers in both groups. Other important factors were being able to incorporate the strategy into their content and ease of implementation. Ease of implementation meant to the teachers that the comprehension teaching strategy was easy enough to embed in their content and they did not have to do much explicit teaching. A couple of the teachers said that they liked Quickwrites because they could just ask their students to quickly write down what they learned instead of asking questions or having students answer written questions. If the comprehension teaching strategies blended well with the teacher's content and were easy to implement, the likelihood that they would continue to teach them increased. Another said she had done the KWL Chart several times because it fit

into her science content and was simple for her to teach at the beginning of a unit. However, if the strategy did not translate well either by ease of implementation or by fitting into their content, the teachers said they discontinued teaching them. In the professional development session on teaching summarization one teacher in the group asked many clarifying procedures questions and said she would have to teach the summarization strategy a few times before she would be comfortable teaching it. This teacher did not report continuing to teach summarization six weeks after the professional development. The final reason given for whether or not to continuing teaching particular comprehension strategies was the time for training and time to implement. All of the teachers mentioned time as a deterrent to teaching some comprehension strategies. The extra time it took to implement these strategies took away from time to learn the content. In addition, time for training was a problem. Some said an hour was not enough time for training, or the time the training was held was not good for them. However, they also said that they didn't know any other time that would have been more convenient for them at the time. At the beginning of each week the teachers would have me present a new strategy and they would implement it in their classrooms that week so they could talk about it when I returned the following week. At the end of the professional development they said that one week was not enough time to learn and implement some of the strategies effectively. However, in the third session of the professional development I asked them if they wanted to slow down and have more time and they all agreed that they wanted me to continue teaching them some more strategies.

Lesson Plans.

Overall, teachers in the inquiry group planned to teach more comprehension strategies than the interactive group. Even though lesson plans collected during the professional development showed all of the teachers in both groups starting to incorporate plans for teaching comprehension strategies in their content areas, teachers in the interactive group started to revert back to their previous lesson plans. After the professional development while all of the teachers but one in the inquiry group still planned to teach a comprehension strategy only one teacher in the interactive group still had a teaching comprehension strategy in her plans. After six weeks all of the teachers but one in the inquiry group had made plans to teach a comprehension strategy as opposed to the interactive group who's planning did not include any teaching of comprehension strategies but were similar to lessons collected prior to the professional development.

The lesson plans collected from the inquiry group before the professional development were similar to those of the interactive group in that they showed plans to teach specific topics, introduce vocabulary, have students read orally, ask questions to stimulate discussion, complete worksheets and take quizzes to evaluate learning.

Lesson plans collected from the inquiry group during the professional development showed the teachers gradually incorporating comprehension teaching strategies into their lesson plans. Susie, the science teacher, continued with a lesson plan similar to the ones previously collected and Hazel, one of the English teachers, did not turn in a lesson plan. However, Jamie, the social studies teacher planned to teach a comprehension skill, in this case cause and effect, using a webbing comprehension

strategy and the other two English teachers Kate and Mary planned to teach a comprehension strategy called summarization. Neither of the summarization lesson plans was organized according to the procedures given in the professional development. In the interactive group Ron planned to teach a specific topic and use the comprehension strategy QARs but his procedures for the strategy were not explained instead he planned to use equipment with his science class to demonstrate the specific topic, introduce vocabulary, have the students read an article and answer questions, complete a worksheet and take a quiz to evaluate their learning. Mrs. Clark did incorporate a plan to teach QARs with procedures for implementation for her science class.

After the professional development, the lesson plans collected from each of the inquiry group teachers included a plan to teach one comprehension strategy. Susie this time planned to teach a KWL Chart. Hazel planned to teach dual entry journals, Kate and Mary and Jamie planned to teach summarization. None of the lesson plans described the procedures for teaching each of these strategies in enough detail to compare them to the procedures in the professional development. Ron in the interactive group went back to planning as he had prior to the professional development by teaching vocabulary specific to the topic being studied. He also planned to have his students read an article and answer questions in oral discussion. Mrs. Clark planned for her science students to read and article and complete a KWL Chart (Ogle, 1986).

The final lesson plans collected from the inquiry group six weeks after the professional development contained plans for Jamie Lee to again teach summarization in her social studies class while Hazel and Mary planned to teach the KWL Chart in their English classes. Susie did not turn in a lesson plan for her science class and Kate planned

to teach her English class a specific topic by talking to students and having them answer questions through discussion of an article or textbook passage to her. In the interactive group Ron continued with plans for students to read aloud and answer questions from their textbook and Mrs. Clark planned for her students to research a topic and write a research report.

Practices.

Classroom observations showed some changes in teacher and student's behavior in teaching comprehension strategies in the classroom. The teachers in the inquiry group showed evidence of attempting to teach comprehension strategies even strategies not taught in the professional development nor taught the same way as the professional development. These strategies were consistent with their lesson plans. Students responded with behaviors that reflected using comprehension strategies by summarizing, webbing and filling out graphic organizers that activated their prior knowledge, monitored their comprehension and set a purpose for reading. This was different from the teachers in the interactive group who were not observed teaching any comprehension strategies. Furthermore the interactive group teachers' student's behaviors were unchanged from behaviors observed before the professional development. However, observations made after the professional development showed that the teachers in the inquiry group did not appear to continue to teach comprehension strategies after the professional development but reverted back to teaching the way they had previous to the professional development.

Observations of classroom instruction prior to the professional development showed that teachers in both groups taught procedural and declarative knowledge by

asking oral questions to stimulate discussion, introduced vocabulary words, read aloud, assigned worksheets and quizzes and monitored student progress on completion of assigned tasks. Students asked questions of the teacher to clarify procedural and declarative knowledge, answered teachers' questions, defined vocabulary words, read orally, worked in small groups, took notes, completed worksheets and took quizzes.

During the time of the professional development, observations of classroom instruction showed two of the five teachers in the inquiry group still taught declarative and procedural knowledge by asking students questions to stimulate discussion, used equipment to demonstrate topic information and assigned worksheets while students answered teacher questions and completed worksheets. The other three teachers taught comprehension strategies. Social studies teacher Jamie Lee taught a webbing strategy to students by creating a larger web on the board and asking students for information from the text to fill it out. Her students read the text and answered questions she asked to complete the web. English teacher Kate taught the comprehension strategy summarization differently from the way it was taught in the professional development. She asked her students questions about what they read and then wrote their answers in a summary of information on the board. Her students answered her questions about the summary. Then she assigned the students in pairs to write their own summaries from reading an article. Her students worked in pairs, read and wrote summaries. Mary also taught summarization in her English class, but taught it the way it was presented in the professional development, by demonstrating how to use a graphic organizer for main ideas, details and summaries and monitored student's completion of their own summaries. She assigned students to use the graphic organizer to write their own

summaries. Her students asked questions while she was modeling the summaries, answered her questions to fill in information, used the graphic organizer to write their own summaries, and asked the teacher for clarification of procedures and information.

Observations conducted after the professional development was concluded showed only one of the teachers teaching the comprehension strategy of journaling. The teacher introduced journaling as a way to write what they learned about the topic and assigned students to read and write a journal about what they read. This was different from the procedures taught in the professional development. I introduced writing a Quickwrite journal from what the teachers thought the article might be about based on the title and headings. Then after reading the article had them write another journal. The rest of the teachers were observed teaching as they had previously taught before the professional development. The final observation showed the same results as observations taken prior to the professional development with no teaching of comprehension strategies. Teachers in the interactive group were never observed teaching comprehension strategies.

Dynamics of Discussions

Both groups asked and answered questions typical of learning new information and procedures for teaching. The interactions were not different in the groups as most of them were between the facilitator and the peers. However the types of talk used in the discussions varied between the professional development groups. Both groups used declarative talk to gain information that helped them discuss what they were learning about teaching comprehension strategies along with procedural talk to understand how to implement the comprehension strategies in their classrooms. However, initially the

inquiry group used their declarative talk to convey what they needed to learn and what they wanted to learn in teaching comprehension strategies. They were also able to use reflective talk more than the interactive group regarding their lessons and their teaching.

Interactions

Questions from the discussions, most often prompted by me, occurred in both groups. The types of questions asked were informational, procedural, clarifying, and reflective. In both groups I used informational questions to solicit what they knew about teaching comprehension strategies. However, in the inquiry group the teachers asked informational questions about what they wanted to know regarding teaching comprehension strategies. Teachers in both groups also asked procedural questions about how to teach a particular comprehension strategy in the professional development session and clarifying questions regarding information and procedures they were learning. In both groups I asked activity questions related to the learning that was taking place in the professional development. Sometimes teachers in the groups were given the opportunity to ask activity questions to get them involved in the learning activity. In the inquiry group I asked reflective questions to help them think deeply about their teaching. Questions and responses were in five categories: facilitator to group, facilitator to peer, peer to facilitator, peer to group and, peer to peer. In both groups the majority of the questions were between: facilitator to group, facilitator to peer and peer to facilitator; with a few peer to group and peer to peer sprinkled in. In the interactive group there was initially some peer to peer interaction. There was some peer to peer interaction between Mrs. Clark and Ron in the first two professional development sessions. She attempted to engage him in conversation regarding incorporating the comprehension teaching

strategies into his lesson plans and implementation of the strategy into his science content. Ron' interactions with her were rather limited and so by the third professional development session she no longer attempted to engage him but rather continued with a peer to facilitator interaction regarding her practices.

Type of Talk

Talk in the professional development groups fell into three categories: declarative, procedural and reflective. In the inquiry group the teachers shared declarative talk by giving information about what they knew regarding teaching comprehension strategies in their classrooms. I shared declarative talk responding to the inquiry group with various comprehension teaching strategies based on that information. In both groups I shared both declarative talk about the teaching of comprehension strategies and the procedural information of how to teach them. Activity talk was also a part of the declarative talk used in activities to instruct the teachers in the teaching of comprehension strategies. The teachers in both groups shared declarative information when they talked about their prior experiences with teaching comprehension strategies or Procedural talk was used by the teachers when talking about how they planned to teach the comprehension strategies they learned in their content areas. While writing the lesson plans teachers in the inquiry group talked about how the particular comprehension strategy might work while teachers in the interactive group talked about how the comprehension strategy might not work. Upon returning to the group after teaching a particular comprehension teaching strategy, teachers in the inquiry group responded to questions or statements with reflective talk regarding their practices. This reflective talk included why the comprehension strategy worked, how it affected their teaching and

things they needed to change about their teaching of the comprehension strategy. After one session on the summarization teaching strategy that some found a little difficult, they talked about how the comprehension strategy might not work. Other types of talk in the inquiry group were more incidental between the teachers regarding student's behavior in their classrooms and their personal life.

Students

The questions in the student study were twofold. Were the students more aware of strategy use as a result of being in the class of a teacher who participated in either an inquiry group or interactive group professional development? Were they able to answer higher level questions as a result of there teachers' membership in either group?

Table 10 shows the means and standard deviations of the scores of the sixth grade students who took the two measures all three times.

Table 10

Means and Standard Deviations on the MARSI Strategies Subtests.

MARSI Subtests	Pretest		Posttest 1		Posttest 2	
	Inquiry Group	Interactive Group	Inquiry Group	Interactive Group	Inquiry Group	Interactive Group
Global	35.29 SD=6.57 n=14	39.75 SD= 6.69 n=12	36.86 SD=6.21 n=14	42.58 SD=6.76 n=12	35.79 SD= 6.87 n=14	41.83 SD=9.81 n=12
Support	19.42 SD=3.23 n=14	22.50 SD=5.79 n=12	20.57 SD=5.64 n=14	26.08 SD=7.49 n=12	18.92 SD=4.12 n=14	24.91 SD=5.38 n=12
Problem Solving	29.50 SD=4.83 n=14	32.58 SD=3.26 n=12	30.04 SD=5.35 n=14	28.21 SD=4.79 n=12	27.64 SD=6.94 n=14	31.17 SD=4.85 n=12

Table 11

Means and Standard Deviations on the RIC Questions.

RIC Questions	Pretest		Posttest 1		Posttest 2	
	Inquiry Group	Interactive Group	Inquiry Group	Interactive Group	Inquiry Group	Interactive Group
Literal	11.14 SD=2.35 n=14	11.33 SD=3.80 n=12	11.71 SD=3.40 n=14	11.00 SD=3.41 n=12	11.71 SD=3.14 n=14	10.67 SD=4.14 n=12
Inferential	6.42 SD=2.21 n=14	5.75 SD=3.98 n=12	7.07 SD=2.59 n=14	6.42 SD=3.37 n=12	6.42 SD=2.31 n=14	6.13 SD=3.14 n=12
Evaluative	1.36 SD=.84 n=14	1.66 SD=.65 n=12	1.29 SD=.73 n=14	1.08 SD=.79 n=12	1.07 SD=.73 n=14	1.50 SD=.52 n=12

Table 12 shows intercorrelations among the MARSI strategy subtests.

Table 12

Correlations of MARSI Subtests

Marsi Subtests	Global 2	Global 3	Support 1	Support 2	Support 3	Prob. Solve 1	Prob. Solve 2	Prob. Solve 3
Global 1	.30	.44*	.74**			.61**		
Global 2		.55**	.52**	.68**	.64**		.58**	
Global 3			.52**	.41**	.48**		.59**	.68**
Support 1				.50*	.59**	.41*	.54**	
Support 2					.75**		.47*	.41*
Support 3							.63**	
Problem Solve 1							.28	.31
Problem Solve 2								.43*

* p<.005 ** p<.001

Table 13 reports intercorrelations among the questions levels.

Table 13

Correlations of RIC Question Levels

	Literal 2	Literal 3	Infer 1	Infer 2	Infer 3	Eval 2	Eval. 3
Literal 1	.45*	.73**	.60**	.67**	.46**	.42*	
Literal 2		.62**	.46**	.75**	.47*	.49*	
Literal 3			.62**	.72**	.76*	.46*	
Inferential 1				.58*	.43*	.52*	
Inferential 2					.42*	.48*	
Inferential 3						.44*	
Evaluative 1						-.04	-.16
Evaluative 2							-.23

* p<.005 ** p<.001

Table 14 reports the correlations between the MARS strategy subtests and the RIC questions. Support strategies correlated to evaluative questions and problem solving strategies correlate to inferential questions.

Table 14

Correlations of Strategies and Questions

MARS Subtest and RIC Questions	Infer 3	Eval. 3
Support 2		.40*
Support 3		.44*
Problem Solve 3	.43*	

* p<.005 ** p<.001

Strategies Subtests

Results of a 2 x 3 multivariate analysis of variance (MANOVA) with repeated measures showed significant differences between the two groups (Wilks $\Lambda = .68$, $F(3, 22) = 3.38$, $p < .05$). The interactive group students were significantly more aware of overall strategy use during the course of the entire study than the inquiry group. There was no overall significance for time (Wilks $\Lambda = .63$, $F(3, 22)$, $p < .14$) nor was there a significant interaction at the multivariate level (Wilks $\Lambda = .88$, $F(6, 19) = 1.89$, $p < .84$). At the univariate level, significant differences were found for time on awareness of Support strategies ($F = 2.58$, $p < .10$). Students' awareness of the use of support strategies increased in both groups from pretest to posttest. Univariate tests revealed that there were between subject effects for groups on each of the three MARSII variables (Global $F = 6.76$, $p < .05$, Support $F = 7.88$, $p < .05$, and Problem Solving $F = 5.69$, $p < .05$). The interactive group was more aware of using all three different strategy types than the inquiry group.

Question Levels

Results of the 2 x 3 MANOVA with repeated measures showed no significant differences between groups at the multivariate on the RIC question types (Wilks $\Lambda = .82$, $F(3, 22) = 1.66$, $p < .20$) or time (Wilks $\Lambda = .74$, $F(6, 19) = 1.10$, $p < .40$) nor was there a significant interaction (Wilks $\Lambda = .90$, $F(6, 19) = .37$, $p < .89$). There was also no significant difference between groups over time at the univariate level for the RIC question variables nor was there an interaction for the questions variables. Students in either group did not significantly change in their ability to answer higher level questions

than the other nor did they increase in their ability to answer higher level questions from pretest to posttest three.

CHAPTER FIVE

Discussion

In order to understand what types of professional development supports middle school content area teachers' comprehension instruction, it was important to investigate and compare different types of professional development. I compared two types of professional development, an inquiry group and an interactive group in an effort to determine the effect they had on teachers' teaching comprehension strategies in their content area classrooms. I also compared if teacher change in either group affected their students use of comprehension strategies or comprehension of content area texts. The inquiry group professional development supported teachers' change in beliefs, decisions regarding their teaching and their practices in contrast to the interactive group. Students' use of comprehension strategies or ability to answer questions was not significantly affected by their teacher's changes as a result of being a member of either the inquiry or interactive groups.

Teachers

Prior to the professional development, teachers in both groups held beliefs that were primarily text-based although a few of the teachers in both groups held some interactive beliefs or reader-based beliefs. However, their beliefs conflicted with the examples they gave of what and how they taught. These examples were more text-based. After the professional development, teachers in the inquiry group started to adopt more reader-based beliefs while the teachers in the interactive group had not moved from their previous position. One explanation may be that exposure to teaching the comprehension strategies showed the teachers that they were beneficial to student learning. The inquiry

group professional development model puts more emphasis on teacher reflection and teacher behaviors based on the notion that their beliefs drive instruction. Perhaps, reflecting on their students' behavior when learning the strategies further supported the teachers' beliefs that the prior knowledge that students' bring to the text supports their learning. Clark and Hollingsworth (2002) asserted that change in teachers' beliefs is mediated through reflection and enaction or change in practice. The inquiry group professional development model provides a support system for teachers to reflect on their purposes for teaching, new learning and teaching practices which they needed to develop as teachers. Teachers in the interactive group were not encouraged nor did they expect to reflect on their learning or their practices and so perhaps were not able to see any reasons to change their beliefs.

Teachers in the inquiry group reported teaching more comprehension teaching strategies than the interactive group. They also reported continuing to teach more of the comprehension strategies than the interactive group. Therefore, it appears that the inquiry group teachers were able to invest more of themselves in the teaching of comprehension strategies. Perhaps giving the teachers a choice in what they were going to learn helped them to find strategies that fit into their content. In the first inquiry group professional development session the teachers discussed what they did in their classrooms to teach reading comprehension as well as concerns they had about teaching reading in their content classes. From that discussion I was able to give them suggestions for strategies they might be able to learn and teach to their students. According to Tillema & Imants (1995) the inquiry group model allows teachers to construct their own knowledge and therefore they were able to choose strategies to use for their own purpose.

The interactive group did not address the needs and wants of the teachers for teaching comprehension as in the inquiry group. Subsequently, the comprehension strategies they were taught may not have been ones they would have chosen had they been given the opportunity.

Six weeks after the professional development, a few of the inquiry group teachers reported continuing to teach a different comprehension teaching strategy than one they had previously reported learning at the end of the professional development. One explanation for the change could be the teachers' familiarity with or previous experience with using particular strategies. If the teacher had heard of or received instruction in teaching a familiar strategy they might have decided to use it again. To explore this hypothesis I reviewed the results of a survey I had given to the teachers previous to the professional development. In the survey I had asked the teachers to identify comprehension teaching strategies they had either previously used or were at least familiar with from a list on the survey. Results of the survey showed that all of the teachers in the inquiry group had heard of or had previously used one and in some instances two of the comprehension teaching strategies taught in the professional development. These strategies: KWL Chart, QARs, and Summarizing were the strategies teachers said they learned and continued to use. Another reason for the change may have been what the teachers reported as supporting their strategy use. They said that ease of implementation and whether or not the strategy translated into their content area influenced them to continue teaching comprehension strategies. Bean (1997) also reported being able to fit a comprehension strategy into their content as an important influence for pre-service teachers teaching them. One of the most popular

comprehension teaching strategies the teachers felt was easiest to implement was the KWL Chart. Four of the five teachers in the inquiry group reported continuing to teach this strategy and one of the two teachers in the interactive group.

Teachers in the inquiry group incorporated more teaching comprehension strategies into their lesson plans than the interactive group. Four of the five teachers in the inquiry group turned in lesson plans to teach comprehension strategies that were consistent with the strategies they had reported using. Furthermore, lesson plans from three of the five teachers plans were consistent with the comprehension strategies they reported continuing to teach. It may be that as the teachers observed how their students benefited from using the comprehension strategies that it began to change their beliefs regarding how to teach comprehension in their content areas thus encouraging them to incorporate the strategies in their plans to teach. Konopak and Readence (1992) reported similar results supporting the notion that inservice teachers' beliefs do influence their instructional decisions. However, the lesson plans in their study were not created by the teachers and so did not necessarily reflect the decisions they might make in their actual classrooms. Tillema and Imants (1995) assert that teachers take control in the inquiry model of professional development by constructing their own knowledge, which in turn makes them more serious in the validation of that knowledge.

Teachers in the inquiry group were observed actually teaching more comprehension strategies than the interactive group which resulted in changes in their students' behaviors. When the teachers taught comprehension strategies the students responded with behaviors that gave them more control over their interaction with the text. However, this change was short lived as all of the teachers appeared to revert back to

their previous ways of teaching toward the end of the study. One explanation might be that when the professional development was concluded the support for the teachers was removed and so they were not able to or motivated to continue teaching the strategies. Tillema and Imants (1995) state that an advantage to the inquiry model is that it motivates teachers not only to embed their new learning into their actual practice but affords them the opportunity to return to the group and reflect on that practice. Through this reflection, teachers in the inquiry group felt they had more of a voice in their own learning (Tillema & Imants, 1995). Another possible reason for the lack of sustained change was that the teachers had not taught the strategies long enough to be able to use them more often. Teachers who are learning new teaching strategies are developing on that continuum between novice and expert (Dall'Alba & Sandburg, 2006). According to these authors this process is not necessarily linear. Teachers are not always able to just learn a strategy and automatically implement it in their classrooms. The process can have both vertical and horizontal dimensions that vary within the teachers' level of skill and their ability to embed it in their practice. These different dimensions are unique to each teacher. Teachers in the interactive group were also encouraged to embed their new learning into their practice however the interactive model did not provide the teachers with the opportunity to reflect on their teaching in the small group setting but just continued to communicate new information and so it's possible the teachers were not able to develop the skills needed to embed them in their practice. Or as previously noted some of the teachers were already familiar with some of the strategies and/or used them in their classroom. Perhaps the teachers in the interactive group had not learned anything new they wanted to incorporate.

There was more reflective talk in the inquiry group than in the interactive group. The teachers felt the reflective talk supported their changes toward the teaching of comprehension strategies. More reflective talk may have indirectly caused the teachers to change their beliefs about teaching comprehension strategies. Some teachers like to talk about their teaching and about what they are learning regarding their teaching. For example Mrs. Clark from the interactive group wanted to be reflective in her conversations with me. In most of the sessions she talked about what she did in her classroom regarding what worked and didn't work with teaching comprehension strategies even though the interactive model of professional development did not provide time or encourage reflection. These results are consistent with previous research in inquiry groups (Cochran-Smith & Lytle, 1992, King, 2002, Nieto, 2003). Inquiry group professional development provides the teachers with opportunities to share experiences and allows them to learn, reflect, receive feedback and accomplish goals in a supportive environment (McBane, Galassi, 2001). Inquiry groups provide teachers with the support needed to perpetuate teacher change because it takes into account not just teacher practice but teacher growth (Clark & Hollingsworth, 2002). I found it a bit ironic that the same teachers who prefer the type of professional development that provides coaching and inquiry approaches so they can discuss and reflect on their learning, do not appear to afford their students the same opportunity. Perhaps the teachers see the need for teaching in a more reflective way in their classrooms but are not sure how to make the transfer from their own learning to their students.

Students

Means

In reviewing the means of the students' scores on the strategies subtests it appears that the interactive group students had higher means overall on each strategy variable across the time of the study than the inquiry group students. However, in looking at the means on the questions it seems that the inquiry group overall answered slightly more questions than the interactive group.

Both group's means appear to increase on each strategy variable from pretest to posttest one but then decrease on all strategy variables between posttest one and posttest two. Means for the inquiry group on the literal variable seemed to increase slightly from pretest to posttest one and then remain stable from posttest one to posttest two whereas the interactive group means decreased from pretest to posttest two. Means for the inquiry group on the inferential variable appeared to increase from pretest to posttest one and then decreased from posttest one to posttest two while the same group decreased on the evaluative variable from pretest to posttest two. Means for the interactive group students on the inferential variable appeared to increase from pretest to posttest one and decrease slightly from posttest one to posttest two while on the evaluative variable the same group decreased slightly from pretest one to pretest two and then increased again at posttest two.

Correlations

The majority of the strategies are correlated to each other. This would be expected since the subtests measure reading strategies that have similar qualities that can cause them to be used together. For example setting a purpose for reading is a Global

strategy and summarizing is a Support strategy. However, when you summarize a text you have already set a purpose for reading so the two types are used simultaneously. Support strategies correlated across time meaning that if students were aware of Support strategies at time one, they would be aware of them at time two and time three. I would have expected all of the strategies to correlate from one time to another. Global and Support strategies also show moderate correlations over time but Problem Solving only correlates from time one to time three. This is perhaps a result of the teachers teaching support strategies which include paraphrasing text information, asking self questions and writing summaries. The Global strategies: setting a purpose for reading, activating prior knowledge, and making decisions in relation to what to read closely, were perhaps talked about in the context of teaching the Support strategies and so would naturally correlate. However, even if students were using Problem Solving Strategies such as adjusting reading rate, paying close attention to reading, visualizing information and guessing meaning of unknowing words they may have not been as consciously aware of them as much as the ones the teachers were teaching and talking about in class.

The literal, inferential and evaluative question variables correlated with each other. I would have expected all of the questions to correlate since the questions build on one another. In order to answer literal questions you need to be able to find the information directly in the text and to answer inferential questions you need to read and gather information from several places in the text. Finally, to answer evaluative questions you need to understand the information in the text well enough to make judgments about the topic discussed or justify a characters behavior. The literal and inferential questions correlated across time meaning that if students answered literal and

inferential questions at time one, they would answer them at time two and time three. I would have expected all the questions to correlate from one time to another; however evaluative questions had a negative correlation across times, indicating that students answered fewer questions each time they took the test. Perhaps since the evaluative questions are the highest level of questioning they were the most difficult to answer.

I hypothesized that the negative correlation was due to whether the students' were able to take the text information and apply it to other situations either themselves or the world. To explore this further I looked at the reading selections and questions the students were required to answer. The selections in pretest and posttest two were the same. The literal questions in all of the narrative passages asked who and what questions about the setting, characters and problems in the story and the inferential questions focused on resolving the problem in the story. While evaluative questions in the pretest narrative passages asked the students to find the theme or moral of the story or analyze a characters feelings. Literal questions from the expository passages required students to recall collections or types of information i.e. types of events, define vocabulary words, make comparisons between people or events in the text and tell what might have caused particular events. Inferential questions required making comparisons or finding causes across text. While the evaluative questions in the expository passages asked the students to compare information in the text to the choices made by the persons discussed or to interpret an idea that was talked about in their own words. It appears that the students had more difficulty overall with the evaluative questions than with the literal and inferential perhaps because they require going beyond the text to make critical choices or judgments about what they read which could have been more difficult for them.

Even though there was not a significant interaction, I wanted to address the lack of power by examining the results by looking for patterns. The results showed how each group scored across time and what the patterns of the scores were. On the Global and Support strategies variables there were similar patterns in the scores for both groups where they increased slightly from pretest to posttest one and then dropped from posttest one to posttest two. However, Problem Solving strategies did not follow the pattern. See Figures 1, 2 & 3 below.

Figure 1.

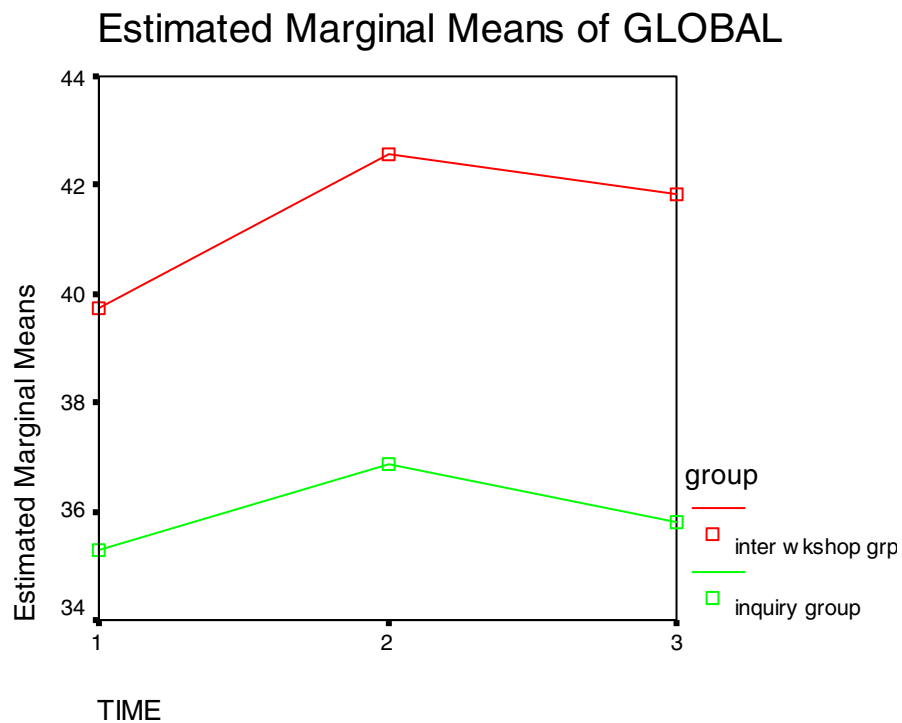


Figure 2.

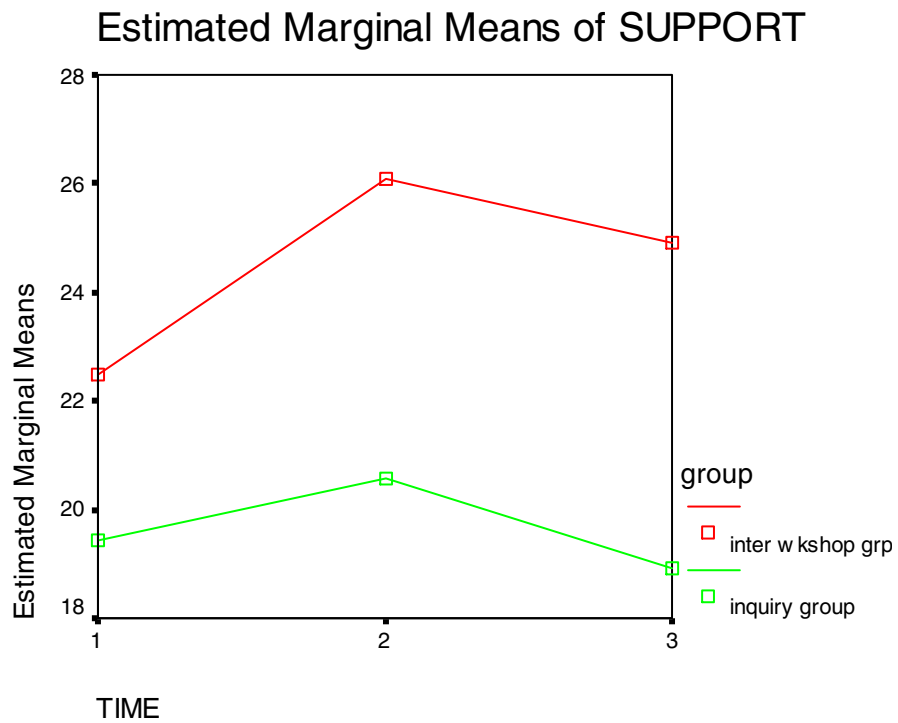
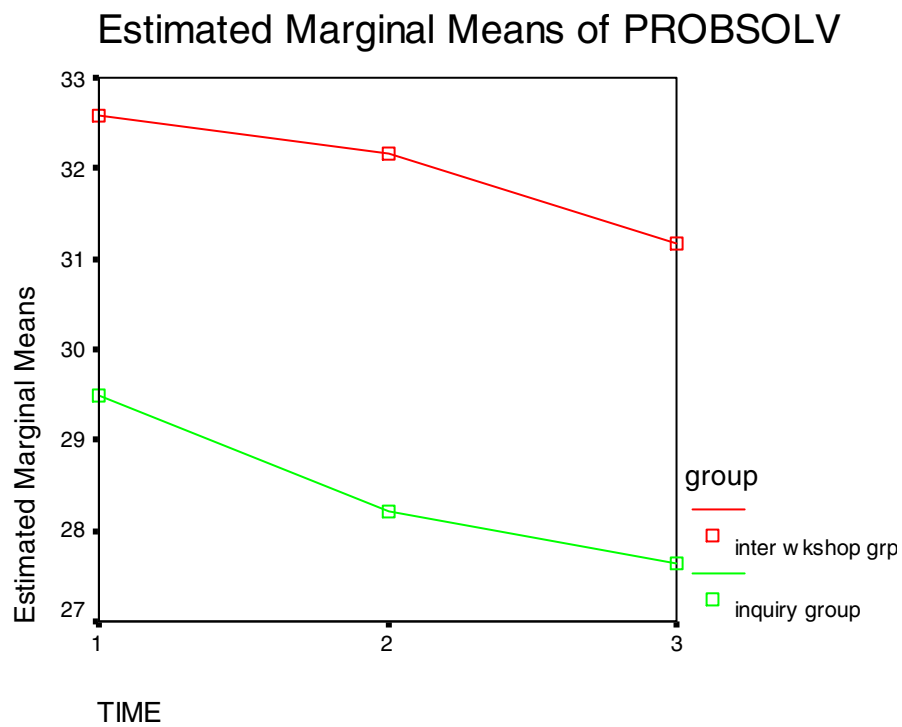


Figure 3.



It does appear that after the professional development both groups of students seemed to increase in their awareness of comprehension strategies especially the support strategies which the teachers reported teaching and were incorporating into their lesson plans and in which teachers in the inquiry group were also observed teaching in their classrooms. Teachers' familiarity with comprehension teaching strategies could account for the interactive group students being more aware of using those strategies than the inquiry group at the start of the professional development. Both groups of teachers had reported being aware of or actually using some of the teaching strategies previous to learning them in the professional development. However, six weeks after the professional development was concluded the strategy awareness appeared to wane. Just as the teachers seemed to quit teaching the strategies the students became less aware of using them. Bennett (2003) found that teachers were aware of comprehension strategies that they use to read proficiently but they did not teach them and so their students were not aware of those strategies. Teachers who are aware and share those comprehension strategies with their students can make them more aware and more likely to use them. Being more aware of the comprehension strategies did not significantly improve the students' ability to answer comprehension questions.

Even though there wasn't a significant interaction for the questions over time I again wanted to address the lack of power by looking at patterns across the results to see how each group scored and what those patterns were. The inquiry there were similar patterns for the inquiry group for the literal and inferential questions where they increased slightly from pretest to posttest one and then dropped from posttest one to posttest two. However, on evaluative questions the inquiry group dropped slightly from

pretest to posttest one and dropped again from posttest one to posttest two. The interactive group did not have any similar patterns for each of the questions. This group dropped on both literal and evaluative questions but increased on inferential questions from pretest to posttest one. Then dropped on literal and inferential questions but increased on evaluative questions from posttest one to posttest two. See Figures 4, 5 & 6 below.

Figure 4.

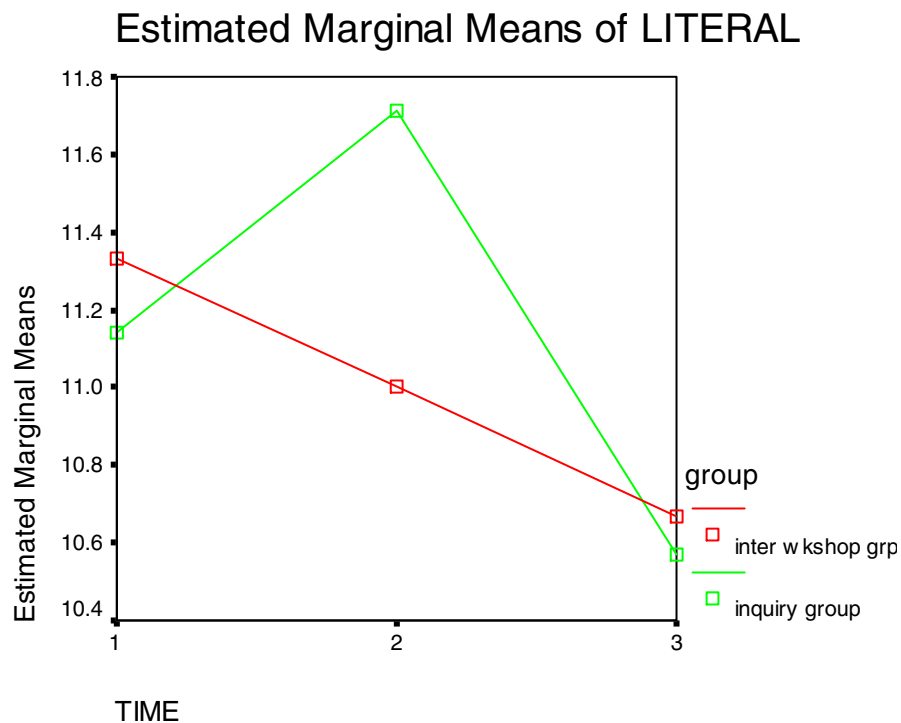


Figure 5.

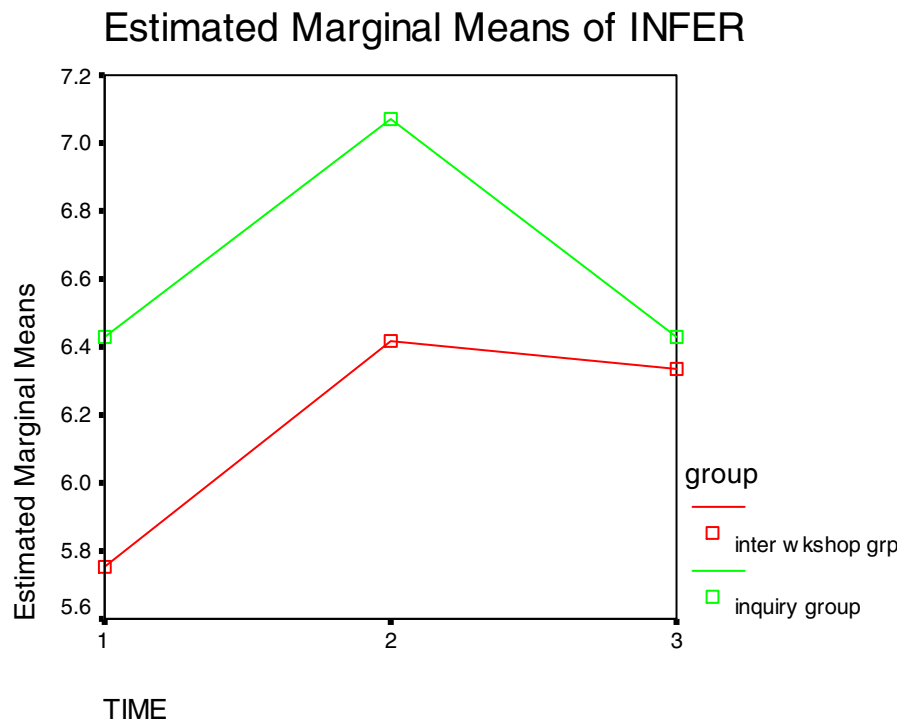
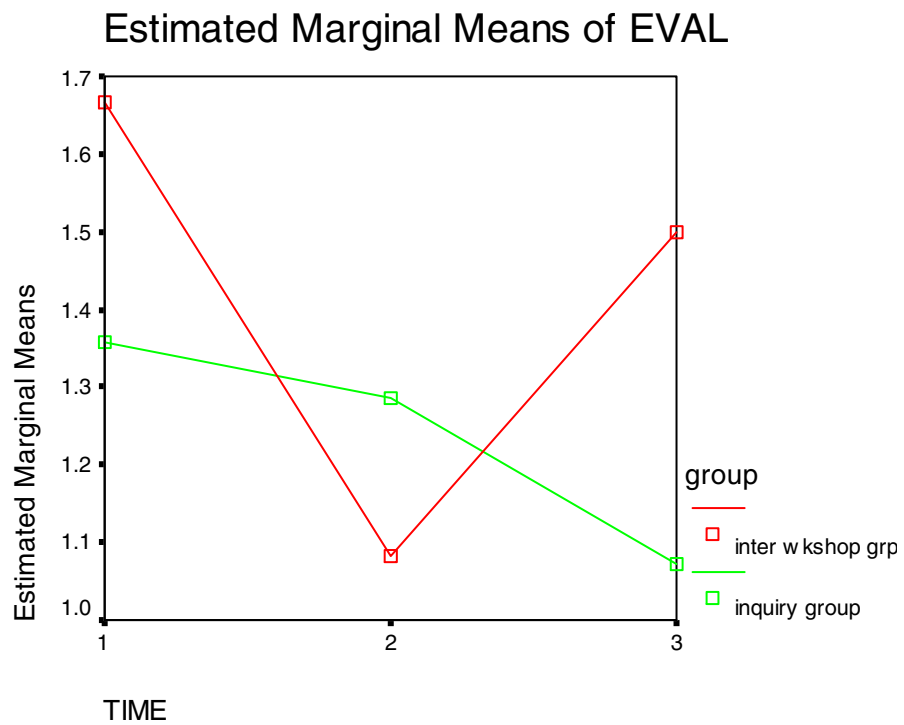


Figure 6.



The students learning and using the support strategies taught by the inquiry group teachers could have contributed to their increase in answering literal and inferential questions. Another reason could be attributed to the text type used in the pre and posttests. All of the tests included three expository passages and two narrative passages. The topics of the pretest and posttest two expository passages were about the music of Mexico, Jesse Owens, carpenters fasteners. Expository passages in posttest one were the history of popcorn, visual illusions and future technology. The topics in the first posttest may have been more familiar or more interesting to the students thus helping them to make more connections to the text. The narrative passages in the pretest and posttest two were stories about someone who was bullied as a child who as an adult inadvertently caused the death of the person who had bullied him. The other story was of a man accosted because of mistaken identity. The posttest one narratives were about a mountain fire and a canoe trip. Even though some of the students may have been able to relate to the bullying story the stories about canoeing and a mountain fire might have been easier to relate to and so easier to comprehend.

Implications

Rethinking professional development means changing how teachers believe, think, learn and implement instruction in their classrooms. It's also about changing the conditions in which those changes takes place (Nieto, 2003). Inquiry groups are a type of professional development that is different from the typical support teachers receive. It appears that this type of professional development supports teachers in changing their beliefs, decisions and practices. Previous research (Konopak & Readence, 1994) that explored pre-service and in-service teachers' beliefs and decisions about their practices

used the teachers' self reports of beliefs about instruction and choice of pre-made lesson plans. This study extends that research by examining lessons the teachers wrote and observations of their actual practices. In this case the lessons teachers planned were consistent with the lessons actually observed. These results suggest that in-service teachers' beliefs and practices can be changed and that content area teachers can incorporate comprehension teaching strategies into their classroom. However, this change does not seem to happen quickly nor is it sustained without some continued support. Most of the teachers in the inquiry group in this study were not observed continuing to teach comprehension strategies six weeks after the professional development concluded but rather returned to their previous ways of teaching. Even though content area teachers can change in their beliefs and decisions to teach changing their practices can be a greater challenge. Constraints such as diverse classes with various reading abilities and the need to breakdown information for students seemed to conflict with their beliefs about teaching comprehension strategies. Konopak and Readance (1992) found similar results. Some of the teachers suggested that the time for implementation might be extended to two weeks instead of one in order for them to be able to take ownership in teaching these strategies. Teachers are always in the process of discovering and learning and they need continued support to develop as teachers. Inquiry groups are a flexible way to provide support for teachers through building on teachers' prior knowledge, reflecting on their learning and process of teaching practices. Inquiry teachers in this study had success with implementing some of the comprehension teaching strategies but struggled with others finally choosing ones that were easy to implement and transferred easily to their content. Content area texts are as diverse as the

disciplines they support. Teachers need a variety of comprehension teaching strategies that fit the needs of readers in these disciplines.

Middle school students deserve appropriate literacy instruction to meet their needs of interacting with the complex text they are required to read. These students need instruction in comprehension strategies that include summarizing information and understanding information across the text, asking and identifying types of questions that set a purpose for reading, activating prior knowledge and judging and evaluating the author's ideas and purposes for writing. Previous studies conducted in teaching comprehension strategies showed that students can significantly improve in reading ability by using the comprehension strategies that support better understanding of text. These strategies need to be taught to students gradually releasing responsibility for using them until the student takes ownership. Not only do these students need to be taught explicit comprehension strategies but these strategies need to be embedded in the text they use on a daily basis. Furthermore, these students need to know the how, when and why associated with using comprehension strategies so they can become more aware of the strategies that proficient readers use and ultimately become more independent learners. This study even limited by its small numbers suggests that when teachers are engaged in teaching planning and implementing comprehension strategies their students benefit with an added awareness of their strategy use and support for their reading comprehension.

Recommendations for New Research

Future research in this area might examine how teachers who have been through this type of professional development might help fellow teachers to incorporate

comprehension teaching strategies into their content area. Further research could also explore the reading requirements of the different content areas to discover possible differences in the subject disciplines in order to find what particular comprehension teaching strategies are more suitable to various texts. Another area of research to consider would be the transition from teacher inquiry group member to group leader important to creating a network of teacher groups. Inquiry groups are usually voluntary in nature. Some teachers are intrigued by the idea of doing something new or different from the traditional professional development. Others may have a personal preference for a particular facilitator and teachers are also motivated by previous experience in an inquiry group (Bray, 2002). Another consideration for research would be to explore what motivates teachers to join these groups. One concern of the teachers in this study was the time the inquiry group met and it was suggested that school officials provide release time for teachers to meet. Other studies agree that giving teacher's time release for professional development (Bray, 2002 & King, 2002) would be beneficial for teachers to reflect on their teaching. Professional development support needs to be flexible and ongoing in order for teachers to develop in any area of teaching. More research into understanding the beliefs of school administration regarding incorporating different types of professional development of interest including inquiry groups and other types of ongoing professional development would be beneficial. Teacher educators need to expand their focus on literacy instruction to include middle school adolescents' needs. More research in understanding the beliefs of teacher educators regarding middle school students' content literacy needs and how to train teachers to address those needs is vital. Finally, more research can be focused on the transition from student teacher to licensed

teacher and the changes that take place. How can teacher educators support new teachers in teaching the effective literacy strategies learned in content area courses and how can colleges of education create and maintain relationships with schools to support teachers in their development?

Limitations

This study was limited by certain restrictions. First and foremost was the sample size. The teachers in the inquiry group even though small were a good representative sample of the grades and content areas in the middle school. However, only two teachers volunteered to participate in the interactive workshop. In addition, one of the participants was a mentor to the second one and had already a greater knowledge of comprehension strategy instruction. This relationship could also have impacted the type of interactions they had during the workshop. This number limits the comparability of the groups in the study. The small sample size of the students also limited the power in finding significance in the study. Another limitation was the voluntary nature of the sampling. Teachers who volunteer to participate in new innovations or programs would tend to be more motivated and interested in changing their beliefs and practices in teaching whereas people who chose not to volunteer may have had different beliefs or practices. The amount of time spent in conducting the professional development and time the teachers had to implement the comprehension strategies seemed to be a limitation to seeing more change in teachers' beliefs and practices. Using only sixth graders in the study limited generalization to all middle school grades. The assessment instrument was limited by the number of evaluative questions that were provided with the passages which were only six in the ten passages read. This number limited my ability to determine if the students

could answer evaluative questions at that level. The assessment tool was also limited in that it only assessed the student's ability to answer questions and so did not assess any use of the comprehension strategies themselves or assessments that could have been correlated with the actual strategies to look for changes in comprehension.

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APPENDICES

Appendix A

Script to recruit Inquiry Group teachers

Good Afternoon:

I would like to thank you for coming to this informational meeting today. My name is Vickie Hinkle and I am a former reading specialist in the Putnam City District. I previously taught at Hefner Middle School for 7 years working with both struggling readers and also teaching enrichment classes. I have always been concerned about students who struggle with reading especially as the text gets more complicated. For the past 4 years I have been working on a doctorate in the area of reading and my area of interest has been in comprehension. While working on this degree I have read a lot of research about comprehension strategies and how effective they are in improving students reading comprehension. However, I've also read that some students aren't necessarily aware of them nor use them consistently. I have also looked at studies on staff development and teacher training in this area and have found that the current one-time workshop type of staff development has not been seen as effective in supporting teachers learning and use of new information. I wanted to conduct a study where I look at staff development and perhaps find ways to make it more effective in supporting your teaching practices. I wanted to give you some detailed information about the study I will be conducting on staff development in comprehension instruction. I know you are here because you are interested in improving the reading comprehension of your students. I am doing a study on how effective staff development is in training and supporting teachers' implementation of comprehension strategies in their classroom. I am also interested in whether the staff development teachers' receive actually effects students

reading comprehension and strategy use. I will be working with a couple groups of teachers at a couple of schools in the district and I am asking you to be a participant in one of the groups.

I would like to put together an inquiry group for staff development to meet once a week for an hour over a period of six weeks. As a participant in this group you will share ideas with me and your colleagues regarding comprehension instruction in your classroom; what you currently do and what you would like to try. As a group you will decide what you will learn in the meetings, take the things you learn to your classroom and come back and discuss how they worked or didn't work. I will conduct the meetings and bring in information that your request, model any strategies you want to use and help you problem solve how you used the strategies in your classroom. In order to determine whether or not this type of staff development is effective in supporting you in your comprehension instruction, I will ask you to provide some information. Prior to the staff development, I will ask you to attend a meeting after school for about an hour to fill out some personal information such as years of teaching experience, degree held etc., a survey regarding your perception of your current teaching practices regarding comprehension. Also during the meeting I will ask for a typical lesson plan to look at what you plan to teach in your content area in the way of comprehension. At that time I will schedule a time with you for a trained data collector come to observe your classroom within the next 3 weeks to get an initial view of your teaching practices. I will also let you know when the staff development sessions will begin. After the staff development sessions I will schedule a follow up meeting to again fill out the survey and lesson plan and schedule a post staff development observation. Finally, six weeks later I will

schedule a final meeting to fill out the final survey and lesson plan and schedule the final observation. This data will help me to find out how the staff development effected your perceptions of and your actual teaching practices.

You will receive 1 staff development point for participating in each of the six training sessions in this study. And I hope you will also receive valuable materials and information that will support your teaching of comprehension in your content area classroom. If at any time during the study you have to withdraw you will receive 1 staff development points for the each of the sessions in which you participated.

Since the goal of comprehension instruction is to improve the comprehension of students, I will be choosing six students from each of your respective teams to participate in the study. In order to do this randomly and confidentially, I will need for you to compile a list of students and identify them as below average, average and above average readers. I will then want to schedule in about 15 minutes of your class time to come in and discuss with the students' their opportunity to participate in this study and pass out parent permission forms for them to take home. When students who are interested return their parent permission form signed I will need to pull them for about 30 minutes from their 1st period class to go over their responsibilities and benefits of participation in the study and to ask them to sign an assent form giving their permission to participate in the study. From those students, I will use the list you provided to identify 2 below average readers, 2 average readers, and 2 above average readers for a total of six from each team. I will then schedule a time to take these students from your class during your first class period to administer a reading strategies survey which helps determine the students' perceptions of their own strategy use and group informal reading inventory where they

will read several passages and answer comprehension questions and will take approximately one hour. The group informal reading inventory will help me determine the students' ability to answer higher level comprehension questions. These students will also need to be excused from your 1st hour on two more occasions to fill out the survey and take the group informal reading inventory; once after the staff development training sessions are complete and once more six weeks later. This is to determine if changes in their perception of their own strategy use has changed as well as their ability to answer higher level comprehension questions.

I want to thank you again for taking time out of your busy day to come to this meeting. If you are interested in participating, I have a sign up sheet for the inquiry group and informed consent forms for you to take with you as you consider this opportunity. The informed consent form will explain the study in full as well as address the responsibilities and benefits of the study. If you choose to participate, I would like to get those forms back signed within 3 days to expedite the process for conducting the study. Are there any questions?

Sign Up Sheet for Inquiry Group

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Appendix B

Recruitment script for Interactive workshop teachers

Good Afternoon:

I would like to thank you for coming to this informational meeting today. My name is Vickie Hinkle and I am a former reading specialist in the Putnam City District. I previously taught at Hefner Middle School for 7 years working with both struggling readers and also teaching enrichment classes. I have always been concerned about students who struggle with reading especially as the text gets more complicated. For the past 4 years I have been working on a doctorate in the area of reading and my area of interest has been in comprehension. While working on this degree I have read a lot of research about comprehension strategies and how effective they are in improving students reading comprehension. However, I've also read that some students aren't necessarily aware of them nor use them consistently. I have also looked at studies on staff development and teacher training in this area and have found that the current one-time workshop type of staff development has not been seen as effective in supporting teachers learning and use of new information. I wanted to conduct a study where I look at staff development and perhaps find ways to make it more effective in supporting your teaching practices. I wanted to give you some detailed information about the study I will be conducting on staff development in comprehension instruction. I know you are here because you are interested in improving the reading comprehension of your students. I am doing a study on how effective staff development is in training and supporting teachers' implementation of comprehension strategies in their classroom. I am also interested in whether the staff development teachers' receive actually effects students

reading comprehension and strategy use. I will be working with a couple groups of teachers at a couple of schools in the district and I am asking you to be a participant in one of the groups.

I will be conducting a workshop on comprehension strategies that have been seen as effective in improving comprehension in middle school readers. The workshops will be held once a week for an hour over a period of six weeks. As a participant in this workshop you will gain information about reading comprehension, learn how to teach comprehension strategies in your classrooms, use it in your particular content area and come away with lessons that you can take and use the next day.

In order to determine whether or not this type of staff development is effective in supporting you in your comprehension instruction, I will ask you to provide some information. Prior to the staff development, I will ask you to attend a meeting after school for about an hour to fill out some personal information such as years of teaching experience, degree held etc., a survey regarding your perception of your current teaching practices regarding comprehension. Also during the meeting I will ask for a typical lesson plan to look at what you plan to teach in your content area in the way of comprehension. At that time I will schedule a time with you for a trained data collector come to observe your classroom within the next 3 weeks to get an initial view of your teaching practices. I will also let you know when the staff development sessions will begin. After the staff development sessions I will schedule a follow up meeting to again fill out the survey and lesson plan and schedule a post staff development observation. Finally, six weeks later I will schedule a final meeting to fill out the final survey and lesson plan and schedule the

final observation. This data will help me to find out how the staff development effected your perceptions of and your actual teaching practices.

You will receive 1 staff development point for participating in each of the six training sessions in this study. And I hope you will also receive valuable materials and information that will support your teaching of comprehension in your content area classroom. If at any time during the study you have to withdraw you will receive 1 staff development points for the each of the sessions in which you participated.

Since the goal of comprehension instruction is to improve the comprehension of students, I will be choosing six students from each of your respective teams to participate in the study. In order to do this randomly and confidentially, I will need for you to compile a list of students and identify them as below average, average and above average readers. I will then want to schedule in about 15 minutes of your class time to come in and discuss with the students' their opportunity to participate in this study and pass out parent permission forms for them to take home. When students who are interested return their parent permission form signed I will need to pull them for about 30 minutes from their 1st period class to go over their responsibilities and benefits of participation in the study and to ask them to sign an assent form giving their permission to participate in the study. From those students, I will use the list you provided to identify 2 below average readers, 2 average readers, and 2 above average readers for a total of six from each team. I will then schedule a time to take these students from your class during your first class period to administer a reading strategies survey which helps determine the students' perceptions of their own strategy use and group informal reading inventory where they will read several passages and answer comprehension questions and will take

approximately one hour. The group informal reading inventory will help me determine the students' ability to answer higher level comprehension questions. These students will also need to be excused from your 1st hour on two more occasions to fill out the survey and take the group informal reading inventory; once after the staff development training sessions are complete and once more six weeks later. This is to determine if changes in their perception of their own strategy use has changed as well as their ability to answer higher level comprehension questions.

I want to thank you again for taking time out of your busy day to come to this meeting. If you are interested in participating, I have a sign up sheet for the inquiry group and informed consent forms for you to take with you as you consider this opportunity. The informed consent form will explain the study in full as well as address the responsibilities and benefits of the study. If you choose to participate, I would like to get those forms back signed within 3 days to expedite the process for conducting the study. Are there any question?

Sign Up Sheet for Interactive Workshop

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Appendix C

Informed consent form for inquiry group teachers.

INFORMED CONSENT FORM FOR RESEARCH BEING CONDUCTED UNDER THE AUSPICES OF THE UNIVERSITY OF OKLAHOMA-NORMAN CAMPUS

INTRODUCTION: This study is entitled: *Rethinking Professional Development: A Comparison of Comprehension Strategy Instruction*. The person directing this project is Vickie Hinkle M Ed. The faculty sponsor is Sara Beach Ph.D. This document defines the terms and conditions for consenting to participate in this study.

DESCRIPTION OF THE STUDY:

This mixed methods case study focuses on comparing two different forms of professional development and their influence in promoting teacher change in incorporating comprehension strategies to support students learning from text in the content areas. Reading comprehension plays an important role in a student's ability to read content area text. The questions that I will be addressing are: How does the interactive model of professional development compare with the inquiry model in promoting teacher development in incorporating comprehension strategies to support students learning from content area text? Which form of professional development leads to increased student use of comprehension strategies and ability to answer higher level comprehension questions when reading content area text?

Prior to the beginning of the professional development, I will schedule a one hour meeting after school where I will gather some initial data for my study. At that time I will have you complete some general information about yourself. At that meeting you will also complete a survey about your beliefs regarding reading development and comprehension instruction. I will also ask you to submit a typical lesson plan to obtain information of how you plan your teaching. This should take about an hour. I will then schedule a time to have a trained data collector observe your classroom once prior to the professional development training. I will also interview you about your understanding of teaching comprehension, how you incorporate it into your content area and how professional development influences your teaching. This interview, which will be audio-taped, will take place in your classroom or other private area and will take approximately 30-45 minutes. You will then participate in an inquiry group on comprehension instruction one hour per week for a period of six weeks. During these group sessions you will give input into what you will learn and take back with you to class regarding comprehension instruction. You will also discuss problems and receive feedback regarding implementation of this comprehension instruction. . In order to explore the dynamics within the professional development models and their influence on teacher change, I will also audiotape the professional development sessions. During the weeks of the training I will schedule a meeting to complete another survey regarding your beliefs, submit another lesson plan, and schedule another observation. At the end of the inquiry group I will schedule a follow up meeting to complete another survey regarding your beliefs, submit another lesson plan, and schedule another observation and interview. Six weeks after the inquiry group sessions I will again schedule an hour after school to meet and complete a final survey, lesson plan and schedule a final observation and interview. Each of these meetings should last about an hour. The interviews will take approximately 30-45 minutes each.

Some students from your classroom will be asked to participate in the study. During our initial meeting I will also ask you to make a list of your students in your 1st period class and group them according to below average, average and above average readers. Once parents give permission and students assent to participating in the study, I will use those lists to choose 6

students; 2 above average readers, 2 average readers and 2 below average readers from each of your respective teams. Students will be pulled from your classes 3 different times. Each grade level will be pulled from a different class. For example, 8th graders will be pulled 1st period at the beginning of the study, 2nd period after the staff development training and 3rd period six weeks later. They will be asked to complete some demographic information to get to know them better, a reading strategy survey to determine their perception of their own strategy use and take a group informal reading inventory to help determine their ability to answer higher level comprehension questions. I will collect the demographic information only once. Completion of these activities should take about an hour so your students will miss approximately 3 hours of class.

AUDIO TAPING OF STUDY ACTIVITIES: To assist with accurate recording of participant responses, interviews may be recorded on an audio recording device. Participants have the right to refuse to allow such taping without penalty. Please select one of the options: If any in the group refuse to be audio-taped during the professional development, a trained observer will come in and take field notes of the proceedings.

RISKS AND BENEFITS: There are no foreseeable risks, beyond those present in routine daily life, anticipated in this study. Benefits of participation include a 6 hour workshop in the format of an inquiry group with information on comprehension instruction for you to utilize in your classroom. In addition 1 staff development point will be awarded for each hour of participation in the inquiry group to add to your required yearly professional development.

CONDITIONS OF PARTICIPATION: Participation is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. Furthermore, you may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

CONFIDENTIALITY: When reporting the findings of this study, you will not be identified in any way and during the conduct of the study, your name will be replaced with a pseudonym of your choice and all identifying documentation will be destroyed. All information from audiotapes will be transcribed and tapes will be erased. None of the information collected will be shared with your supervisor or any school personnel.

CONTACTS FOR QUESTIONS ABOUT THE STUDY: Participants may contact Vickie Hinkle at 325-1627 or my advisor Dr. Sara Beach at 325-3590 with questions about the study. For inquiries about your rights as a research participant, contact the University of Oklahoma-Norman Campus Institutional Review Board (OU-NC IRB) at 405/325-8110 or irb@ou.edu.

PARTICIPANT ASSURANCE: I have read a description of the study and I understand that, if I choose to participate I will be asked to complete demographic information once and a survey, a lesson plan, and be interviewed 3 times during the study. I will also be observed by a trained data collector 4 times in my classroom. I will attend an inquiry group for a period of six weeks regarding training in comprehension instruction. For my participation, I will receive 1 staff development point for each hour of the inquiry group. I understand my participation is voluntary and that I may withdraw at any time without penalty. I also understand that I may refuse to answer any questions during the interview.

I _____ agree to participate in this described research project.

Print Name

☐ I agree to be audio-taped.

☐ I do not agree to be audio-taped.

Signature of Participant

Date

Printed Name of Participant

Researcher's Signature

Appendix D

Informed Consent Form for workshop teachers

INFORMED CONSENT FORM FOR RESEARCH BEING CONDUCTED UNDER THE AUSPICES OF THE UNIVERSITY OF OKLAHOMA-NORMAN CAMPUS

INTRODUCTION: This study is entitled *Rethinking Professional Development: A Comparison of Comprehension Strategy Instruction*. The person(s) directing this project is Vickie Hinkle M Ed.. The faculty sponsor is Sara Beach Ph.D. This document defines the terms and conditions for consenting to participate in this study.

DESCRIPTION OF THE STUDY:

This mixed methods case study focuses on comparing two different forms of professional development and their influence in promoting teacher change in incorporating comprehension strategies to support students learning from text in the content areas. Reading comprehension plays an important role in a student's ability to read content area text. The questions that I will be addressing are: How does the interactive model of professional development compare with the inquiry model in promoting teacher development in incorporating comprehension strategies to support students learning from content area text? Which form of professional development leads to increased student use of comprehension strategies and ability to answer higher level comprehension questions when reading content area text?

Prior to the beginning of the professional development, I will schedule a one hour meeting after school where I will gather some initial data for my study. At that time I will have you complete some general information about yourself. At that meeting you will also complete a survey about your beliefs regarding reading development and comprehension instruction. I will also ask you to submit a typical lesson plan to obtain information of how you plan your teaching. I will then schedule a time to have a trained data collector observe your classroom once prior to the professional development training. This should take about an hour. I will also interview you about your understanding of teaching comprehension and how you incorporate it into your content area. This interview, which will be audio-taped, will take place in your classroom or other private area and will take approximately 30-45 minutes. You will then participate in a workshop on comprehension instruction one hour per week for a period of six weeks. In order to explore the dynamics within the professional development models and their influence on teacher change, I will also audiotape the professional development sessions. During the weeks of the training I will schedule a meeting to complete another survey regarding your beliefs, submit another lesson plan, and schedule another observation. At the end of the comprehension workshops I will schedule a follow up meeting to complete another survey regarding your beliefs, submit another lesson plan, and schedule another observation and interview. Six weeks after the inquiry group sessions I will again schedule an hour after school to meet and complete a final survey, lesson plan and schedule a final observation and interview. Each of these meetings should take about one hour. The interviews will take approximately 30-45 minutes each.

Some students from your classroom will be asked to participate in the study. During our initial meeting I will also ask you to make a list of your students in your 1st period class and group them according to below average, average and above average readers. Once parents give permission and students assent to participating in the study, I will use those lists to choose 6 students; 2 above average readers, 2 average readers and 2 below average readers from each of your respective teams. Students will be pulled from your classes 3 different times. Each grade level will be pulled from a different class. For example, 8th graders will be pulled 1st period at the beginning of the study, 2nd period after the staff development training and 3rd period six weeks later. They will be asked to complete some demographic information to get to know them better, a reading strategy survey to determine their perception of their own strategy use and take a group informal reading inventory to help determine their ability to answer higher level comprehension questions. I will collect the demographic information only once. Completion of these activities should take about an hour so your students will miss approximately 3 hours of class.

RISKS AND BENEFITS: There are no foreseeable risks, beyond those present in routine daily life, anticipated in this study. Benefits of participation include a 6 hour workshop in comprehension instruction with information for you to utilize in your classroom. In addition 1 staff development point will be awarded for each hour of participation in the workshops to add to your required yearly professional development.

CONDITIONS OF PARTICIPATION: Participation is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. Furthermore, you may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

CONFIDENTIALITY: When reporting the findings of this study, you will not be identified in any way and during the conduct of the study, your name will be replaced with a pseudonym of your choice and all identifying documentation will be destroyed. All information from audiotapes will be transcribed and tapes will be erased. None of the information collected will be shared with your supervisor or any school personnel.

CONTACTS FOR QUESTIONS ABOUT THE STUDY: Participants may contact Vickie Hinkle at 325-1627 or my advisor Dr. Sara Beach 325-3590 with questions about the study. For inquiries about your rights as a research participant, contact the University of Oklahoma-Norman Campus Institutional Review Board (OU-NC IRB) at 405/325-8110 or irb@ou.edu.

PARTICIPANT ASSURANCE: I have read a description of the study and I understand that, if I choose to participate I will be asked to complete demographic information once, and a survey and a lesson plan , and be interviewed 3 times during the study. I will also be observed by a trained data collector 4 times in my classroom. I will attend comprehension workshops once a week for a period of six weeks regarding training in comprehension strategy instruction. For my participation, I will receive 1 staff development point for each hour of the workshops. I understand my participation is voluntary and that I may withdraw at any time without penalty. I also understand that I may refuse to answer any questions during the interview.

I _____ agree to participate in the described research study.

Print Name

- ☐ I agree to be audio-taped.
☐ I disagree to be audio-taped.

Signature of Participant

Date

Printed Name of Participant

Researcher's Signature

Appendix E

Content Area Teacher Survey for both groups

Content Area Teacher Survey

(Adapted from Konopak, Readence & Wilson, 2001, Lenski, Wham & Griffey, 1997)

Name _____

Date _____

Part A: Read each statement. Then **circle the number** that best describes your beliefs using the scale provided.

- 1. I strongly disagree with this statement.**
 - 2. I disagree with this statement.**
 - 3. I agree with this statement.**
 - 4. I strongly agree with this statement.**
-

1. Content area reading instruction should always be delivered to the whole class at the same time.

1 2 3 4

2. Students' background knowledge and experience play a major role in their comprehension of a content text.

1 2 3 4

3. I encourage my students to monitor their comprehension as they read.

1 2 3 4

4. Teachers should have a list of reading skills appropriate for their content area and make certain that students learn these skills.

1 2 3 4

5. There is usually only one acceptable answer to a question from a content text.

1 2 3 4

6. The meaning of a content text is usually a joint product of reader knowledge and text information.

1 2 3 4

1	2	3	4
---	---	---	---

17. I use a variety of prereading strategies with my students.

1	2	3	4
---	---	---	---

18. Before students can comprehend a content text, they must be able to recognize all the words and/or symbols in a textbook page.

1	2	3	4
---	---	---	---

19. Readers use a variety of strategies as they read a text-from sounding out unfamiliar words to guessing familiar words in rich context.

1	2	3	4
---	---	---	---

20. The best readers of a content text are those who have learned to predict upcoming text.

1	2	3	4
---	---	---	---

21. Much of what is learned in the content areas can be attributed to what is taught by the teacher.

1	2	3	4
---	---	---	---

Part B: Below are listed some teaching strategies for content area text. Please **circle** the ones you are familiar with and put a **checkmark** next to the ones you use in your classroom.

KWL Chart

Cubing

Anticipation Guides

Story Maps

Question/Answer Relationships

Data Charts

Quickwrites
Brainstorming

Exclusion

Reciprocal Questioning
Conversations

Instructional

Clusters, Webs, and Maps

Learning Logs

Prereading Plans
Journals

Reports and Informational Books

Open-Mind Portraits

Plot Profile

Mini Lessons

I-Search

Jigsaw

Summarizing
Analysis

Double-Entry

SQ3R Study Strategy

Grand Conversations

Reading Logs

Think Alouds

Brainstorming

RAFT

Semantic Feature

Appendix F

Interview Questions for Teachers

- 1. I noticed in your survey you agreed/disagreed with the statement that content area reading instruction should always be delivered to the whole class at the same time? Tell me a little about your reasoning behind this.**
- 2. You agreed/disagreed with the statement that teachers should model how to learn from text material so that students gradually acquire their own independent reading strategies?**
- 3. In another question you agreed/disagreed with the statement that teachers should normally discuss with students what they know about a topic before they begin reading a content text. Why do you believe this?**
- 4. You said that students learn/don't learn content best when the material is broken down into specific topics to be taught by teachers? Explain why you think this.**
- 5. You agreed/disagreed with the statement that it is important for content area teachers to provide clear, precise presentations during instruction. Why did you feel this way? Think about presentations that you have done in class over the last couple of year. Tell me about one that you think you did particularly well. What aspects of that presentation do you think you did particularly well? What aspect do you think you could have done better? How do you think it supported your students' learning? What about other lessons that you have taught that you think really helped your students understand how to deal with their textbook or any other book that they would have to read in your class—tell me about one you think really helped them to do that.**
- 6. What types of professional development have you participated in during your teaching career? Did that professional development change the way you teach? Why or why not? What have been the topics of professional development that have helped your teaching? How do you think professional development could be more effective for you?**

Questions for the interview six weeks after the professional development

- 1. What have you learned from the professional development, that you just completed? What are some things about the professional development that helped you learn the teaching strategies? What was not helpful?**
- 2. How has the professional development affected the way you view comprehension instruction?**

Questions for the interview six weeks after the professional development.

- 9. Are you still using the strategies that you learned in the professional development sessions? If so, what do you think influenced you to continue to use them? If not, what do you think caused you to stop using them? How does this professional development compare to the professional development you have received in the past in supporting your instruction?**

Appendix G

Lesson Plan Format for both groups

Lesson Plan

Objectives:

Procedures:

Materials:

Assessments:

Appendix H

Demographic Information Sheet for Teachers

Information Sheet

Name _____

Date _____

DOB _____

Gender M F

Ethnicity _____

Total number of years teaching experience ____
teaching ____

Grade level currently

Number of years at current grade level _____

Highest degree earned: Bachelors Masters Masters + hours Doctorate.

Appendix I

Survey for inquiry group to help in choosing topics for discussion.

What Do We Plan to Study?

Name _____

Date _____

What do we do well?	What do we question?	What do we need to know more about?	What are our priorities?

IRA Literacy Study Groups Facilitator's Guide by Joan M. Irwin © 2002. Newark, DE International Reading Association
May be copied for use in study groups.

Appendix J

Lesson Reflection Sheet for inquiry group

Comprehension Strategy Lesson Reflection

(Adapted from Cochran, 2002)

1. What were some successful aspects of the lesson?
2. What did you notice about the students' learning?
3. What did you notice about your teaching?
4. How were students actively involved?
5. What are 1 or 2 things you would do differently next time?

Appendix K

Script for comparison group workshop

Comparison Group: Workshop Script on Five Comprehension Teaching Strategies

Week One: KWL CHART: “For the next six weeks I will be introducing and modeling 5 comprehension teaching strategies for you to use with your students. Today we will be exploring the KWL Chart (Ogle, 1986).

A KWL chart is used to activate prior knowledge of any article, topic, genre, author or anything you want your students to learn about. Since our topic is Comprehension Strategy Instruction, I think it would be appropriate to use the chart to start our exploration of this topic.” Pass out individual KWL charts and put the KWL Chart on the overhead.

“The KWL chart is addressed in three basic cognitive steps: accessing “What I Know” about a particular topic which determines “What I Want to learn about the topic and recalling “What I Learned” as a result of reading. The first two steps are completed through oral discussion while the third requires reading and then discussion regarding individual responses. This can be used with large groups, small groups or individuals. (Ogle, 1986, Cantrell & Fusaro, 2000)”

“The first step is brainstorming what we know about a topic for reading. During this step I will record whatever you volunteer about the topic on the overhead. The critical component is to be specific in your chose of topic enough to get more pertinent information. If no one can generate information about your topic then you can become more general to get them started. Give them the article on comprehension strategy instruction. “Ok, based on the title and headings of the article I have given you; tell me

what you know about comprehension strategy instruction.” Teachers will offer information that I will record in the first column. To deepen the teachers/students thinking you can ask questions like “where did you learn that information?” or “how could you prove that?” This challenges them not to just throw out information but to think about sources of information as well.

“The next step is to generate questions about the topic or what the student would “Want to learn” from the reading. Before I put your questions in the “W” column I want you to fill out questions you are most interested in about the topic.” Teachers write their questions in the “W” column. “Now I will take some of your questions to put on our group KWL.” Teachers volunteer questions and I write them in the “W” column on the overhead. “Now, as you read the article look for the answers to your questions and jot them down as you go in the “What I Learned” column. Also write down other information you don’t want to forget. Teachers read the portion of text and write in the “L” column.

“How did you like this article? What did you learn?” Teachers give responses and I write them in the “L” column. Now let’s check what we learned against the questions we wanted answered. Are there some questions that didn’t get answered? Did what we Know change or was it supported by what we read? What more do we want to know?”

“Now I would like to you pair up with another teacher in your content area and put together a lesson plan using the KWL Chart to use this week.” Hand out a blank KWL chart for them to use in class. “Thanks for coming and I’ll see you next week.”

Week 2: TEXT STRUCTURES 1. “When reading non-fictional material, understanding the author’s organization is helpful in comprehension. It provides you with clues to remember much more of what you read. It helps you recall more of the major ideas in what you read, and it helps you to remember all of this information for a longer period of time. Authors can organize their writing in several ways. There are five different structures that are used most often. They are description, sequence, comparison, cause and effect, problem and solution. Today we will explore description, sequence and comparison. Next week we will look at cause and effect and problem/solution. When reading text it’s good to know what organizational pattern that is used. Description, for example is usually written in lists. Key words such as *characteristics or features are* and *for example* are cues that help the reader figure out the pattern. Once the reader has figured out the pattern, a graphic organizer can be used to sort out the information.” Pass out the graphic organizer. “Look at the finished web on one side of your organizer. The topic is the middle ages. What are the main headings or main ideas? Have teachers read from web. How did they describe homes?” Have teachers read from web. “Each of those headings has words that describe that main idea”. “Now I’m going to have you read an article and go through the steps of organizing the information.” Pass out article. “Read the article carefully.” Allow time for reading. “Now put the title of the article in center circle. Skim the article to determine the main topics (main ideas) that the author wrote about. Write these topics as headings in the other circles in order around the title in a clockwise direction. Skim the article to find 2-4 important details. Draw lines out from the heading circles and write them next to the appropriate heading. Don’t write sentences just jot a few words that help you remember the information (Berkowitz, 1986). “You

could use this web to write a summary, review for a test or share in a group. Let's share our information in our groups". Give a few minutes for this. "What information did the article describe about the strategies that improve text comprehension? (Brown, 2002)" Ask for input from the group while you fill out a whole group web on overhead.

The next text structure I want to examine is Sequence. Items in this structure are usually in a numerical or chronological order. Examples of text that represents sequence would be science experiments, how to articles, timelines to name a few. Show overhead of key words. "Key words you would look for in Sequence are; *first, second, third, next* and *finally* (Thompkins, 2003). Your graphic organizer will have a numbered list for you to fill in the information". Pass out the sequence organizer. "Look at the finished side of this organizer. The topic is Building a Medicine Dance Tent. "What were the steps included in building of it?" Have teachers offer to read from the chart. Pass out article. "Read the article before you and look for those key words that show steps or order. Jot down notes of the information on your organizer". Allow time to read the article. "Share what you found out with your neighbor". "What information did the article give you about middle school readers? (Ivey & Broaddus, 2001)" Fill out sequence organizer on overhead.

The final text structure I want to examine today is Comparison. The Comparison structure is used to compare two or more things. You can compare topics, events or people among others. Key words to look for in this structure are *different, same as, in contrast, alike* and *on the other hand* (Thompkins, 2003). Pass out sequence organizer and the article for reading. "In this organizer, you have a box to list the similarities discussed in the topic and a box for contrast to list the differences in the topic. Look on

the side of the finished chart to see how they compared Cinderella and Little Red Riding Hood. What were some similarities/differences” Take some time to read the article and fill out your similarities and differences on Explicit Instruction of Strategies (Duffy, 2003). Give some time for reading. “How did the article compare explicit instruction to another type of instruction?” Fill out compare/contrast chart.

You will find that the students’ textbooks may contain several text structures in a chapter. You can choose which ones in which you want to have them take structured notes. Now I would like for you to please join another person(s) in your content area and put together a lesson plan using these three text structures for use in your classroom. Hand out blank graphic organizers for use in their classes. “Have a great week and see you back here next week.

Week 3: TEXT STRUCTURES 2: Today we are going to finish up our look at text structures by examining the last two of the five most common patterns in text; cause and effect and problem/solution. In this pattern the writer explains one or more causes and the resulting effect or effects. Key words used in this pattern include *reasons why, if . . . then, as a result, therefore, and because*. Examples of topics that include a cause and effect structure are why dinosaurs became extinct, the effects of pollution on the environment and causes of the Civil War (Thompkins, 2004). Pass out organizer. “This organizer has a box for cause and three boxes for effects. Let’s look on the finished side. What were some of the causes of Westward Movement?” Teachers read from organizer. “How many causes were there? (4) So more than one cause can be addressed on this chart. Ok, what were the effects?” Teacher reads from chart. “The effects are listed as main

ideas with supporting details.” Pass out article. Now read this article carefully looking for the key words that help you find the causes and effects in the information and fill out your graphic organizer.” Allow time for reading and completing organizer. “What were some causes and effects in your article?” Fill out organizer on overhead.

“The last text structure we will look at is the Problem/Solution structure. In this structure the author identifies a problem and offers one or more solutions. Another type of format in this structure is question answer, where the writer poses a question and then answers it. This type of writing is also used in writing advertisements and persuasive writing. Cue words and phrases include *the problem is*, *the puzzle is*, *solve*, and *question . . . answer*.

Pass out organizer. “The format for this organizer is similar to the compare/contrast model of two columns or boxes that are labeled Problem and Solution. In the problem column, list the problem and 2 or 3 supporting details. In the solution column, list the solution(s) to the problem with 2 or 3 supporting details. Continue on through the organizer until you have addressed all of the problems and solutions in the reading”. Pass out article. “Now read carefully looking for the cue words and fill out the organizer.”

“What was the problem in the article? What details did they give supporting this problem? What were solutions to the problem and supporting details?” Fill out organizer. “Now that you have had an example of the last two text structures get with a partner and work up a lesson plan for use in your classroom.” Hand out blank organizers for their classes. “See you next week!”

Week 4: QAR’s QUESTION-ANSWER RELATIONSHIPS: “Question-Answer Relationships (Raphael, 1982, 1986) or QAR’s can provide a framework for students

answering comprehension questions and for teachers constructing different levels of questions for text. QAR has four categories of questions; Right There used to answer detail questions utilizing explicit information directly from the text. Think and Search also has an answer in the text but it can come from more than one sentence or paragraph. Author and me questions rely on your opinion with clues from the author in the text. Finally, On My Own questions require you to give your own opinion about the answer based on what you have read and your own experiences. Let's look at some sample questions from a text passage and try to identify the different types of questions." Give teachers an article and questions generated from the article. Discuss the types of questions. "A lawyer has to find the facts and support the facts with details. Take the questions and in your groups write the answer and then tell me what kind of answer you gave and why based on the type of question it was." Allow time to answer questions. Discuss answers and reasons for answers. "Now in your small groups, create a lesson plan using QAR's".

Week 5: GENERATING SELF-QUESTIONS: "Generating questions in text helps readers to set a purpose for reading, focus on the most important parts of a selection, and help find key information. So how do we generate a "good" question? A good question asks about connections between two parts of the same text, two different texts, text and life experiences and text and life and world events. Examples of "good" questions include before questions such as: Why am I reading this text? What do I already know about this topic? During questions are: Is the text making sense? How does _____ relate to _____? What am I suppose to learn by reading this text? And After questions like: Did the reading end the way I predicted? Why did the author write this?

How could I communicate what I read to someone else? Pass out different levels of questions handout. “Good questions are also on different levels”. The three levels are: On-the-Surface Questions; these usually only have one correct answer directly from the text and inquire about facts, details and events. These questions often begin with *Who, What, When, Where* and can begin with *Why, How, Should, Could or Would*. Under the surface questions can have more than one answer and are not explicitly answered in the text. These questions often begin with *Why, How, Should, Could or Would*. The requirements of these questions are a little deeper in that you have to use some of what you know or “read between the lines”. And finally, the Life Application Questions help you to extend beyond the text to your own experience and may include “How does this part relate to my experiences and what is my opinion about the text?” Pass out article. “Now let’s preview the article and generate a question to put in the central question box.” The question needs to start with “Should, Could, Would or Do you think that.” Give time to preview and help teachers generate question(s). “Now discuss with your neighbor whether you agree with or disagree with this question. For example if your question was “Do you think all students should be able to read before coming to middle school?” Then discuss and write your reasons in either the yes or no box. Now take a few minutes and read the article and jot down reasons for both positions on the appropriate sides of the diagram as you read.” Allow time for reading and note taking. “Now come to a conclusion as to which answer is better and write your conclusion in the box below.” If time I would conduct a discussion on the conclusions and come to a consensus as a group. Emphasize the evidence used to support both sides of the issue (Zwiers, 2004).

Now I would like you to get with a small group and write your lesson plan for generating questions.

Week 6: SUMMARTIZATION OF TEXT: A summary for content area reading has four defining features: (a) it is short, (b) it tells what is most important to the author, (c) it is written “in your own words,” and (d) it states information “you need to study” (Friend, 2001). To write our summaries I want to us an organizer called a Evolving main idea three-column notes (Zwiers, 2004). Hand out three column sheet. Put my three column sheet on the overhead. Title the left column “Main Idea”, the middle column, “Summaries” and the right column “Details”. “Based on the title of the text what do you think a possible main idea might be?” Write this in the main idea column “This main idea can and may change throughout this process.” “I’m going to read the first paragraph aloud. As I read help me to jot down key words or phrases in the “Details” column. Read the first paragraph aloud and take notes in the “Details” column. “Using these details help me to construct a one sentence summary of the paragraph.” Construct a one sentence summary. “Does my summary fit in with my main idea or does it need to change or “evolve”? Take answers. “Now you take the next paragraph and with a partner write down key words, ideas in the details column.” Allow time for reading and writing. “What details did you come up with?” Copy notes into details column. “With your partner write a one sentence summary about the details. “What is your one sentence summary?” “Check to see if the main idea needs to change and change it if necessary.” Ask for responses about changing main idea. Put in main idea column. “Take the rest of this time to create your lesson for summarization.”

Appendix L

Script to recruit students.

My name is Mrs. Vickie Hinkle and I am currently working on a doctoral degree at the University of Oklahoma in reading education. I am a former middle school reading teacher and taught for seven years at Hefner Middle School. I am working with your teacher as he/she helps you read to learn in your Language Arts, Social Studies and Science classroom.

In your science classes you may have conducted experiments to see how things in our environment work together or in social studies you may have had to research a topic to find information for a report. I am conducting a research experiment and would like to use some of you in my study. I am interested in how you, as students, read and what strategies you use to learn through your reading. I will be working with some of your teachers to help them teach comprehension strategies this semester. If you choose to participate, you will be asked to take a strategy survey 3 times and read a group of passages and answer questions three times. You will take 1 of each at the beginning so I can get an idea of what you are already able to do as a reader; again in the middle, to see what new strategies you are using and how you read, and again six weeks after to find out about your reading. None of these surveys or tests will affect your grade in the class. None of your teachers or anyone else will know how you did on any of the surveys or inventories. Your names will be kept confidential and only available to me and my professor. I will give you a permission slip to take home to get your parent's consent for you to participate in this study. Even if you are not interested or your parents are not willing to give permission, please bring it back within 3 days and I will give you a pencil from your favorite Oklahoma University either OU or OSU.

I appreciate your consideration and look forward to working with you.

Appendix M

Parent/legal Guardian Information Letter

(Date inserted here)

Dear Parent or Guardian

My name is Vickie Hinkle and I am a doctoral student under the direction of Professor Sara Ann Beach in the Department of Instructional Leadership and Academic Curriculum at The University of Oklahoma-Norman Campus. I would like to invite your child, to participate in a research study entitled *Rethinking staff development: A comparison of comprehension strategy instruction*.

One of the purposes of this research is to determine if one form of professional development is more effective than another in teacher's use of teaching strategies to support students' comprehension and learning from text in the content areas and students increased comprehension and achievement in their class. Instruction in comprehension strategies has been successful for middle school students in improving their reading comprehension.

If you choose to allow your child to participate and s/he also agrees, s/he will be asked to complete a reading strategy survey where s/he will be asked to answer questions about reading strategies s/he use when they read and to what extent s/he use them. S/he will also complete a group reading inventory where they will read passages in language arts, social studies and science text answering a variety of questions at different levels of comprehension. Each grade level will be pulled from a different class. For example 8th graders will be pulled 1st period at the beginning of the study, 2nd period after their teachers go through six weeks of staff development training and 3rd period six weeks later. The first time your student is pulled from h/her classroom h/she will be asked to complete some demographic information in order to help me to better describe the groups of students I will be working with. At that meeting and at subsequent meetings students will take approximately one hour to complete a strategy use survey and read 5 passages and answer questions. Your student may refuse to answer questions and withdraw from the study at any time without penalty.

Any data collected from your child will be kept confidential. I will use the information obtained from the survey and reading inventory to write my dissertation.

The benefits of the study will include learning comprehension strategies that have been effective in improving reading comprehension for middle school students. Your child's participation may also help researchers and educators consider how to better support middle schools students to become more effective readers of content area text and continue to meet the demands of a complex literate society.

Attached is a parental/legal guardian permission form to indicate whether or not your child may participate in this study. Please read it carefully and decide whether it is okay for your child to participate. Please return the form with your child to (teacher's

name here) tomorrow, even if you choose not to have your child participate. Thank you for your time and consideration in this manner.

Sincerely yours,

Vickie Hinkle M.Ed.

Appendix N

Parental/Legal Guardian Permission Form

PARENTAL PERMISSION FORM FOR RESEARCH BEING CONDUCTED UNDER THE AUSPICES OF THE UNIVERSITY OF OKLAHOMA-NORMAN CAMPUS

INTRODUCTION: My name is Vickie Hinkle and I am a doctoral student under the direction of Professor Sara Ann Beach in the Department of Instructional Leadership and Academic Curriculum at The University of Oklahoma-Norman Campus. I would like to invite your child, to participate in a research study entitled *Rethinking staff development: A comparison of comprehension strategy instruction*.

DESCRIPTION OF THE STUDY: One of the purposes of this research is to determine if one form of professional development is more effective than another in teacher's use of teaching strategies to support students' comprehension and learning from text in the content areas and students increased comprehension and achievement in their class. Instruction in comprehension strategies has been successful for middle school students in improving their reading comprehension. I will choose six students for their part, whose parents have given permission, from each team of teachers participating in the professional development training. If you choose to allow your child to participate and s/he also agrees, s/he will be asked to complete a reading strategy survey where s/he will be asked to answer questions about reading strategies s/he use when they read and to what extent s/he use them. S/he will also complete a group reading inventory where they will read passages in language arts, social studies and science text answering a variety of questions at different levels of comprehension. Your child will be pulled from a different class period three times over the course of the study in order not miss too much of one class. Each grade level will be pulled from a different class. For example, 8th graders will be pulled 1st period at the beginning of the study, 2nd period after their teachers go through six weeks of staff development training and 3rd period six weeks later. The first time your student is pulled from h/her classroom h/she will be asked to complete some demographic information in order to help me to better describe the groups of students I will be working with. At that meeting and at subsequent meetings students will take approximately one hour to complete a strategy use survey and read 5 passages and answer questions. Your student may refuse to answer questions and withdraw from the study at any time without penalty.

RISKS AND BENEFITS: There are no foreseeable risks, beyond those present in routine daily life, anticipated in this study. Benefits for students are the use of comprehension strategies to help them in reading their content area textbooks and to read more efficiently in everyday life.

CONDITIONS OF PARTICIPATION: Participation is voluntary. Refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled.

Furthermore, your child may discontinue participation at any time without penalty or loss of benefits to which your child is otherwise entitled.

CONFIDENTIALITY: When reporting the findings of this study, you will not be identified in any way and during the conduct of the study, your name will be replaced with a number and all identifying documentation will be destroyed. None of the information will be shared with your child's teacher or anyone on the school staff and will only be accessible to myself and my advisor Dr. Beach for research purposes.

CONTACTS FOR QUESTIONS ABOUT THE STUDY: Participants may contact Vickie Hinkle at 325-1627 or vjhinkle@ou.edu or Dr. Sara Beach 325-1498 or sbeach@ou.edu with questions about the study.

For inquiries about rights as a research participant, contact the University of Oklahoma-Norman Campus Institutional Review Board (OU-NC IRB) at 405/325-8110 or irb@ou.edu.

PARENT/LEGAL GUARDIAN PERMISSION: I have read about this study and understand what my child will be asked to do if I choose for my child to participate, that s/he will be pulled from class during their different classes on three different occasions to fill out demographic information, a reading strategies survey and take a group reading inventory. I also understand that all of this information is confidential and will not be shared with any of my child's teachers or school personnel. I also understand that my child's participation is voluntary and that refusal to participate will involve no penalty to my child. Furthermore, my child may stop answering questions at anytime during study without penalty or loss of benefits to which my child is otherwise entitled.

I AGREE _____

I DISAGREE _____

Parent/Legal Guardian's Signature

Date

Parent/Legal Guardian's Printed Name

Researcher's Signature

Appendix O

Script for getting student assent and Student Assent Form

I wanted to meet with you today to remind you of the study I am conducting for my degree. I am interested in how you, as students, read and what strategies you use to learn through your reading. I will be working with some of your teachers to help them teach comprehension strategies this semester. You have already brought back your parent permission form signed giving you permission to participate in my study. You still have the option to choose or not choose to participate. I wanted to remind you of what I will need for you to do for me if you choose to participate. If you choose to participate, you will be pulled from your classes on three different occasions. At the first meeting you will complete some demographic data so I can get to know you better. At that meeting and 2 other times you will take a strategy survey and read 5 passages and answer questions. You will take 1 of each at the beginning so I can get an idea of what you are already able to do as a reader; again in the middle, to see what new strategies you are using and how you read, and again six weeks after to find out about your reading. None of these surveys or tests will affect your grade in the class. The completion of these activities will take about an hour each time so you will miss about 3 hours of class over the course of the study. None of your teachers or anyone else will know how you did on any of the surveys or inventories. Your names will be kept confidential and only available to me and my professor. I would love to have you participate in my study and appreciate you taking the time to consider it. In order to know whether or not you want to participate I need for you to read and sign a Student Assent Form. I will read this with you and answer any questions you may have. After I read it you will check whether or not you want to participate and turn it in to me and then you can go back to class. Just because you choose to participate does not mean you will be chosen for the study. I will randomly choose six students from each team but the more students I have to choose from the better. (pass out the Student Assent Form) Now follow along as I read.

Student Assent Form

I have heard about Mrs. Hinkle's research about what strategies I use as a reader. If I choose to participate, I agree to being taken out of class for approximately one hour on three different occasions. On the first occasion I will fill out some personal information that will help Mrs. Hinkle to get to know me better. Also on this occasion and on two other occasions, I will also complete a reading strategies survey and read 5 passages and answer comprehension questions. In doing this Mrs. Hinkle has assured me that my survey and answers to the comprehension questions will only be seen by herself and her advisor Dr. Beach for research purposes. I also know that my teacher will not have access to this information and that my choosing to participate or not participate will not affect my grade whatsoever. In choosing to participate, I will benefit by receiving some useful comprehension strategies that will possibly make me a more efficient reader in my subjects and in my everyday life. Finally, I know that my participation is voluntary and I may choose to not answer questions at any time without penalty or loss of benefits.

Signature_____

Date_____

Printed name

Researcher signature

Appendix P

Demographic Information Sheet for Students

General Information Sheet

Name _____ Date _____

Date of Birth _____ Gender M F

Ethnicity: Choose all that apply _____ Grade Level _____

Caucasian African/American Asian
 American Indian Hispanic/Latino

Appendix Q

Reading Strategies Inventory for students Code _____

The Metacognitive Awareness of Reading Strategies Inventory (Mokhtari & Reichard, 2002)

Name _____ Date _____

Age/Grade _____

Directions: Listed below are statements about what people do when they read *academic or school-related materials* such as textbooks or library books. Five numbers follow each statement (1, 2, 3, 4, 5), and each number means the following:

1 means “I never or almost never do this.”

2 means “I do this only occasionally.”

3 means “I sometimes do this.” (about 50% of the time).

4 means “I usually do this.”

5 means “I always or almost always do this.”

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there are **no right or wrong answers** to the statements in this inventory.

1. I have a purpose in mind when I read.

1 2 3 4 5

2. I take notes while reading to help me understand what I read.

1 2 3 4 5

3. I think about what I know to help me understand what I read.

1 2 3 4 5

4. I preview the text to see what it's about before reading it.

1 2 3 4 5

5. When text becomes difficult, I read aloud to help me understand what I read.

1 2 3 4 5

6. I summarize what I read to reflect on important information in the text.

1 2 3 4 5

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there are **no right or wrong answers** to the statements in this inventory.

1 means “I never or almost never do this.”

2 means “I do this only occasionally.”

3 means “I sometimes do this.” (about 50% of the time).

4 means “I usually do this.”

5 means “I always or almost always do this.”

7. I think about whether the content of the text fits my reading purpose.

1 2 3 4 5

8. I read slowly but carefully to be sure I understand what I’m reading.

1 2 3 4 5

9. I discuss what I read with others to check my understanding.

1 2 3 4 5

10. I skim the text first by noting characteristics like length and organization.

1 2 3 4 5

11. I try to get back on track when I lose concentration.

1 2 3 4 5

12. I underline or circle information in the text to help me remember it.

1 2 3 4 5

13. I adjust my reading speed according to what I’m reading.

1 2 3 4 5

14. I decide what to read closely and what to ignore.

1 2 3 4 5

15. I use reference materials such as dictionaries to help me understand what I read.

1 2 3 4 5

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there are **no right or wrong answers** to the statements in this inventory.

1 means “I never or almost never do this.”

2 means “I do this only occasionally.”

3 means “I sometimes do this.” (about 50% of the time).

4 means “I usually do this.”

5 means “I always or almost always do this.”

16. When text becomes difficult, I pay closer attention to what I’m reading.

1 2 3 4 5

17. I use tables, figures, and pictures in text to increase my understanding.

1 2 3 4 5

18. I stop from time to time and think about what I’m reading.

1 2 3 4 5

19. I use context clues to help me better understand what I’m reading.

1 2 3 4 5

20. I paraphrase (restate ideas in my own words) to better understand what I read.

1 2 3 4 5

21. I try to picture or visualize information to help remember what I read.

1 2 3 4 5

22. I use typographical aids like boldface and italics to identify key information.

1 2 3 4 5

23. I critically analyze and evaluate the information presented in the text.

1 2 3 4 5

24. I go back and forth in the text to find relationships among ideas in it.

1 2 3 4 5

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there are **no right or wrong answers** to the statements in this inventory.

1 means "I never or almost never do this."

2 means "I do this only occasionally."

3 means "I sometimes do this." (about 50% of the time).

4 means "I usually do this."

5 means "I always or almost always do this."

25. I check my understanding when I come across conflicting information.

1 2 3 4 5

26. I try to guess what the material is about when I read.

1 2 3 4 5

27. When text becomes difficult, I reread to increase my understanding.

1 2 3 4 5

28. I ask myself questions I like to have answered in the text.

1 2 3 4 5

29. I check to see if my guesses about the text are right or wrong.

1 2 3 4 5

30. I try to guess the meaning of unknown words or phrases.

1 2 3 4 5