COMPREHENSION STRATEGIES EXPLICATED IN THREE EIGHTH GRADE SOCIAL STUDIES TEXTBOOKS

By

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A dissertation submitted to the Graduate School-New Brunswick Rutgers, The State University of New Jersey in partial fulfillment of the requirements for the degree of Doctor of Philosophy Graduate Program in Education Dissertation under the direction of Dr. Lesley Morrow and approved by

New Brunswick, New Jersey January, 2008
ABSTRACT OF THE DISSERTATION

Comprehension Strategies Explicated in Three Eighth Grade Social Studies Textbooks

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By fourth grade students are expected to have developed the ability to read assigned expository material as part of their content area instruction. However, one of the most frustrating issues middle and high school teacher’s face is students’ lack of prerequisite skills necessary to comprehend adequately the reading material they encounter. Fortunately, over the past twenty five years reading researchers developed explicit methods to support middle and high school students’ reading and learning development. Applying explicit instruction, instructors teach students to use comprehension strategies flexibly while interacting with text. While the benefits of explicit instruction of comprehension strategies have been accepted for some time by members of the reading research community, this study determined whether seven strategies and direct explanation have been included in materials students and teachers commonly use. This study conducted a content analysis to determine whether three eighth grade social studies textbooks and their corresponding teacher editions explicated seven strategies found to enhance student comprehension and learning of expository material. These strategies included comprehension monitoring, activating background
knowledge, summarization, text structure, question generation, instructional graphics, and inference. Analysis of teacher editions also determined whether the texts recommended elements of direct explanation (Duffy, 2003) to teachers as a means of enhancing students’ ability to learn from text. Several key findings resulted from the analysis of the data attained. This study determined that the textbooks did explicate comprehension strategies. Analysis also identified elements of direct explanation, but this study did not find direct explanation as discussed in the literature (Duffy, 2002) to be integrated into the textbooks analyzed. The fact that the textbooks analyzed did not explicate direct explanation could have resulted from the presence of semantic confusion surrounding the term itself which limits the degree to which the efficacy of explicit instruction might become disseminated.
ACKNOWLEDGMENTS

I am appreciative of the time and support of many people during this project. I would like to thank my committee members: Ben Justice, Melanie Kuhn, and Gerald Duffy who have spent considerable time advising me. I would also like to thank my major professor Lesley Morrow for sticking with me and helping me reach this goal. Most importantly, I thank my parents who love me unconditionally and who always do anything they can to make my dreams realities.
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CHAPTER 1
INTRODUCTION

This study employed content analysis to determine whether three widely adopted eighth grade social studies text books and their corresponding teacher editions included seven comprehension strategies found to enhance student comprehension and learning of expository material. This study defined comprehension strategies as distinct and deliberate plans which, if employed intentionally with sufficient practice and gained experience, become habitual and automatic (Afflerbach, in press; Duffy, 2002). A critically important element contributing to the value of comprehension strategies is the fact that through a process of learned meta-cognitive control, independent student application is achieved. Three research questions were asked: 1) Do the three textbooks explicate comprehension strategies? 2) Are the strategies presented to enhance comprehension or to assess student content knowledge? and 3) Do the three textbooks incorporate elements of direct explanation (Duffy, 2003) when explicating comprehension strategies? Based on a review of published literature on the subject during the past thirty years, this study selected seven key reading comprehension strategies (NRP, 2000; Pressley, 2002; RAND Reading Study Group, 2002). These strategies include comprehension monitoring, activating background knowledge, summarization, text structure, question generation, instructional graphics, and inference.

Rationale

As age the learning demands placed upon them understandably increase. By fourth grade students are expected to have developed the ability to read assigned expository material as part of their content area instruction. It is at this point that reading
becomes less a subject to be learned in its own right, and more of a vehicle for learning content in subject areas (Brown, 2002). However, as presented in the RAND report (2002) one of the most frustrating issues middle and high school teachers face is the students’ lack of prerequisite knowledge and skills necessary to comprehend adequately the reading material they encounter. Understandably, many of these same students have failed to develop a positive attitude toward reading (Snow, Sweet, Alvermann, Kamil, & Strickland, 2002).

The low literacy levels of many middle and high school students cause significant problems affecting all areas of students’ academic lives. Fortunately, reading researchers developed methods to support students’ reading and learning development. Over the past twenty five years explicit methods to teach comprehension strategies have been developed. Applying explicit instruction, instructors teach students to use comprehension strategies flexibly while interacting with text (Duffy, 2002; Gaskins, 2005; Pearson & Duke, 2003). Through the process of explicit instruction, a form of meta-cognitive control, students become able to guide their thinking when reading while applying specific comprehension strategies independently and in a differentiated manner.

Connecting comprehension strategies to students’ growing knowledge of a content area allows them to increase their awareness of content by deliberately employing strategies designed to improve their understanding of the text (Brown, 1997). Content area reading provides an important and often ignored context for incorporating instructional techniques and developing students’ abilities to read and learn from expository texts. Within content area classrooms students encounter numerous
opportunities to develop their text processing abilities because the need to read this material is greatest in those settings (Estes and Vaughn, 1985).

Textbooks are the most commonly used learning tool in content area classrooms (Camperell & Knight, 1991; Crawford & Carnine, 2000; Kinder, Bursuck, & Epstein, 1992). These texts convey factual information, important ideas, and key concepts. The material in these texts is dense with information and technical terms unfamiliar to the reader. To meet reading demands, students must engage in complex cognitive activities. Certain students are prepared to meet the reading demands in content area classes. Others continue to require explicit and well designed reading comprehension strategy instruction well beyond third grade if they are to learn and to progress effectively (Snow et al., 2002). Only with on-going instruction can most students develop the skills necessary for effective content reading to occur. The incorporation of comprehension instruction into content area texts should assist students to better manage the complex information processing tasks that are involved in the skilled reading of expository materials. This developing understanding is also influenced by the manner and frequency that strategies are modeled by the teacher.

Textbooks provide an excellent yet relatively unexplored context for developing comprehension abilities of students in the upper grades. Publishers have begun to recognize the important role content area textbooks play in enhancing students’ reading comprehension abilities. They have begun to consult with literacy specialists to develop texts designed to enhance content knowledge and reading skill development (McDougal Littell, 2002; Prentice Hall, 2005). Incorporating research findings into content area texts provides students in the upper grades with much needed reading instruction and support.
Students develop content knowledge while also enhancing reading abilities when techniques that foster reading development are integrated into content area texts (Armbruster, 1985; Crawford & Carnine, 2000; Wineberg, 2001).

Researchers have evaluated content area texts from varying perspectives. However, all have sought to understand the challenges texts pose to students. History and/or social studies researchers for example, have analyzed textbooks to determine how memorable and/or accurate high school American history texts are (Loewen, 1995; Moreau, 2006). Reading researchers evaluated social studies texts with respect to comprehensibility focusing on coherence, questioning techniques, and vocabulary development (Harmon, Hedrick & Fox, 2000; Kinder, Bursuck, Epstein, 1992).

However, at the present time, no published research findings exist indicating whether reading comprehension strategies are explicated in middle grade content area textbooks. While an unpublished pilot study of a McDougal Littell (2002) eighth grade social studies text and teacher edition suggested that research based comprehension strategies were embedded within the text to foster reading comprehension and that teachers were encouraged to support students’ application of these strategies, no independent research validated this report, nor have any other textbooks been analyzed to determine whether essential comprehension strategies were explicated. Hence, the study reported here is an essential first step in determining both the quantity and quality of textbooks application of research on reading comprehension strategies.

It was this examiner's intention to assess the extent and manner in which comprehension development was emphasized and presented in selected and currently published eighth grade social studies texts and their accompanying teacher editions, and
to determine whether specific reading skill development was stressed to a greater degree than that described in Durkin's early content analysis study of similar texts (1981). Coincidentally, world history was the topic presented for study in the materials which underwent this current analysis.

**Background on Comprehension Strategies**

Reading comprehension is a widely researched and discussed topic. Reading comprehension research has been undertaken extensively only during the past twenty-five years. During this time much has been learned about the comprehension process and methods to develop comprehension skills. One study in particular has served to stimulate many subsequent research efforts.

The publication of Dolores Durkin’s (1978-79) seminal study documented the need for increased reading comprehension instruction in the elementary grades. Her study revealed that during almost thirty hours of classroom observation conducted during reading and social studies classes, less than one percent of class time was devoted to activities meeting her definition of comprehension instruction. In her study, Durkin employed the term “mentioning” (Durkin, 1978/79) to describe what passed for comprehension instruction. She found that comprehension strategies such as questioning were often “mentioned” but were typically not developed, explained, or modeled for students. In fact, much of what teachers referred to as comprehension instruction was nothing more than efforts directed toward assessing rather than teaching comprehension (Durkin, 2004, p. ix). While almost no explicit comprehension instruction was observed, Durkin did find that students typically worked independently to respond correctly to teacher prepared questions. Durkin also found that none of the observed teachers
attempted to directly enhance the reading comprehension abilities of students in their social studies classrooms.

These findings profoundly influenced the direction of educational research. Since the publication of Durkin’s (1978-79) study much research has been undertaken to develop instructional models designed to enhance reading comprehension development. Research determined that one model, explicit instruction of comprehension strategies, effectively increases struggling readers’ comprehension abilities. The ongoing research of Duffy and his colleagues (Dole, Duffy, Roehler, & Pearson, 1991; Duffy, 2003; Duffy & Roehler, 1987) established the value of explicit explanation of strategies generally and the work of Pressley (Pressley, 2000; Pressley, El-Dinary, Gaskins, Schuder, Berman, Almasi, & Brown, 1992; Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989) and his colleagues documented the value of explicit explanation of comprehension strategies particularly. Data attained by Duffy and Pressley support the efficacy of explicit instruction of comprehension strategies and the need to educate teachers in methods that allow students to develop strategies more readily and completely (Duffy, 1993b; Pressley, El Dinary, & Beard, 1997; Rich & Pressley, 1989). Both Duffy and Pressley suggested that if students who struggle to comprehend text are explicitly taught to use comprehension strategies while reading, they become significantly better able to independently and actively construct meaning. Duffy and Pressley also agreed that comprehension strategy instruction allows students to become self regulated, active readers, who employ strategies in a differentiated manner depending upon comprehension demands. Additionally, both researchers viewed the long term
improvement of the comprehension capacity of the learner to be the overarching objective of instruction.

During the past twenty-five years reading researchers have identified “best practices” designed to develop comprehension skills. These researchers also identified that it is the least skilled readers who most benefit from strategy instruction designed to increase their reading comprehension abilities (NRP, 2000). While members of the reading research community understand the benefits of explicit instruction of comprehension strategies, it is also important to determine whether these strategies and instructional model are included in the materials students and teacher use. Durkin (1981) found that a significant correlation existed between what teachers did in their classrooms and what was presented in the manuals of the textbooks that guided their efforts. However, no data exists regarding the extent to which comprehension strategies and explicit teaching methods have been incorporated into middle school content area textbooks.

Problem

Three distinct research-based issues frame this study: reading comprehension strategy development (Duffy, 2003; Gaskins & Elliot, 1991; Pressley & Block, 2002); the need for comprehension instruction throughout the grades (Bintz, 1997; NRP, 2000; Snow et al., 2002); and the importance of content area textbooks in students learning (Alvermann & Moore, 1991; Beck & McKeown, 1991; Sosniak & Stodolsky, 1993). Connecting these issues led me to question whether eighth grade social studies texts and their corresponding teacher editions present research-based comprehension strategies to support student comprehension. The research questions addressed in this study include:
1) Which of seven key comprehension strategies are introduced to students in the 8th grade social studies texts selected for study? 2) Based on Durkin’s earlier work (1978-79), are these strategies used to support student comprehension or for assessment purposes? And 3) Based on the work of Duffy and Pressley on explicit instruction, are elements of direct explanation (Duffy, 2003) included in the teacher editions reviewed?

The first question determined which, if any, of the seven specific strategies identified in the literature were integrated in the texts studied (Snow et al, 2002; NRP, 2000). These strategies included comprehension monitoring, activating background knowledge, summarization, text structure, question generation, instructional graphics, and inference. This question was modeled on Durkin’s (1981) investigation of five basal reader series programs, kindergarten through grade six, in which she undertook to determine the extent to which comprehension development was stressed in the programs and how comprehension growth was achieved.

The second question, based on Durkin’s 1978-79 study, investigated whether strategies served instructional or assessment purposes. This study conducted a procedural content analysis to answer this question and determined the purpose of the strategies found in the text. This study analyzed the ways in which specific strategies were used to determine whether we have progressed since Durkin’s 1981 study of teacher editions in which she reported far more attention toward assessment than to instruction.

The final question determined whether the teacher edition of the textbooks studied introduced elements of direct explanation (Duffy, 2003). Specific elements of explicit instruction have been proven to be necessary for less skilled readers to develop
comprehension abilities. Therefore it is important to determine whether content textbooks provide this resource.

**Significance of the Study**

In order for the literacy levels of middle and high school students to improve, it is essential that these students receive instruction that increases their comprehension skill as well as their content knowledge. A great deal of attention has been devoted to the validity of explicit instruction of comprehension strategies during the past twenty five years. Similarly, much evidence has been produced indicating that explicit strategy instruction improves student understanding of text. Since textbooks are critically important tools for content area teachers and since much of the learning that occurs in content area classrooms is facilitated through reading, it is essential to assist content area learners to improve their reading comprehension abilities and to determine whether comprehension strategies have been embedded into middle school content area textbooks.

**Method**

This study conducted a descriptive content analysis to determine whether three widely adopted, eighth grade social studies textbooks and their respective teacher editions explicated strategies found to enhance reading comprehension development. The strategies studied included: comprehension monitoring; activating background knowledge; summarization; question generation; text structure; instructional graphics; and inference. This study reviewed corresponding teacher editions to determine whether the texts recommended strategy use to assess whether textbooks encouraged teachers to: introduce and identify the utility of strategies and the mechanics of strategy use; activate and connect knowledge of strategies and content to students’ background knowledge; and
model text processing behaviors to make overt the techniques successful readers employ when they work to comprehend expository material. These actions have been identified as essential elements of direct explanation (Duffy, 2003).

Analysis of the data identified comprehension strategies explicated in the texts and produced counts of key categories (Neundorf, 2002). A procedural analysis revealed how strategy use was represented within social studies textbooks. This analysis identified the manner in which the textbooks guided students to use strategies and revealed whether the textbooks included strategies to enhance comprehension or for assessment purposes. Analysis also determined the extent to which elements of direct explanation were recommended.

**Summary**

Although the benefits of explicit strategy instruction are known and accepted within the reading research community, this study investigated whether explicit comprehension strategy instruction and the implementation of direct explanation have been incorporated into students’ and teachers’ textbooks. This study evaluated three widely adopted eighth grade social studies textbooks and their accompanying teacher manuals to determine whether they facilitated reading comprehension.
CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

The focus of chapter two is to present data to justify the relevance of this study and to demonstrate how it impacts on other research. This chapter has been organized into three major sections. These sections have been included to illuminate the relationship between textbooks, reading development, and instruction, and to suggest that content area textbooks are a powerful medium which, if employed properly serve to improve student comprehension of material read and learned (Kymes, 2005).

Within the first section of chapter two a review of textbook research has been presented. This section serves to connect textbook and reading research to demonstrate why this current content analysis is relevant. Within the first section too, research which evaluated the quality of social studies textbooks with regard to the manner in which they affected student learning was addressed. Based on the central importance of the textbook in our educational system it is not surprising that research continues to focus on these materials. The second section of chapter two illustrates the evolution of explicit instruction methodologies. This section was included since it would be remiss to fail to discuss instruction while exploring strategies to improve comprehension, since strategies can only be effectively and fully developed through instruction. The final section of chapter 2 focuses on comprehension strategy research conducted during the past twenty five years. This section discusses seven key strategies identified in the literature which were found to be essential for the comprehension of expository texts to occur (NRP, 2000; Pressley & Block, 2002; Snow, Sweet, Alvermann, Kamil, & Strickland, 2002).
They include: comprehension monitoring; activating background knowledge; summarization; text structure; question generation; instructional graphics; and inference.

*Text Book Research*

It is necessary for reading researchers to study the content of the materials students encounter in order to more fully investigate and understand the reading development of pupils in middle and upper grades. It is often assumed that in middle grade content area classrooms textbooks provide the data with which students and teachers work. To test this assumption research produced during the past twenty five years was reviewed. This review revealed that limited data concerning the role and importance of textbooks on student learning during content area instruction existed. At the same time the analysis of studies reviewed indicated that while textbooks remain the main source of data with which both the teachers and students work during content area instruction, reading practices vary in middle and secondary level content area classrooms. Content area teachers have been found to be quite idiosyncratic regarding their classroom organization practices, their teaching of comprehension strategies, and their use of textbooks. While textbook use continues to be stressed, teacher reliance on them varies (Alvermann & Moore, 1991). At the same time, the literature review undertaken did reveal that agreement exists on a number of issues. It was generally accepted that textbooks continue to be widely used and are of primary importance in secondary environments (Alvermann & Moore, 1991; Armbruster, Anderson, Armstrong, Wise, Janisch, & Meyer, 1991; Camperell & Knight, 1991; Moje, 1996, Sewall, 2000); that textbooks are not always used to develop students’ reading abilities in addition to their content knowledge (Alvermann & Moore, 1991; Konopak, Wilson, & Readance, 1994);
that teachers’ philosophical orientations determine their teaching styles and the ways in which textbooks are used in their classrooms (Cuban, 1991; Wade & Moje, 2002); that the use of textbooks varies with regard to students’ abilities (Alvermann & Moore, 1991; Bean, 2000; Digisi & Willet, 1995); and that social studies textbooks are among the most difficult reading materials students encounter, and the quality of these texts remains a concern of professionals in many areas of educational research and practice (Beck, McKeown, Sinatra, & Loxterman, 1991; Harniss, Dickson, Kinder, & Hollenbeck, 1991; Lowen, 1995; Wineberg, 2001).

Textbook Use

Data indicates that single sets of required texts are typically employed in middle and secondary content area classrooms (Alvermann & Moore, 1991). According to Camperell & Knight (1991), these texts become vehicles of knowledge transmission. Particularly in social studies classes, textbooks present information about socio-cultural events, institutions, and actions that members of society must know in order for them to understand and critically interpret newspaper articles, novels, and magazines (Camperell & Knight, 1991 p. 569).

Research findings do indicate that textbooks provide data with which students and teachers work, and present questions that define how the presented content should be conceptualized. In addition, and as explained by Sosniak & Perlman (1990), the power of textbooks lies in their ability to serve as resources which introduce teachers and students to worlds which are not immediately obvious or that cannot be experienced directly. Another important element of textbooks is their power to structure teaching and learning and to provide an “organized sequence of ideas and information. Textbooks have been
found to guide the reader’s understanding, thinking, and feeling, and to provide access to knowledge which is personally enriching and politically empowering (Sosniak & Perlman, 1990; p. 440)”.

While students do engage in activities designed to increase their understanding of particular topics that do not involve textbook use, these activities occupy comparatively little time (Sosniak & Perelman, 1990).

Research findings indicate that textbooks continue to be widely used during content area instruction. Sosniak & Stodolsky (1993) concluded that textbooks provided a level of content expertise that few teachers possessed regarding all subjects taught by them, logically organized content around specific topics, maximized planning time, and provided security for teachers and students alike. Researchers investigating the use of textbooks during content area instruction found that these materials remained the main and authoritative source of information about the subject for teachers and students (Konopak, Wilson, & Readance; 1994). The American Textbook Council, an independent national research organization established in the late 1980’s to review history and social studies textbooks, supported these findings. They described textbooks as prepackaged delivery systems which are timesavers for teachers. This claim was supported by the fact that school districts continued to prefer to purchase complete instructional programs in history since they did not have the time or expertise to build themselves a course of study in this area (Sewall, 2000).

Textbooks Develop Content Knowledge

Evidence suggests that through the use of textbooks students reading ability and academic achievement can be enhanced. Digisi & Willet (1995) reported that when textbooks are used effectively as part of a broad repertoire of instructional activities, the
teaching of critical reading and thinking skills can be achieved. Unfortunately research on reading in secondary classrooms has indicated that the major role of reading and textbook use in these settings was to provide a basic set of facts (Alvermann and Moore, 1991; Camperell & Knight, 1991). Teachers of science and social studies do not always understand their capacity to improve the reading skills of their pupils and it has been often observed that they simply assign readings in order to cover content material (Konopak, Wilson, & Readance, 1994). This may be due to teachers’ views concerning issues associated with the reading development of their pupils. Secondary teachers have been found to be concerned primarily with increasing their students’ grasp of the content of their disciplines through textbook use. Secondary teachers have been found to function more as specialists in their particular disciplines, while possessing relatively little understanding of the techniques they might employ to increase the reading skills of their students through textbook use (Alvermann & Moore, 1991 p. 952). It is not surprising then that studies of everyday secondary school instruction reveal that content area pupils are provided with little opportunity to develop and increase their reading capabilities.

Armbruster, Anderson, Armstrong, Wise, Janisch, & Meyer (1991) attempted to determine more specifically how and when textbooks are used in content area classrooms. They found that when texts were used they tended to be read aloud, in small segments of one paragraph or less. The authors noted that this finding implied that students received little practice reading designed to improve their reading of informational texts. This finding was consistent with Alvermann and Moore’s (1991) conclusion that students in higher grades primarily engage in short bursts of reading combined with listening, speaking, and writing activities. For these students textbook
reading assumed a far more supportive educational role. Overall findings suggest that textbooks are used to develop content knowledge but they are often not employed to enhance students’ reading abilities.

*Teacher’s Pedagogical Orientation Influences Textbook Use*

Research findings indicate that teachers make their own decisions about which parts of textbooks to use and the ways in which they become used. To understand textbook use, Sosniak & Stodolksy (1993) suggested considering more thoroughly teachers’ thoughts and actions in relation to their work within and across subject areas. Different pedagogical approaches can be adopted by content area teachers that influence their use of the textbook during instruction (Wade and Moje, 2000). Textbooks often play a more dominant role during instruction when the transmission approach to teaching is stressed at middle and secondary levels. In the transmission model, texts serve to establish boundaries regarding the skills, topics, and ideologies considered to be legitimate and of value. In contrast, when participatory approaches to learning are employed, students are invited to engage in the construction of knowledge and even in the construction of texts. In the participatory model, texts are viewed as tools for learning and a wide range of texts are relied upon to assist students (Moje, 2000).

Textbook use with older students has tended to be teacher centered. Cuban’s (1991) meta analysis of social studies instruction in various classrooms during the past century revealed a pattern of teacher centered instruction in the vast majority of cases. This traditional teaching pattern, most commonly found at the secondary level, suggests that the textbook and the teacher serve as sources of information regarding assignments and that they provide direct assistance to students as they prepare for recitations and tests,
and as they engaged in other independent learning activities. The body of facts and ideas students are expected to learn is contained in the text and many teachers highlight the relevance of this information during their lectures and when they engage in other classroom interactions.

Within teacher directed lessons whole class instruction frequently is organized almost entirely around work with the textbook. Sosniak & Perlman (1990) observed a pattern of instruction during teacher directed instruction in which students opened a textbook at the beginning of class, worked through sections of the book together as a class, and studied additional sections of the book individually during class time or when they completed homework assignments. Student achievement was assessed by the degree to which they were able to answer questions posed by the author of the text (p. 434). This finding highlights the relationship between textbooks and student learning which commonly exists in content area classrooms.

A smaller number of studies presented findings that identified teachers who encouraged differentiated instruction and greater levels of student engagement (Cuban, 1991). Unfortunately, these studies were quite limited in number. It did appear that more traditional teaching methodologies such as teacher centered instruction continue to be commonly found in upper grade classrooms and that within these particular classrooms textbooks are viewed as very important information transmission devices.

**Student Ability Influences Textbook Use**

Research findings indicate that the level of literacy skill development of students affects the manner in which teachers make use of textbooks in their classrooms. Digisi & Willet (1995) found that teachers adapted the manner in which information was presented
to students as well as the amount of reading required according to the ability level of the students taught. The amount of reading assigned and the instruction provided varied dramatically according students’ ability levels. In lower level classes students were found to read less and were provided with more direct content instruction. When these less skilled readers were asked to engage in reading activities, they often dealt with material already presented in class (Digisi & Willet, 1995). Because of their lack of understanding, training, and experience, teachers did little to help their students improve their literacy skills. By providing content information in a manner which reduced very significantly the use of textbooks or other reading materials, teachers eliminated the act of reading for information and the consequent development of this skill. Teachers of lower level students provided much repetition when teaching curricular content, apparently to compensate for their students limited reading skills. While teachers of students exhibiting less well developed literacy skills have been found to not expect their students to learn substantially when reading, reading was used as a tool to reinforce content knowledge already attained. Conversely, more skilled readers who exhibited better developed literacy skills were provided with increased opportunities to read more widely and to learn from the text.

The relationship between textbook use and student ability was also found to influence how often and the manner in which teachers employed textbooks during content area teaching. While textbooks remain central to student learning, their role has been found to vary dramatically in response to the literacy levels of pupils. (Alvermann & Moore, 1991, Bean 2000, Digisi & Willet, 1995)
Social Studies Textbooks Are Difficult to Understand

The quality of social studies textbooks has been a concern of professionals in many areas of educational research and practice (Beck, McKeown, Sinatra, & Loxterman, 1991). Textbooks greatly influence the content students learn as well as the way in which they learn it. In view of the significant influence textbooks have on education, it is important that textbooks be of high quality. Unfortunately, and as noted by Beck & McKeown (1991), current research reports indicate that weaknesses inherent in textbooks produced three decades ago continue to be present in materials currently in use. Social studies textbooks in particular continue to come under considerable scrutiny for their inconsiderate language and their factual orientation (Armbruster 1985; Harniss, Hollenbeck, Crawford, & Carnine, 1994).

Social studies textbooks are among the most difficult reading materials students encounter (Harniss et al., 1994). Research has been undertaken that analyzed textual features and investigated the effects of those features on student learning (Beck & McKeown, 1991a; Kinder, Barusk, & Epstein, 1992; Harmon, Hendrick, & Fox, 2000). These studies identified textual features that support learning and contribute to the comprehensibility of textbooks (Armbruster, 1985; Beck & Mckewon, 1991). The inclusion of these features into textbook development produces “considerate” text (Wineberg, 2001).

Reading researchers use the term considerate to describe content textbooks which present ideas and concepts in a coherent and smoothly woven manner, and in a way which allows relationships among ideas to be connected logically and meaningfully. When theoretically based textual features become integrated with content, considerate
texts have been found to be more enjoyable and less difficult to comprehend (Winberg, 2001). Features characteristic of considerate texts have been found to enhance student learning of textbook content and include: clear text structure in which ideas or actions are sequenced; coherent writing which enhances the clarity and the ease with which parts of the text are connected; and audience awareness which refers to the degree to which the text anticipates and fulfills readers’ needs (Armbruster, 1985). Within considerate texts the presence of concept maps, interspersed questions, review questions related to underlying text structure, and practice activities are additional features found to support student understanding of expository materials (Harniss et al., 1994). Clear titles, heads and subheads, visual aids, and directly stated main ideas also contribute to textbook comprehensibility. In addition, research has shown that when empirically based vocabulary instruction has been presented in considerate texts, the likelihood that students comprehend more effectively increases (Camperell & Knight, 1991).

It has been shown empirically that when text structure is appropriately organized, understanding and learning become facilitated. Research studies have shed significant light on the manner in which student understanding of the organizational structure of expository texts facilitates comprehension (Beck & McKeown, 1991; Beck & McKeown, 1991a; Duffy et al., 1989). When the structure of expository text was identified by the reader, he/she became able to form a representation in memory parallel to that of the structure itself. The formation of this parallel representation served to enhance the readers’ ability to recall key concepts and to encode information in memory consistent with the organization of the text. The most common types of expository text structures found in social studies materials include: comparison/contrast; cause/effect; sequential
order; simple listing; enumeration; problem/solution; and main ideas. While it is important that subject matter is presented to the reader in an organized manner, effective content organization alone does not ensure that greater comprehension will result. Students must be taught to recognize the existence of text structure and to understand the manner in which this knowledge should be utilized to improve comprehension (Armbruster, Anderson, Ostertag, 1987; Mcgee & Richgels, 1992; Pearson & Duke, 2003).

As indicated above, considerate text is written in a coherent manner which allows ideas to be smoothly woven together. The relationships between ideas presented in a text written coherently are presented clearly and in a way which allows a logical connection or flow of meaning to exist among various ideas (Armbruster & Anderson, 1985). Coherence operates at both global (whole text) and local (individual sentence) levels. Global coherence is a function of the overall structure or organization of text. At the local level, linguistic connectives make explicit the conjunctive, temporal, causal, spatial, or conditional relationships existing between ideas. When considerate texts are written coherently at both global and local levels students learn and recall expository text content more adequately. Within a well organized considerate text relationships and connections between ideas become reinforced as information is processed. Readers find considerate texts more enjoyable because they are able to comprehend them more readily. Features of considerate texts that support students’ “building of ideas” have been identified (Beck & McKeown, 1988), and studies have demonstrated how considerate texts positively affect comprehension and learning. Unfortunately, many social studies textbooks continue to be written in an inconsiderate manner and in a way which has been found to
be counterproductive to student learning. Inconsiderate textbooks are those written in a disorganized manner and in a way which serves to increase confusion and decrease retention. Harniss et al., (1994) found that inconsiderate texts were written poorly and failed to present historical facts in a coherent manner. Unfortunately, these inconsiderate materials continue to be employed in many secondary classrooms (Crawford & Carnine, 2000).

Given the central importance of the textbook in our educational system, it is not surprising that research continues to focus on improving the comprehensibility of these sources of information. Until recently most research addressing how to write text to best facilitate meaning dealt with the development and application of readability formulas. Research has proven that when text development has been affected by an over reliance on the importance of readability formulas, information has been presented in a manner which has been found to be counterproductive to student learning (Beck & McKeown, 1991; Camperell & Knight, 1991; Duffy, Higgins, Mehlenbacher, Cochran, Wallace, Hill, Haugen, McCaffrey, Burnett, Sloane, & Smith, 1989). These formulas are based on simple indexes, such as sentence and word length, that correlate with text difficulty, but do not account for what makes a text easier or more difficult to comprehend. When readability formulas are applied during the creation of a text, sentence lengths become limited, information is often omitted, and the reader must produce far too many relationships inferentially. What results are “short, choppy sentences that carry heavy explanatory loads” (Anderson & Armbruster, 1985, p. 253). Developing texts based strictly on readability formula constraints has been found to be contrary to research findings which have illustrated that longer sentences, that make relationships explicit
yield better comprehension. The issue of textbook readability is complex and since the early 1980’s reading researchers have consistently underscored the need to develop content area texts in a manner that extends beyond traditional text evaluation conceptions based solely on readability formulas (Armbruster & Anderson, 1985; Crawford & Carnine, 2000; Kinder, Bursuck, & Epstein, 1992). Current research suggest that text comprehensibility can not be determined simply by considering issues associated with vocabulary difficulty and sentence length.

The serious and pervasive shortcomings of many conventional textbooks have led some educators to abandon them as instructional tools. At the same time, reading researchers have suggested dramatically redesigning textbooks to make them more effective and efficient (Armbruster, Anderson, & Osborn, 1986; Carnine & Crawford, 2000; Harniss, et al., 1994). Reading comprehension research has served to produce a viable theoretical foundation upon which newly constructed texts better provide readers with important insights into the manner in which their comprehension could become enhanced (Beck et al., 1991).

The creation of more comprehensible social studies texts has resulted from the application of reading research which identified text features which enhance the likelihood that effective comprehension would be achieved. Researchers developed considerate text whose content was carefully organized in ways which facilitated comprehension development. For example, Armbruster & Anderson (1985) developed a considerate social studies text which achieved global cohesion and which stated explicitly the manner in which understanding of specific aspects of text structure could allow learning to occur more readily.
During the early 1980’s the CIRCA Project was undertaken to determine how reading research findings could be made practical (Armbruster, Anderson, Osborn, Cox, Friedman, Jones, Karlin, Kazariran, Martin, & Walker, 1985). Content area materials were developed to enhance student comprehension through strategy development. Strategy instruction in the CIRCA materials was presented functionally. In other words, the strategies taught were those the readers needed in order to understand the material in question. The strategies were taught as students read text, and the text was assigned in order to teach content rather than to teach reading strategies. Instruction included three research based components. These were: 1) strategy training and practice; 2) comprehension monitoring/metacognitive training; and 3) the explication of strategies presented to enhance learning. Since few content area teachers possess a background in reading, the teacher manual provided teachers with concrete examples of the manner in which this model could be employed to enhance comprehension development and student autonomy. CIRCA materials were piloted in the 1980’s and a broad dissemination effort was planned. Regrettably, due to budget restrictions, the CIRCA project lost its funding and consequently CIRCA materials were never printed in their final form or made available for dissemination.

Reading researchers continue to develop “considerate” materials and study their effects on student learning. Incorporating six “best practice” recommendations from the literature regarding how history books should be designed, Carnine, Crawford, Harniss, & Hollenbeck (1994) developed “Understanding History”, a conceptually organized history text. “Best practices” incorporated in this text included: 1) the organization of content around “big ideas” and the relationships and connections between ideas; 2)
concept maps which enable students to diagram relationships existing among key concepts and which allow them to develop more organized writing skills; 3) interspersed text based questions that encourage learners to identify critical concepts and principles and which ensure that most effective comprehension and recall will occur; 4) integrative review questions that focus study and review efforts on critical information to be learned; 5) vocabulary building exercises that ensure that students learn and remember the meaning of essential vocabulary words; and 6) writing exercises designed to enhance student learning. The authors emphasized that these features were essential if textbooks were to support learning in content areas.

Beck, McKeown, Sinatra, & Loxterman (1991) applied cognitive processing principles while revising a fifth grade social studies text. These investigators were particularly interested in determining the effect of readers’ background knowledge on their ability to develop important concepts, and the type of thinking they engaged in while reading. Beck et al., (1991) hypothesized that at specific places in a text, comprehension breakdowns might be expected to occur. This study was designed to assess the manner in which expert readers might repair these breakdowns. Knowledge of the manner in which repairs were made allowed these investigators to produce a revised version of the original text which presented events and ideas in a causal/explanatory manner and in a way which facilitated the reader’s understanding not only of the events themselves, but why the events occurred, and how events and ideas were related to one another.

Research studies continue to be undertaken to evaluate the quality of social studies textbooks on the basis of the extent to which characteristics of considerate text are
present (Crawford & Carnine, 2000; Harniss et al., 1994; Bursuck & Epstein, 1992). In a number of research studies, text variables (cohesive or incohesive, expository or narrative), and task variables (recognition, recall, or problem solving) were manipulated while ability levels of subjects were held constant. Other researchers designed studies in which the age or ability level of their subjects was varied while text variables were held constant (Camperell & Knight, 1991). While most of the texts studied were found to be written in a considerate manner, and while they possessed global coherence, important qualitative differences were found to exist among them.

Duffy and his associates (1989), sought to identify the presence of rhetorical guidelines in expository texts that better facilitated students’ learning. Content and writing experts were asked to revise a text. Their revisions were then analyzed to determine whether they allowed more effective learning to occur. Student participants read the revisions and original text. Researchers attempted to determine whether these students felt that the revised editions were more interesting and whether they allowed learning to occur more readily. Each student’s recall of information in the revised edition was compared with their recall of information present in the original version. The researchers then attempted to identify which strategies and rhetorical principles led to positive effects.

Compounding the difficulty encountered by researchers who have attempted to determine the comprehensibility of textbooks has been their failure to develop a united definition of the comprehension process. In fact, investigators representing a broad range of educational disciplines often differ conceptually regarding the manner in which knowledge acquisition from text is effected, directed, and stimulated. For example,
reading researchers and historians have been found to view comprehensibility quite differently when they engage in a process of text based analysis. Often, the presence or absence of specific topics or concepts or views stimulates the interest of particular investigators but not others.

Social studies texts were selected for study by this investigator not because of the importance of the social, historical, or political concepts embedded in them, but in response to the fact that they are widely used and require skilled reading (Camperell & Knight, 1991; Moje, 1996; Beck, McKeown, Sinatra, & Loxterm, 1991). Similarly it was not the intent of the examiner to determine the extent to which the reader was required to engage in higher level thought processes when involved with presented texts. It remains the work of social studies scholars to provide understanding of the type and depth of knowledge which should be acquired from historical texts as they are read. While reading researchers should be expected to develop methods and materials which allow students to establish not only literal but inferential, interpretive, and critical thinking abilities, social studies authorities have understandably identified specific skills or mind sets they feel must be employed and understood in order for their materials to be read appropriately.

For example, Wineberg (2001) noted that during social studies instruction students must be taught to develop the ability to think when reading as a true historian might. In order for this to occur, students must become cognizant of the manner in which historians read and the specific acts of cognition they engage in when developing interpretations. Loewen (1995) suggested that in order for students to understand social studies texts they must identify what history is good for, who it is good for, how this
understanding shapes the way in which historical texts are crafted, and the manner in which they serve to disseminate information. The content of historical materials provided to students and teachers for study can serve to illustrate the ways to make choices, balance options, and tell stories. Recently the content of historical texts has caused certain history educators to become uneasy. While Wineberg (2001) reflected that information found in history text possess humanizing qualities found in few other curricular areas, Loewen (1995) noted that the content of social studies texts is often influenced strongly by political thought. He stated that political considerations often play a dominant role regarding textbook adoption. Therefore students must learn to read critically while striving to develop understanding of how political issues influence what is written and what is not, and how the impact of information provided in these works shapes our understanding of ourselves and the world.

When different epistemologies are applied to education research and in particular when content analysis of social studies textbooks is undertaken, different views of comprehension emerge. The metacognitive approach to comprehension development employed in this study is representative of an effective method which allows knowledge to be acquired. Historical texts offer readers an unlimited number of complex problems similar to those that confront individuals on a daily basis in the social world. Examining these problems requires an interpretive ability that extends beyond a literal understanding of the text. By developing understanding of how students deal with such complexity and how teachers guide them to formulate important concepts would improve social studies instruction and also inform theories of reading comprehension.
The role of background knowledge

Reading researchers have exposed the presence of a strong relationship exiting between the students’ prior knowledge and his/her ability to successfully meet reading comprehension demands (Armbruster et al., 1987). History researchers have also begun to examine the manner in which students interpret history taught in school and how their understanding of history is affected by a range of personal factors including their susceptibility to the influence of other sources of historical knowledge (Moreau, 2003, p. 24). Reading and history researchers agree that the students’ depth of background knowledge influences the quality of understanding he/she is able to derive from the text and that a lack of knowledge regarding a particular topic does affect comprehension development negatively (Beck and McKeown 1991a; Pearson, Hansen, & Gordon, 1979).

To achieve a necessary degree of comprehensibility an expository text must strike a balance between the type and amount of knowledge the individual must already possess in order for learning to occur. If the reader’s background knowledge proves to be inadequate and he/she is unable to understand critically important or targeted ideas presented in a text, comprehension becomes negatively affected (Beck & McKeown, 1991a). Since no text contains all information necessary for a complex message to be conveyed, writers typically assume that readers already possess important concepts, omit most of this information, and present data which students find difficult to understand. Research has shown that many social studies textbooks inhibit student learning because inappropriate assumptions have been made by authors regarding the adequacy of background knowledge of readers and because of students’ limited understanding of the manner in which the utilization of specific reading strategies would allow meaning to be
extracted and constructed. Beck & McKeown (1991a) studied the extent of the relationship between fifth graders’ existing background knowledge of social studies content and the amount of information that textbook authors assumed they possessed. These same researchers also investigated the impact of background knowledge and textual coherence on comprehension development. Their results indicated that background knowledge and coherence of text contributed to comprehension in independent ways. While the existence of adequate background knowledge was found to contribute to more successful outcomes (e.g., greater comprehension), it did not completely override the negative and limiting effects of improper text presentation. Beck & McKeown noted that many ideas and events presented in the texts studied remained beyond the student’s grasp because authors of these texts assumed improperly and unrealistically that readers possessed information that they had in fact, not been already exposed to (1991a).

Reading researchers have identified the critical role of students’ background knowledge of expository text structure on their ability to comprehend expository text materials (Armbruster, Anderson, & Ostertag, 1987; Pearson & Duke, 2003; Winograd, 1984). Students who are able to understand the manner in which expository text is structured also tend to expect that information will be presented in a particular manner. Readers possessing this level of understanding become better able to organize information, to activate background knowledge, and to produce relationships. Research has also shown that teachers can assist students to overcome certain negative effects of inadequate presentations by providing background knowledge and by extending explanations of important concepts (Beck & McKeown, 1991a). While knowledge of
basic text structures and the manner in which this knowledge can be employed to enhance learning has been taught explicitly and successfully, it has been determined that social studies teachers often spend insignificant time teaching students how to get information from their textbooks, how to identify the presence of important data, and how greater comprehension might be achieved (Durkin, 1978).

Discussion

Schumaker (1985) noted that research on the impact of text variables on comprehension and retention had yet to produce a theoretical model which could allow more coherent texts to be produced. He emphasized that the “task of designing an ideal text required researchers first to derive the foundation of a model which would allow them to determine which variables were most important and which played secondary roles” (Schumaker, 1985p. 264). During the past quarter century, variables that impact particularly on comprehension and retention have been identified and comprehension research has focused on developing understanding of the process of learning rather than simply examining outward manifestations of reading performance. Various investigations have allowed greater understanding to be achieved concerning the manner in which textbooks affect student learning. In fact the integration of specific textual features found to enhance learning of expository text has begun to be integrated into current social studies textbooks to make them more considerate.

Reading researchers have focused so intently on textbooks because of the centrality of their role in teaching and learning. Although reading research recommendations have not been widely integrated into textbook development, progress in this area has occurred. However, additional content analyses should be undertaken to
determine the on-going extent to which reading research findings affect the development of new materials.

Explicit Instruction of Comprehension Strategies

The publication of Dolores Durkin’s (1978-79) seminal study initiated a continuing awareness regarding the relationship between the need for reading comprehension instruction and its absence in many classrooms. Since this study was published researchers and teachers have focused more deliberately on questions such as, “Do the children understand this?” And “will what I’m assigning contribute to reading ability?” (Durkin, 1978-79, p. 505) This line of questioning prompted the development of theoretically and research based instructional models.

Within the past twenty five years a great deal of research has been conducted to investigate the affects of explicit instruction (Brown, Pressley, Van Meter, & Schuder, 1996; Duffy & Roehler, 1989; Duffy & Roehler, 1987) of comprehension strategies (Armbruster, Anderson, & Ostertag, 1987; Baumann, 1986, Pressley, El-Dinary, Gaskins, Schuder, Almasi, & Brown, 1992) on student learning. Methods have been developed based on the idea that if students who struggle to comprehend text are explicitly taught to use comprehension strategies when they read they will learn more effectively to independently and actively construct meaning. These teaching methodologies reflect an awareness that many students require direct attention to gain comprehension skills (Baumann, 1984; Duffy, Roehler, Meloth, Vavurs, Book, Putnam, & Wesselman, 1986; Pearson, 1984, 1978). The overarching common goal of these methodologies is student comprehension via strategy appropriation and consequent independent use. The role of
the teacher during explicit instruction of comprehension strategies is and has been that of an active decision maker and more knowledgeable other.

Since the early 1980’s the explicit instruction of comprehension strategies model has continued to evolve. This process of evolution is clearly illustrated in the various explicit instruction models that have been developed over time: 1) explicit instruction (Markman, 1985; Pearson & Dole, 1987; Taylor, 1986); 2) direct explanation (Duffy et al., 1986; Dole, Duffy & Roehler, 1991; Duffy, 2002); and 3) transactional strategies instruction (Bergman & Schuder, 1992-93; Brown, Pressley, Van Meter, & Schuder, 1996, Pressley, El-Dinary, Gaskins, Schuder, Almasi, & Brown, 1992). While explicit comprehension instruction has undergone significant change, it is interesting that many instructional practices developed in the earliest studies continue to be emphasized in the most current model.

David Pearson and his colleagues introduced the term explicit instruction to differentiate this form of instruction from already existing direct models advanced by Carnine and his colleagues at the University of Oregon (Engelman & Carnine, 1982). Using different terminology to identify this method is important since the term direct instruction describes teaching methodologies that propose rigid and pre-scripted forms of instruction. These pre-scripted direct instructional methodologies eliminate teacher judgment and decision making and differ significantly from the explicit methodologies presented in this paper.

Explicit instruction of comprehension strategies models are rooted in a cognitive perspective. Reading comprehension from this perspective has been defined as the process of simultaneously extracting and constructing meaning through interaction and
involvement with written language (Snow et al, 2002). Consequently, meaning becomes constructed or extracted as the reader interacts purposefully with the text. From this perspective, prior knowledge and the schemata of students become crucial for learning to occur. Meaning is not assumed to reside solely in the text but is conceptualized as a negotiation between the author and the reader. Readers are understood to be active participants who construct meaning as they integrate existing knowledge with new information as they employ comprehension strategies flexibly in a manner which allows them to foster monitor, regulate, and maintain comprehension (Dole et al., 1991). The active role of the reader in the learning process remains an essential component of explicit instruction of comprehension strategies today.

Research indicates that explicit instruction of comprehension strategies instruction can improve poor comprehenders’ understanding of difficult text. The goal of explicit instruction of comprehension strategies instruction is to help students learn how to become self regulated, active readers who employ differentially, various comprehension strategies. The overarching objective of instruction is the long term improvement of comprehension capacity. Since students gradually restructure instructional information in terms of their existing background knowledge, strategies are not assumed to be learned immediately. Instead, developing strategic readers who are proficient comprehenders is understood as a longitudinal and prolonged process (Duffy & Roehler, 1989; Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989).

Strategy instruction has been found to vital to the development of strategy use among less skilled readers. Explicit instruction is to strategies, what a song is to sheet music. Without instruction, strategies remain lifeless and inaccessible. As discussed
below, the significant impact of comprehension strategies taught explicitly has been well documented.

*Explicit Instruction*

Reading research findings published during the late 1970’s and early 1980’s reestablished the fact that direct intervention by teachers was essential to the optimal development of comprehension skills. Explicit instructional techniques were developed and employed to enhance reading comprehension (Pearson, 1984; Pearson, 1987). Since significant numbers of students were found to be unable to develop understanding of comprehension strategies independently, this methodology was developed to provide instruction that intentionally and overtly addressed various comprehension skills identified as essential to developing meaning from text. These strategies are significant since they create the knowledge structures necessary for assimilating information through the use of metacognitive processes (Singer & Donlan, 1994, p. 520). Research conducted during the 1980’s found explicit instruction to be a method which effectively allowed students to develop learning schemas and one which enhanced comprehension development.

Reading researchers conducted a great deal of research during the early 1980’s to determine the impact of explicit strategy instruction on comprehension development (Alverman, Smith, & Readence, 1985; Bean & Steenwyk, 1984; Davey & McBride, 1986). Investigators at Michigan State University and the University of Illinois provided significant contributions to this body of research (Armbruster, Anderson, & Ostertag, 1987; Palincsar & Brown, 1984; Pearson, 1985). These researchers studied the manner in which comprehension strategies could be developed through instructional practices.
Focusing on overt processes and content outcomes, their studies identified assessment, explanation, practice, and application as key instructional elements inherent in explicit instruction (Duffy & Roehler, 1986). While it was determined that clearly formulated instructional objectives and academic goals were found to enhance learning (Baumann, 1986), researchers also found that student comprehension could not be appropriately enhanced without adequate instructional time and a presentation of abundant learning opportunities (Duffy & Roehler, 1984). These early strategy study findings continue to provide important insight into strategies essential for comprehension and inform practice today.

During the 1980’s data revealed that the more explicit an instructional cue, the more likely it was that students would infer a teacher’s intended instructional goal. Research findings indicated that readers attain greater awareness and increased achievement when teachers are explicit regarding their behavior as well as the mental acts they engage in when employing skills strategically (Duffy et al., 1986; Duffy & Roehler, 1987). Students were found to require teachers to model appropriate behaviors that fostered comprehension and internal thinking processes they engaged in, in a direct or overt manner. Duffy and his colleagues developed direct explanation in response to this need. While the “what” of instruction remained consistent within the explicit instruction model, an emphasis on “how” ultimately differentiated explicit instruction from other direct approaches.

Direct Explanation.

Direct explanation was developed in order to meet struggling readers needs more effectively (Duffy, 2002). Like explicit instruction, direct explanation was
conceptualized by Gerald Duffy and Laura Roehler, as a method which would allow students to achieve well developed and effective reading comprehension skills through their use of comprehension strategies. Direct explanation was based on research findings which revealed that readers attain greater awareness and comprehend more effectively when comprehension strategies are taught explicitly and when the mental acts effective thinkers engage in when attempting to construct meaning are directly discussed. (Duffy & Roehler, 1987; Roehler, Duffy, & Meloth, 1986). This approach emphasizes the mental processing involved in comprehension and the manner in which competent readers engage in this form of processing. Through direct explanation students are also taught that comprehension strategies are to be used flexibly while interacting with the text.

Direct explanation teachers place struggling readers in better positions to control their own comprehension by providing them with clear information about how strategies work. Teachers provide strategy instruction through a process of modeling their own strategic thinking. To model their thinking, teachers participate in think alouds and provide students with verbal descriptions of the thinking they do. These explanations of comprehension processes are designed to be metacognitive not mechanic, and have been found to help students to develop and internalize comprehension strategies. This form of instruction facilitates learning through the presentation of information to the child first on the social and then on the individual plane (Vygotsky, 1978). A goal of direct explanation is to allow students to internalize and personalize what was originally a social and group process.
Instruction, mediated by speech, is offered to assist students to become aware of concepts as well as thought processes. This type of instruction encourages students to think about their own thought processes in a metacognitive manner. Through direct explanation students learn to become increasingly metacognitive when attempting to construct meaning and become more active and self initiating participants during the learning process. To attain a metacognitive level, students are asked to think aloud and to evaluate their thinking, since it is only through language mediation that this process can be observed (Vygotsky, 1986). During think alouds students articulate the steps they go through in constructing meaning and verbalize precisely how they are monitoring this process. As students gain mastery of a concept, their independent use of comprehension strategies reflects their development of metacognitive awareness (Gaskins, 1991). This level of thought is critical to the students’ development of intellectual autonomy.

Earlier research on explicit instruction indicated that students function more effectively when a more collaborative form of explanation regarding strategy use and application was presented to them. Incorporating Vygotsky’s notion of the Zone of Proximal Development (Vygotsky, 1987), scaffolded instruction was recommended as an essential component of direct explanation. The purpose of scaffolding is to move from teacher ownership to student ownership. Teachers scaffold instruction and continue to be less overt in their modeling and in their efforts to explain as students gain independent competence. An important aim of direct explanation has been to provide instruction that supports students to develop skills and functions that are in their learning repertoires but are just beyond their independent capabilities. The direct explanation method was
designed to stimulate the students’ current learning capabilities and to help them to reach their learning potential.

Through direct explanation students are taught comprehension strategies which are to be used flexibly while they interact with text. Within the direct explanation model strategies are viewed as techniques readers learn to control in order to comprehend more successfully (Dole, Duffy, Roehler, & Pearson, 1991; Duffy, 2002; Keene & Zimmerman, 1997). Strategies have been conceived and presented as flexible plans which, if employed appropriately, allow blockages to meaning to be removed. Teachers employing direct explanation to enhance their pupil’s comprehension abilities by providing them with more unambiguous information (scientific concepts) (Vygotsky, 1987) regarding how strategies work and which strategies should be considered in response to particular task demands. Often strategies must undergo some degree of adjustment in order for them to fit particular situations appropriately. Direct explanation of strategies has been embedded successfully in instruction and presented as part of the learning experience students encounter (Symons, Snyder, Cariglia-Bull, & Pressley, 1989). Direct explanation has evolved as a long term instructional model intended to provide students with necessary information regarding the manner in which strategies should be employed effectively.

Direct explanation extended assumptions regarding schema theory and learning presented in earlier explicit instructional models. Strategy instruction and strategy use, like overall comprehension, are purposively linked to students’ past experience and schema. Consequently, strategy use has been viewed as an individual and personal
process (Duffy & Roehler, 1989). Couched within overall constructivist principles, direct explanation is not presented as prescriptive direct instruction (Duffy, 2002).

Instruction applying direct explanation follows a research based format that incorporates teacher modeling of both overt and internal text processing behaviors. Instruction is organized around the scaffolding of instructional elements to allow movement from teacher ownership to student appropriation (Vygotsky, 1987). Initially teachers heavily scaffold instruction. However, they become less overt in their modeling of strategies and in the support offered by them as students gain mastery. Reading researchers have found that independent strategy use does not occur as a linear process. While specific steps foster strategy appropriation, their order is often less important than their presence. What remains critical during direct explanation is that: 1) a strategy is introduced to pupils; 2) students seek from their background specific knowledge which allows them to develop understanding of important concepts; 3) the instructor models overtly the overt text processing behaviors; 4) students are provided through direct explanation with strategic and internal “how to” information necessary for active comprehension to occur; 5) students are provided with authentic opportunities to become actively engaged in strategy use; and 6) students participate in guided practice while applying new cognitive schemes. Once students become able to independently engage in a specified text processing strategy, they are encouraged to practice employing this new cognitive scheme while reading independently.

Direct explanation continues to be recognized as an effective method for developing students’ reading comprehension abilities (NRC, 2000). It is the instructional
method utilized by transactional strategies instruction, the most contemporary explicit instruction approach.

**Transactional Strategies Instruction**

The most current and holistic research based model of explicit comprehension instruction is teacher developed transactional strategies instruction. Transactional strategies instruction (TSI) is a long term instructional model that is intended to be employed across curricular areas and at all academic levels. Although transactional strategies instruction research has focused on the efficacy of this approach at the elementary school level, it has been found to enhance comprehension development significantly when employed with other populations (Pressley, El-Dinary, Gaskins, Schuder, Almasi, and Brown, 1992). This model, developed during the early 1990’s is based directly on earlier explicit comprehension instruction research and is most similar to direct explanation. Research studies conducted during the 1980’s that analyzed skilled reading behavior and strategy use framed much of the foundation of this approach (Meyer, Brandt, & Bluth, 1980; Moore & Readence, 1984; Wong, 1982). Findings from studies that investigated direct explanation and the modeling of small repertoires of strategies also contributed to the theoretical foundation upon which transactional strategies instruction has been based (Duffy et al., 1986; Palincsar, 1987; Palincsar & Brown, 1989).

Overall, transactional strategy instruction seeks to develop and enhance the readers’ aesthetic (interpretive reactions to text during reading) and efferent (for the purpose of taking information away) abilities (Rosenblatt, 1978). Unlike earlier approaches which sought to develop primarily the efferent abilities of students, TSI
encourages strategy induced text interpretations (aesthetic reactions). Instruction supports students as they develop thinking abilities which allow them to move well beyond the obvious and literal meaning of texts.

The use of the term transactional in the name is significant because it identifies the interactive nature which exists between the reader and the text as discussed by Rosenblatt (1978 p. 14). Transactional strategies instruction was developed in response to the reading communities’ understanding that meaning becomes constructed as the individual brings his/her background knowledge to bear upon the author’s message presented in the text. By employing the TSI model readers construct meaning using strategies to access text content, to activate and apply background knowledge, and to link these two sources of information together to infer and to elaborate.

Major distinguishing characteristics of TSI have been its stress on the importance of inferential thinking and the need for the reader to elaborate upon information presented literally. Inferences allow for the production of new information, meaning, or ideas which go beyond information available in the text to identify what might be reasonably true. Inferences maintain somewhat of a unique quality since they are based in part upon information existing within the background of each reader. TSI which supports and encourages inferential thought also serves to enhance the reader’s ability to produce reasonable text interpretations.

Collaboration is another important interactive characteristic of transactional strategies instruction. According to Vygotsky (1978) collaborative environments create zones of proximal development that operate initially in social interactions. Students in TSI classrooms are encouraged to build meaning together, first on a social level, in a
manner which allows the learning environment to become enriched. This joint construction of meaning is essential since learning and understanding developed together by the group differ significantly from the interpretations students generate individually (Brown et al., 1996). One advantage of this type of learning, as noted by Brown & Palincsar (1989) is that students benefit from the increased range of experience of group members combined knowledge (p. 402). These authors also noted that within collaborative environments, students experience less of a cognitive burden when constructing meaning since they witness others’ enactment of behaviors and roles that correspond to the thinking strategies they will subsequently perform independently and silently. Although group members are not explicitly designed to tutor less capable peers, the important role of the expert has not been ignored in the TSI model. While the teacher continues to assume the primary responsibility for instruction when TSI is implemented, modeling and scaffolding are provided by teachers and by more skilled or knowledgeable pupils during instructional periods.

Transactional strategies instruction has been employed to enhance the students’ overall development of a broad range of comprehension skills. The short term goal for students engaged in TSI is the social construction of reasonable text interpretations. The long term goal of this approach continues to be to allow students to internalize and consistently adapt the use of strategies and strategic processing as they encounter demanding text (Brown et al., 1996, p. 19). Direct explanation (Duffy, 2002) has been used by both teachers and students to facilitate learning and instruction. This approach to reading development fits well into classrooms and is consistent with classroom practices.
that have been shown to foster high achievement (Pressley, 1992). Additionally the regular routine established by this model helps maintain a well managed classroom.

Group and independent reading activities are important features of TSI and writing is directly linked to these reading activities. Seatwork and homework are other consistent components of this instructional method. During independent learning activities, students are expected to apply the strategies they have been developing in class. During all activities, content and process goals are set. Instruction involves the frequent and thorough review of strategies and content being studied.

Discussion

Research studies conducted during the past twenty five years have validated the efficacy of explicit instruction of comprehension strategies (Gaskins, 2005). Comprehension strategy techniques created to develop specific strategies through direct explanation continue to evolve and inform and refine this methodology (Ciardiello, 1998, 2002; Fisher, 2002; Lubliner, 2004).

Explicit instruction approaches follow a research and theoretically based sequence. Students employ their background knowledge to begin to develop understanding of specific strategies. Teacher modeling is incorporated throughout this process to illustrate both the overt actions and the internal cognition that is required to allow strategy development to occur. To model internal thinking teachers participate in think alouds and articulate their thinking. This helps students gain an initial understanding of the strategy and its purpose, why it is important and when and how it should be employed. Through explicit instruction the teacher’s thinking becomes “visible” and concrete.
Strategy instruction is organized around the scaffolding of instructional elements (Rosenshine, Meister, & Chapman, 1996). Teachers scaffold instruction and continue to become less overt in their modeling of strategies as students gain independent competence. Students are provided with opportunities to become increasingly involved with specific strategies and to participate in guided practice activities which allow them to apply new cognitive schemes. As students become more practiced in their application of comprehension strategies they tend to employ them independently and differentially while attaining a more complete and higher level of comprehension while reading.

An important goal of explicit instruction of comprehension strategies instruction continues to be to enable students to become self-initiating thinkers and learners. To attain this level of proficiency students become cognizant of their purposes for reading and of their need to employ particular strategies when attempting to develop understanding of the text (Stahl, 1998). Through explicit instruction of comprehension strategies students have been found to understand their need to when reading, to monitor the adequacy of their comprehension, to improve in their recall of important concepts, and to take control of task, person, strategy and environmental variables (Gaskins & Elliot, 1991, p. 28). Teaching students to use strategies while interacting with content area text enables them to become proficient, self-regulated thinkers. Recent evidence suggests that a relatively small set of strategies tend to be consistently effective when employed with diverse populations of students, with texts of various types, and when readers are required to accomplish a variety of tasks (Snow et al., 2002). In particular, the teaching of reading strategies such as comprehension monitoring, activating background knowledge, text structure, question generation, summarizing, instructional
graphics, and inference have been found to facilitate reading comprehension of
expository materials (NRP, 2000; Snow et. al., 2002). Through strategy instruction
struggling readers have been found to gain necessary control of essential learning
behaviors (Vacca & Vacca, 1999). Through their understanding and implementation of
comprehension strategies learners become able to select, combine, and redesign cognitive
routines (Gaskins & Elliot, 1991) in order to support the transfer of new information into
the long term memory (Pressley, Borkowski & O’Sullivan, 1984).

**Comprehension Strategies**

Proficient readers of expository texts and those that comprehend successfully have
been found to be able to separate important from less important information as they read.
They develop an understanding of text in part through their ability to identify main ideas
even though these ideas may not be explicitly stated (Afflerbach, 1990). The attainment
of this level of understanding is considered crucial if reading comprehension is to be
achieved. In addition research has shown that skilled reading involves the orchestration
of cognitive processes, not the consistent use of a single all-powerful reading strategy
(Brown, Pressley, Van Meter & Schuder, 1996).

For the purpose of this study comprehension strategies have been operationally
defined as guided learning procedures which allow the reader to internalize new
information while performing higher level thinking operations (Ciardiello, 1998;
Rosenshine, Meister, & Chapman, 1996). Strategies represent techniques which when
employed and controlled properly allow improved comprehension to occur. They are, in
fact, learning processes (Singer & Donlan, 1994), which are employed intentionally,
deliberately, and in a controlled manner by the reader (Dole et al., 1991). Through
explicit instruction the reader becomes able to understand the value of strategies and to employ them in a specific manner when engaged with the text. Only when students learn that strategies are tools which allow understanding of the conceptual content of the text to be constructed, do they become integral to the act of reading (Snow et al., 2002). Student awareness of the purpose of a strategy has been identified as essential in order for students to transfer strategy use during instruction to other reading activities. With practice and experience, strategy selection and use becomes habituated and automatic (Lubliner, 2004; Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989).

Based upon a review of the literature (NRP, 2000; Pressley, 2000; Snow, Sweet, Alvermann, Kamil, & Strickland, 2002) (See Appendix A), seven comprehension strategies were selected for study by this examiner. They include: comprehension monitoring; activating background knowledge; text structure; question generation; summarizing; instructional graphics; and inference. These strategies have been identified as critical to the readers’ development of abilities which allow him/her to select, organize, and integrate information present in expository texts and to establish meaningful learning experiences (Armbruster, Anderson, & Meyer, 1991).

Comprehension Monitoring

Strategic readers actively think about what they are learning and monitor their comprehension. They become aware of the effectiveness of their reading and develop the ability to compensate for inevitable lapses in attention (Harvey & Goudvis, 2000). They also become able to remedy problems encountered while reading and often anticipate problems that do arise. This awareness or form of metacognition has been found to be an essential component of skillful thinking and effective reading comprehension.
Metacognitive thinking can be taught to help students to comprehend more effectively and to become active and self-initiating participants in the learning process. Student understanding and use of comprehension strategies reflects the attainment of a level of metacognitive awareness. This type of awareness or knowledge has been found to be critical to students’ autonomous use of strategies (Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989).

Comprehension monitoring consists of two parts. First, students become aware of the quality and effectiveness of their understanding when reading and, therefore, notice when their thinking lacks clarity. Second, students who monitor their comprehension know what to do when comprehension breakdowns occur, and then take action to enhance their understanding (Dole et al., 1991). As students learn to recognize signals that indicate confusion, they stop temporarily and decide how to remedy the situation (Tovani, 2000). Comprehension monitoring becomes particularly important as students age and when they are required to read silently from more difficult texts. Although beginning and less able readers have been found to be unable to assess adequately their understanding of various texts research has shown that they too can develop comprehension monitoring skill (Baker & Anderson, 1982).

Metacognitive theory suggests that self-monitoring should be taught to help students regulate their comprehension independently while they are reading and studying (Talor & Frye, 1992). Comprehension monitoring is essential while students read and participate in related tasks (Peverly, Brobst, & Morris, 2002). Massey (2003) developed a checklist to provide struggling readers with a starting point for remedying their comprehension breakdowns and to allow them to regulate their learning more effectively. Divided into
three sections, the checklist presents 1) pre-reading strategies including setting purposes for reading, activating background knowledge, and surveying pictures, bold print, captions and other textual features; 2) comprehension monitoring strategies which encourage students to monitor their comprehension by summarizing the main points, employing mental imagery, and re-reading to locate new information; 3) after reading strategies employed to encourage students to evaluate the difficulty of the text, to develop questions that the teacher might ask about the text, and to determine whether their predictions were validated or refuted. Massey’s goal when developing this checklist was to provide students with a means of monitoring their comprehension through their independent use of effective strategies (Massey, 2003, p. 84).

Reciprocal Teaching

During reciprocal teaching a small repertoire of strategies designed to foster comprehension monitoring, overall text comprehension, and classroom discussion are employed. These strategies have been found to assist students to assume ownership of their reading and to increase their ability to monitor their comprehension and to gain meaning from the text. Explicit instruction in strategy use has been found to be necessary before significant improvement in students’ independent performance can be achieved. Group members provide social support, shared expertise, and act as role models. When reciprocal teaching is employed a zone of proximal development for learning is created (Vygotsky, 1978), expert scaffolding is presented, and a cooperative learning environment is established (Palincsar & Brown, 1989). Rosenshine & Meister (1994) reviewed sixteen studies of this intervention and found it to be an effective method for improving reading comprehension and overall comprehension monitoring while reading.
Reciprocal teaching (RT) provides a simple introduction to group discussion techniques which enhance understanding and aid in the recall of text content (Brown & Palincsar, 1989, p. 413). This model was developed as an educational intervention for students possessing decoding strengths and comprehension weaknesses. This intervention provides a framework which allows students working together to understand far more effectively what has been read. During reciprocal teaching, students receive explicit instruction, observe strategies which are modeled, and engage in practice activities which allow them to take gradual charge of their learning as they become truly self regulated learners. During reciprocal teaching, the teacher and the students take turns leading discussions regarding a shared text. All students participate as group leaders during RT and receive the necessary support to do so successfully (Palincsar & Herrenkohl, 2002). During reciprocal teaching critical thinking becomes stressed.

Reciprocal teaching and resulting improved text comprehension occurs in cooperative and interactive environments in which cognitive strategy development evolves through a process of guided practice. Within these environments students are taught overtly, explicitly, and concretely to question, clarify, summarize, and predict as free ranging discussions are engaged in. Each of these activities or processes are introduced and expertly modeled by teachers before students engage in reciprocal teaching (Brown & Palincsar, 1989). Strategies are introduced individually and are reviewed until students become able to monitor the effectiveness of their thinking and the adequacy of their reading comprehension. In order for RT to become an effective technique students must have many opportunities to practice applying individual strategies (Hashey & Connors, 2003). Palincsar (1987) has explained that these strategies
do not constitute reciprocal teaching in and of themselves, and notes that they become useful when they serve to provide a structure within which learning occurs (p. 58). Dialogue regarding strategy use forms this structure and provides the adjustable support necessary for instruction (Palincsar & Brown, 1989).

During reciprocal teaching a standard procedure is followed. After a passage is read a student volunteers to assume the role of “teacher” and question classmates. Questions become frames in a manner which allows main ideas to be identified. The “teacher” then summarizes the text while further elaborating on the main ideas identified by her/his classmates. Through a process of information clarification students found unable to summarize material read and those unable to frame appropriate question are encouraged to identify an aspect of the text that is blocking their understanding (Palincsar, 1987). During this phase the “teacher” requests classmates to assess the adequacy of his/her summary and determines whether further clarification is required. Finally the “teacher” challenges the class to offer predictions regarding upcoming content. This step links what students already know about the topic with new knowledge acquired through reading. This final step also allows teachers to gain insight regarding the level of development of each student’s knowledge of the topic in question. Palincsar & Herrenkohl (2002) noted that over the course of time as strategies are used more flexibly by students, class dialogues becomes less routine and discussions focus more on the meaning of the text. While strategies serve to structure and support dialogue, the teacher continues to support and monitor students’ participation during discussion periods. Although reciprocal teaching appears to be a step by step process, Hasey & Connors (2003) noted that as students become more proficient in their use of this
technique the strategies employed become integrated metacognitively and in a manner which encourage discussions to occur freely and in a non linear manner.

In summary, reciprocal teaching has been developed and presented as only one technique designed to develop the student’s ability to question, clarify, summarize, and predict. Students are encouraged to develop metacognitive awareness during this process. The ability to successfully employ RT strategies and to engage in dialogue with peers enhances the student’s capacity to read actively and to monitor her/his thinking while attempting to construct meaning. While this technique has been found to be difficult for teachers to incorporate into their lessons those who employ it consistently report that it serves to enhance comprehension development very effectively (Fisher, Frey, & Williams, 2002).

When students become aware of the importance of comprehension monitoring when reading and familiar with a repertoire of text processing behaviors which strengthen comprehension, they become better able to monitor their understanding and learn independently from the text more proficiently. As students gain this awareness they become better able to attain significant intellectual goals. These goals include comprehending a wide variety of texts, reflecting on ideas, developing insight, extending existing knowledge stores, reapplying knowledge in new contexts to generate new knowledge, creating models which reflect their thinking, manipulating thoughts to gain more complete understanding, considering multiple perspectives, understanding ways in which memory, knowledge, emotions, values, and thinking change, engaging in rigorous discourse about ideas, and remembering what they read and learn (Elin Keene, Rutgers, The State University of New Jersey Reading Conference, 2004).
Activating Background Knowledge

Readers rely upon their existing knowledge to interpret, construct, and monitor meaning while reading. Learning is a process of construction where what is learned is pieced together by the learner. While reading, the learner interacts with the textual information and meaning becomes constructed. Newly constructed meaning is therefore, based on knowledge already acquired. The relationship between background knowledge and comprehension has been investigated under the framework of schema theory (Stahl, Jacobson, Davis, & Davis 1989). The greater the amount of background knowledge the reader is able to connect to the text being read, the more likely she/he will be able to comprehend effectively (Pardo, 2004).

Harvey & Goudvis (2000) considered the personal connections readers make during reading. They noted that skilled readers often produce text to self connections that link past experiences or background knowledge. Readers also formulate text to text connections, linking what they are reading now with material presented in other texts including books, poems, scripts, or songs. Finally, text to world connections become established by readers who attempt to connect a text with larger issues, events, or concerns of society or the world at large. Formulating text to text, text to self, or text to world connections requires active thought. Comprehension improves when students actively seek to link text content with their background knowledge (Brown, 2002). Research findings indicate that prior knowledge of a content domain effectively assists readers to interpret information provided in a text (Afflerbach, 1990). Unfortunately, not all students possess equally well developed background of knowledge or understanding of strategies which if employed properly would allow them to connect the known to the
new. Unfortunately, at-risk learners have been found to possess less adequate background knowledge than their more successful peers (Harniss, Dickson, Kinder, & Hollenbeck, 2001). Brown, Campione, and Day (1981) discussed the importance of providing enrichment experiences to those learners possessing deficient background knowledge. At the same time, they noted that few schools possess the resources necessary to provide students with sufficient prerequisite knowledge necessary for effective content learning to occur. This issue becomes further complicated by the fact that various students might possess adequate background knowledge but still require explicit cuing before they employ this knowledge in a manner which allows for the development of a mental construct or schema with which new information can become integrated (Gaskins & Elliot, 1991). When new schemata become developed appropriately, instruction becomes conveyed to students in a manner which enhances their understanding of the significance of their new learning and their recall.

Individual differences in students background knowledge has been identified as one of the most important issues that must be addressed to enhance text comprehension (Afflerbach, 1990). A number of studies have been undertaken which found that positive and significant correlations existed between reading comprehension and background knowledge (Pearson, Hansen, & Gordon, 1979). In fact, background knowledge has been found to be a significant and reliable predictor of passage specific comprehension (Langer 1984, 1982a, 1981b, 1980). Alverman, Smith, and Readence (1985) also discussed the relationship between background knowledge and the construction or formation of meaning.
Research continues to underscore the importance of background knowledge to learning. Activating and developing students’ schemata is essential if effective learning is to occur (Cooter & Flynt, 1996). Providing students with strategies to activate this knowledge assists them in accessing and understanding information embedded in expository texts. Mental modeling (direct explanation) has been employed to help students to understand how good readers link their background knowledge to new information. While teachers have the important job of helping students to acquire new knowledge, their job becomes more effective if they first teach students to use information they already possess while they attempt to add to their knowledge base. Those students who become able to draw upon their background knowledge prior to reading, during reading, and after reading also become more proficient readers (Street, 2002). When new data becomes linked to existing knowledge, prior ideas will become more easily recalled and employed in more adaptive ways (Friend, 2001). Once students begin connecting their background knowledge with information presented in texts, they become more likely to engage in other strategic behaviors including the production of inferences, questioning, and the comparison and contrasting of ideas (Tovani, 2000).

Through her/his development of adequate background knowledge and a repertoire of text processing strategies and techniques, the learner becomes able to “create knowledge structures necessary for the assimilation of information through the use of metacognitive processes (Singer & Donlan, 1994, p. 520)” By activating background knowledge to make text to text, text to life, and text to strategy connections readers become better able to more fully comprehend texts. However, the manner in which background knowledge,
an important strategy and an initial step in the process of comprehension development becomes activated often requires explicit instruction.

Summarization

Middle and high school students are often asked to summarize texts. This task requires them to sift through large units of text to differentiate important from unimportant ideas, and to synthesize ideas to create a new and coherent text which is representative of the original (Dole et al., 1991). This task requires students to construct both internal and external representations of the author’s message (Winograd, 1984). Students who summarize well are able to state the gist of what was read in their own words. By identifying the most important points in a text and rephrasing them (Klinger & Vaughn, 1999), readers become able to omit repetitious ideas and produce superordinate categories to group similar concepts (Gaskins & Elliot, 1991). Unfortunately, research findings indicate that many middle grade students are unable to summarize adequately after reading several pages of a text (Taylor, 1986; 1991).

Winograd (1984) investigated strategic difficulties encountered when text summarization is undertaken. Fluent readers often employ internalized macrorules for deleting trivial or redundant information while they read to construct succinct summaries of a texts’ gist (Bean & Steenwyk, 1984). It is this macrostructure abstracted during reading that guides and constructs recall and summarization (Day & Jones, 1983). Regrettably, many students do not innately and actively process text this way. While effective students appear aware that a summary should include important ideas from a passage, poor readers often lack the ability to identify the presence of important
information. Many middle grade students continue to be unskilled in the application of macrorules necessary for the production of summaries (Taylor, 1986).

Several summarization strategies have been developed that provide students with a plan to follow to help them to identify the presence of important information when reading (Taylor, 1986). For example, Bean and Steenwyk (1984) developed two plans to teach the summarization process. The first, a rule governed approach introduced students to the six macro rules for comprehension advanced by Kintsch and van Dijk (1978). These include: 1) deleting unnecessary or trivial information; 2) deleting material that is important but redundant; 3) substituting a superordinate term for a list of items; 4) substituting a superordinate term for components of an action; 5) selecting a topic sentence; and 6) inventing a topic sentence when one has not been presented (Kintsch and van Dijk, 1978). The second employed the GIST procedure and encouraged students to: 1) monitor their understanding; 2) delete trivial propositions (microstructure); and 3) only select macro level ideas to include in the summaries. Both the GIST and the rule governed approach follow the explicit strategy instruction model of teaching and learning. These approaches accept the view that students learn and become able to develop summarization plans when they have been modeled carefully by teachers, when they are provided with whole and small group learning opportunities (Bean & Steanwyk, 1984), and with adequate feedback and sufficient practice.

Research results also suggest that employing a hierarchical summarization study strategy enhances student recall of new material. Taylor & Beach (1984) taught students to summarize textbook material based upon the organization of superordinate and subordinate ideas presented in their texts. To accomplish this, teachers directed students
to generate main idea statements in each paragraph, subsection, and section of the text studied. Students were then directed to develop topic headings to connect sections of the text. Instruction then focused on helping students’ generate a key idea to summarize an entire passage. This procedure provided readers with a set of steps to follow to identify the gist of what was read. Students who applied this procedure were found to increase the amount of information they recalled when reading unfamiliar expository material.

Reading researchers have supported instruction that provides learners with the information necessary for them to design effective summarization plans of their own (Brown, Campione, Day, 1981; Friend, 2001). Dijk’ and Kintsch’s six macrorules for comprehension, developed to provide cues to text based importance, continue to be successfully utilized to assist students to identify important information and develop text summaries. Friend (2001) synthesized these rules and found that it was important for readers to determine whether cues associated with specific ideas or topics were presented repeatedly. She developed guidelines regarding summary development which were to be followed when readers identified the presence of repeatedly referenced ideas. Her guidelines directed students to: 1) raise pertinent questions while previewing passages when attempting to identify the presence of the thesis; 2) identify central ideas in each paragraph or group of paragraphs studied; and 3) determine whether summaries included most important information. Teachers were directed to support the development of this process by presenting essential cues through direct explanation. Once students had developed the ability to employ this strategy they were encouraged to engage in guided and independent practice so that the strategy became familiar and habituated. The goal of
instruction provided was to improve student self control and awareness while also increasing reading achievement.

Evidence suggests that middle grade students profit from explicit comprehension strategy instruction when developing summarization skill (Bean & Steenwyk, 1984; Taylor, 1986; Taylor & Beach, 1984). While much of this research centered on devising written summaries, findings also suggested that teaching students to state in their own words what they read was a useful way to check quickly whether students were identifying main ideas and most important details (Brown, 2002). When summarizing the reader focuses upon integrating information across sentence, paragraphs, and pages of text (Palincsar, 1986), and improves in her/his ability to attain metacognitive control of the reading process. Summarization training is valuable because it makes students more aware of the structure of ideas within the text and the manner in which individual ideas relate to each other (Rinehart, Stahl, & Erickson, 1986). This metacognitive awareness and control enables students to better monitor and evaluate their understanding when reading and to take control of information processing critical to text understanding.

Question Generation

Self questioning has also been identified as a characteristic employed by successful readers (Pearson & Fielding, 1991). It has been found to be an important comprehension-fostering and self regulatory comprehension strategy. Ciardiello (1998) noted that self questioning is both a cognitive and metacognitive strategy since questioning enhances comprehension by allowing the reader to identify the presence of main ideas and to determine whether content has been mastered. Rosenshine, Meister, & Chapman, (1996) found that generating questions in and of itself does not lead directly
and in a step by step manner to comprehension. Instead, comprehension becomes
developed while students search the text and when generating questions and when
information becomes integrated. By requiring students to inspect a text to identify main
ideas, and to link information, question generation encourages the deep processing of text
material. This strategy enables students to guide their own comprehension before, during
and after reading (Brown, 2002). It has been found that students can be taught explicitly
to generate questions, a process which leads to improved text comprehension.

During the early 1980’s, researchers began to investigate the effects of question
generation on student learning. Their work was designed to highlight the importance of
teaching students to produce knowledge structures which allow content knowledge to be
assimilated and the need for students to generate content specific questions and for them
to assume an active role in the learning process. Singer and Donlan (1982) determined
that only when readers become able to ask appropriate questions do they become capable
of extracting or selecting information necessary for comprehension development to
occur. For example, when students have been taught to understand the relevance of
recurring story elements and presented with examples of the manner in which story
specific questions could be generated to uncover recurring information, they become able
to learn to develop and employ such questions independently. Question generation
instruction has not only allowed readers to gain knowledge, but has also provided them
with understanding of an important knowledge acquisition process. Instruction to
develop question generation abilities should be provided on an on-going basis since
appropriation and mastery require adequate time and practice.
Wong and Jones (1982) found that implementation of a five step self-questioning training program increased students' metacomprehension and their question generation capabilities. Their self-questioning training procedures, based on Andre and Anderson’s (1978-79) training paradigm, consisted of training students to: 1) identify the reason for studying a passage; 2) identifying the main idea/ideas in the passage which are then underlined; 3) developing an effective question related to the main idea; 4) generating an answer to the question developed; and 5) determining the manner in which the generation of successive questions and answers provide the reader with greater information.

Davey & McBride (1987) explored the effects of question generation training and found that positive results occurred when students were trained to generate two types of questions: those linking information across sentences, and those designed to identify most important information. They suggested that training should include assisting students to become aware of the nature of an effective question. They recommended that students were to be instructed that when effective questions are generated they require that information embedded in a passage becomes assessed and that readers understand their need to think about what they have read rather than simply underlining specific informational segments. They suggested that by following their procedures students would develop an effective metacognitive text processing strategy.

Rosenshine, Meister, & Chapman (1996), in a review of twenty-six intervention studies employing comprehension strategy instruction designed to teach students to generate questions found that question generation served to improve the text comprehension capabilities of the students involved. The studies reviewed also strongly suggested the value of prompts which when provided to students served as scaffolds.
which facilitated the development of specific strategies. Prompts were found to affect learning most positively when provided during periods of initial instruction, during guided and independent practice periods, and when students employed strategies independently. Not unexpectedly, the research reviewed also indicated that strategy procedural prompts differed and should be presented in a manner which allowed specific strategies to be developed most readily. For example, it has been determined that when students are prompted to identify signal words and when they construct generic questions or question stems, their ability to comprehend expository material becomes enhanced. While prompts assist students to develop schema-general questions which allow meaning to be constructed more readily when they read, the utility of prompts has been found to be linked directly to the adequacy of the existing background knowledge of each student. Sufficient background knowledge must already exist if concepts development is expected to occur.

Poor readers benefit from instruction that enables them to monitor their comprehension of expository material through a process of question generation (Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989). Teaching students to self question has been found to enhance their understanding of the text employed during instruction while also improving their ability to comprehend when they encounter other textbook demands (Snow et al, 2002). While Wong and Jones (1982) found that good readers might benefit less from question generation instruction, data continues to support question generation training for less competent comprehenders.

Research findings have indicated that appropriating this process is difficult, and therefore, students continue to require more in depth question generation training.
Instruction in the generation of content specific questions requires students to produce question generation schemas spontaneously while reading and should be ongoing. Through on-going instruction and practice readers become able to understand the complex metacognitive thought processes they must engage in when seeking meaning (Singer & Donlan, 1982, p. 169). With additional instruction students have been found to become able to apply this text processing strategy independently and successfully (Dole et al., 1991).

Ciardiello (1998) created two comprehension strategy procedures to develop students’ abilities to independently generate questions to monitor and foster understanding while reading. The first, Teach/Quest, was recommended for use with students possessing less well developed question generation and overall comprehension abilities. During Teach/Quest the teacher exercises control over the questioning process. Ciardiello’s second procedure, ReQuest (1998) was designed for more cognitively independent students and was adapted from Manzo’s ReQuest technique (1969, 1970). Ciardiello’s ReQuest (1998) procedure provides students with formal training in the use of procedural prompts in the form of signal words, cues, and question-type facilitators. Like Manzo (1969, 1970), Ciardiello also stressed the importance of reciprocal questioning during question generation training periods and found that learning became facilitated when the teacher and the students took turns framing and answering questions associated with assigned readings. Both Teach/Quest (1998) and ReQuest (1998) procedures required students to identify the presence of questions requiring divergent thought, to generate divergent thinking questions, and to classify questions generated or identified. Modeling and scaffolding were also important techniques employed during
instructional periods. Ciardiello (1998) noted that when Teach/Quest or ReQuest procedures were employed properly a process defined as cognitive apprenticeship occurred. During the cognitive apprenticeship process the teacher served as mentor while assisting students to develop strategies. During Teach/Quest and ReQuest training periods students engage in guided practice, receive immediate feedback regarding the adequacy of their efforts, and as indicated above, develop divergent thinking capabilities.

Lubliner (2004) presented yet another question generation strategy. This technique was designed to encourage students to formulate questions which would allow main ideas to be identified. While developing this strategy teachers and students engage in specified actions. While reading a paragraph they were encouraged to think while reading about the messages presented, to integrate various ideas to build meaning, to summarize the text’s main idea, to ask the formulated main idea question and to consider its answer. Initially, teachers were instructed to model these steps while verbalizing as they engaged in specific cognitive processes. Students were then encouraged to participate in guided practice activities which were scaffolded. After students had engaged in guided practice activities and became able to formulate main idea questions, they were encouraged to work together in small groups to strengthen their skills. Research findings have revealed that main idea question generation serves to improve comprehension while also allowing students to manage more effectively the complex information processing demands they encounter when proficient reading is required (Kintsch & Van Dijk, 1978).
**Text Structure**

Knowledge of text structure has been found to be another important factor associated with effective comprehension development. Successful readers use their knowledge of text structure to facilitate their recall of the main ideas as well as their total comprehension and recall (Dole et al., 1991). Students who excel in various content areas have been found to be able to recognize and adapt to different expository text organizational patterns while reading. Possessing awareness of structural patterns has been found to correlate with the amount of information retained after reading. Research conducted beginning during the 1980’s suggests the presence of a strong relationship between comprehension ability and the reader’s understanding and use of text structure (Meyer, Brandt, & Bluth, 1980). While it has been determined that one of the keys to proficient learning results from the development of organizations of knowledge that enable learners to perceive meaning and patterns (Gaskins & Elliot, 1991), research findings indicate that many middle grade students experience difficulty understanding text organization and fail to use text structure when attempting to construct meaning when reading content are textbook material (McGee & Richgels, 1992; Taylor & Beach, 1984).

Students possessing knowledge of text structure expect texts to unfold or to present information in certain ways which allows comprehension to occur readily (Meyer, Brandt, & Bluth, 1980). These students organize text material as they read and recognize and retain the important information presented (Snow et al., 2002). In contrast, students lacking awareness of the importance of text structure tend to read in an unplanned and far more inefficient manner.
It has been recommended that students develop understanding of those strategies which allow them to recognize major forms of discourse and most common text structures prior to reading in order to facilitate their comprehension development and to increase their ability to produce questions which stimulate class discussions (Cooter & Flynt, 1996). Students typically require explicit training in order for them to identify implicit textual elements (Downing, Bakken, & Whedon, 2002). Most content texts are expository in nature and present information in a hierarchical arrangement. This hierarchy is used to organize information around superordinate ideas (generalizations), which are explained by subordinate ideas (concepts) and further elaborated by subordinate details (facts) (Cooter & Flynt, 1996, p. 179). During their evaluation of eighth grade U.S. History textbooks, Kinder, Bursuck, & Epstein (1992) found that in all materials studied headings and subheadings were provided in order to present information in an organized manner. They determined that when students were provided with explicit training designed to develop their understanding of text structure and its importance to comprehension development, they also grew in their ability to use titles, subheading, boldfaced words, framed text, captions, and pictorial information when generating predictions as they read.

The student’s awareness of text organization can be facilitated through focusing her/his attention on the presence of structural relationships existing among the important or central ideas presented (Pearson & Fielding, 1991). The five major types of discourse most commonly found in content area texts are presented in the form of explanation, classification, description, narration, and argument (Cooter & Flynt, 1996). This discourse continues to be presented in expository texts in specific patterns or structures
such as: comparison/contrast; cause/effect; sequential listing; simple listing or enumeration; problem/solution; and main idea structure.

In texts employing the comparison/contrast structure the passage focuses on the relationship between two or more things. The text organizes elements based on their similarities and differences. The cause/effect structure groups elements in a time sequence (before and after) and specifies a relationship whereby an earlier event causes a later one. When the sequential listing structure is employed the passage focuses on a general topic followed by a continuous and connected series of events or steps presented in a specific order. The presence of words such as: first; second; and so on, signal the presence of this structure. Texts which employ the simple list structure focus on a general topic followed by a list of facts or characteristics which describe this topic. While the order in which characteristics are presented lacks importance, the presence of semicolons, numbers, or letters in parentheses, often suggest that the simple list structure has been employed. The simple list structure presents information as a collection of associated ideas. The problem/solution structure should be included within the causation structure since a causative link existing between a problem and its antecedent exists. However, the addition of the solution differentiates the problem/solution structure from the cause/effect structure. In texts employing the main idea structure, the passage focuses on a single topic. Other sentences in the passage support, clarify, extend, or illustrate the main idea.

A number of techniques have been developed to assist students to understand the manner in which their use of text structure could enhance their comprehension of expository materials (McGee & Richgels, 1997). Arbruster, Anderson, & Ostertag
(1987) taught students to identify and summarize a problem presented in each passage, to identify actions taken by individuals attempting to solve a particular problem, and to identify the results following a specific action. Students were also taught to organize information into a three box diagram. These researchers found that the student’s ability to abstract the macrostructure of the text improved as a result of their training as well as their ability to recall greater amounts of information and to develop summaries which included greater numbers of main idea.

Piccolo (1987) suggested that instruction designed to develop understanding of expository text structure should begin in the intermediate grades and should involve a good deal of writing. Her findings indicated that when students produce paragraphs which reflect their understanding of a specific structure, their overall ability to recognize a text pattern improves markedly. Downing, Bakken, and Whedon (2002) found that when text structure was recorded in print, recall increased. Both Piccolo (1987) and Downing et al., (2002) emphasized the need for modeling to enhance both teaching and learning. Piccolo identified the need for teachers to produce effective textual models to demonstrate the structure and to employ graphic organizers in order to aid students to understand and visualize the presence of relationships within the text. Piccolo suggested that graphic organizers be composed of boxes and lines which illustrate for students the text pattern while also highlighting connections existing between related ideas.

The explicit teaching of text structure enables students to differentiate among common structures and to identify important information presented in a text in a clear and organized manner (Armbruster & Armstrong, 1993). Teachers who encourage readers to seek and identify the manner in which texts are organized increase their students’ abilities
to understand and retain information (Meyer, Brandt, & Bluth, 1980). Students possessing an appropriate understanding of text structure become better able to from macrostructures of information as they read and to gain understanding of the material encountered (Armbruster, Anderson, & Ostertag, 1987). Familiarizing students with the common patterns of expository text also helps them to gain understanding of how main ideas might be presented (Brown, 2002). When students possess text structure knowledge they become more likely to employ a structural strategy when reading for meaning (Richgels, McGee, Lomax, & Sheard, 1987). However, in order for students to become able to employ structural strategies, explicit teacher modeling should be provided.

Information presented in content area textbooks is typically organized in a variety of ways and most informational discourse contains multiple and integrated types of text structures. Certain text structures that dominate middle school social studies textbooks have been identified and the cause/effect pattern has been found to be most prevalent in this genre (Harniss, Dickson, Kinder, & Hollenbeck, 2001). Because students continue to struggle to comprehend when dealing with textual organization Ciardiello (2002) developed Question Networks or Q Networks, learning tools presented to enhance the student’s understanding of text structure. These networks were designed to allow the reader to develop the ability to connect information or ideas presented in specific reading selections. When Q Networks are employed, questions serve as scaffolds to assist the reader to identify the presence of the dominant organizational patterns and the relationships existing between events described in a text. The construction of Q Networks occurs in two stages. First students must identify the presence of a topic or main ideas. Specific question prompts provided to enhance main idea identification
include: 1) What is the author telling the reader about the idea or event? 2) What does the author say about the topic? and 3) Which words in the passages are repeated throughout?

During stage two students identify the text structure. Again, key questions serve as scaffolds to help students determine relationships existing between major events. To identify the cause/effect pattern in a social studies reading selection the following question prompts might provide effective: 1) Do the events presented in the reading interact with each other? 2) Does this interaction lead to a final goal or event? 3) Do the events act on each other in consecutive order and lead directly to a main event? and 4) Do the events acting either alone or together contribute to the development of the main event in some specific time order?

Q Networks facilitate comprehension development by enhancing students’ understanding through an understanding of the logical pattern of the arrangement of ideas presented in expository texts. While Q Networks were developed initially as a text structure strategy, they have also functioned effectively as a question generation strategy. When developing question generation skills students might be provided with explicit questions in order for them to identify the presence of main ideas. With practice and modeling these question prompts become internalized and employed independently.

Harnisss, Dickson, Kinder & Hollenbeck (2001) noted that much of history can be organized within a problem/solution organizational structure and they suggest instructing students to view history as a series of problems requiring solutions. For example, when addressing problems involving the rights of people and economic difficulties, topics typically encountered in expository history texts, they encouraged teachers to model their thinking in order to assist students to understand that problems involving peoples’ rights
usually occur when a group or an individual attempts to dominate another individual or
group, that economic problems could result from not possessing the resources that a
group or individual requires or desires in order to meet basic needs (e.g., food, clothing,
shelter), and that these two categories of problems often interact. In their examples the
authors then suggested that students be taught explicitly through modeling five solutions
to problems related to the concept of power. These solutions included: groups may
negotiate or accommodate when they both have equal power; 2) they may dominate if
they are more powerful; 3) groups that initiate problem solving tend to be less powerful;
4) an invention might permit a weaker group to close a power gap or could be used by the
more powerful group to maintain control; and 5) if a group or individual can not move
they must tolerate the situation. Harniss et al., (2001) also recommended that when
studying history students undergo explicit training in the development and use of
instructional graphics. They noted that when essential information is presented spatially
after guided practice and scaffolded instruction it allows students to achieve mastery and
independence, and students become able to use text structure effectively as they identify
the presence of important information, increase their recall of information, and employ
knowledge gained on sophisticated levels (p. 146).

Pearson & Duke (MSU Educational Research Report, 2003) also found that when
students develop understanding of text structure and employ their understanding of the
manner in which information is presented in texts, they enjoy improved comprehension
while also becoming able to recall key text information more effectively. When students
systematically seek understanding of text organization they become able to identify and
relate ideas in a way which allows them to be more understandable and memorable. As
indicated above, strategy instruction should include modeling and scaffolding at all stages in order for students to gain mastery and metacognitive control of specific skill.

*Instructional Graphics*

Students possessing well developed comprehension abilities have been found to be able to create graphics, outlines, sequential lists and other structures which allow them to organize and display relationships of ideas (Gaskins & Elliot, 1991). Research findings have shown that when global ideas are identified in texts and when relationships among ideas have been depicted graphically, students enjoy improved recall of information and significantly greater text comprehension (Snow et al., 2002). Trabasso and Bouchard (2002) noted that by graphically depicting information students develop understanding of text structures, focus on concepts and relations between concepts, develop tools to represent relationships visually, and produce better written and well organized summaries (p. 179). The use of instructional graphics has also been found to be rooted in Ausubel’s (1968) advanced organizer, developed to facilitate students’ learning from expository text. While research findings have supported the usefulness of instructional graphics, they have also suggested that only when instructional graphics are employed in conjunction with other strategy interventions does student comprehension become most enhanced. Research findings also indicate that the production of graphic organizers facilitates comprehension development most effectively during reading or when encouraged as a post reading activity (Moore & Readence, 1984).

Students become better able to recall increased numbers of main ideas and perform more effectively on factual tests when employing graphic organizers since important information becomes illuminated and textual connections exhibited. The use
of instructional graphics also increases the likelihood that students make effective use of prior knowledge when attempting to produce concepts and when activating cognitive schema (Robinson, 1998).

Paivio too (1983) has produced a body of work which supports the role of instructional graphics in the development of improved comprehension. He theorized when developing and maintaining student understanding that information becomes encoded in verbal and spatial forms. According to this view, when information becomes encoded spatially and verbally, memory becomes strengthened. Overall, instructional graphics depict visually relationships existing among concepts which were presented originally in sentence form. By viewing spatial representations of ideas, students become able to develop their awareness of conceptual relationships or text structure (Robinson, 1998). Many learners must be taught explicitly the manner in which information should be selected and organized (Armbruster, Anderson, & Meyer, 1991).

Another factor contributing to the effectiveness of instructional graphics in developing and maintaining student understanding, is based on Paivio’s (1983) theory that information is encoded in both verbal and spatial forms. According to this view, when information is encoded spatially and verbally, students maintain increased memory for information. Overall, instructional graphics show rather than tell about relationships among concepts that originally were presented in sentences. By seeing these ideas, students are able to develop their awareness of conceptual relations or text structure better than using the text alone (Robinson, 1998). Unfortunately, not all students can independently use or develop such tools. Since the true purpose of the instructional graphic is to organize rather than simply list concept information (Robinson, 1998), this
difficulty may be due to students’ inability to select and/or organize the information in the text (Armbruster, Anderson, & Meyer, 1991).

Research has shown that through producing and employing spatial learning strategies such as instructional graphics, readers become better able to extract, recall, and retrieve information from expository texts. Armbruster, Anderson, & Meyer (1991), found that instruction allowing the use of frames produced greater learning outcomes for older students than did instruction presented from the teacher’s edition. A frame is an organized visual representation of important ideas presented in informational texts (p. 397). This instructional graphic has been employed to supplement classroom discussion and has been found to be an effective guide for individuals engaged in independent study. When producing frames students select important information for study and organize this information into a coherent mental structure.

Procedures engaged in during the construction of instructional graphics include the selection, propositionalization, hierarchicalization, and structuralization of key concepts. The procedures have been found to be quite similar to those employed during summarization training (e.g., selection of a topic sentence, redundancy deletion, detail integration, and superodination of lists) (Brown & Day, 1983; Chang, Sung, & Chen, 2002). As already noted, research findings continue to suggest that the usefulness of instructional graphics is closely linked to students’ existing knowledge of other comprehension strategies. It is when students possess the ability to employ a repertoire of text processing strategies that their understanding of instructional graphics assumes real importance.
Bean et al., (1983) noted that previous metacognitive training designed to develop
students’ abilities to summarize, use text structure, and/or generate questions was
essential if proficiency in the development and use of instructional graphics was to be
attained. Bean, Sorter, & Frazee, (1986) suggested a three step procedure for
constructing instructional graphics. Their first step involved the selection or production
or a topic sentence which could tie together subordinate ideas presented in a text passage.
During step two, students were asked to develop instructional graphics which displayed
interrelationships among ideas found in the text. When engaged in step three students
were required to produce a generalization or concluding statement derived from
information depicted in the instructional graphic. Much of Bean, Sorter, & Frazee’s,
(1986) work grew out of Kintsch and van Dijk’s study of macrorules (1978) for
abstracting, integrating, and retaining concepts in long term memory.

Student developed instructional graphics foster strategy internalization and
facilitate transfer and strategy use (Darch,Carnine, & Kameenui, 1986). Instruction
designed to develop understanding of instructional graphics should be scaffolded and
modeled, should enhance directly the individual’s ability to identify important
information presented in a text, should allow individuals to develop knowledge of the
features of various graphic organizers, and should allow students to develop
understanding of the manner in which effective summaries should be produced.

Instructional graphics provide words, phrases, symbols, lines, and arrows to
represent relationships among ideas. It has been found that only when significant effort
has been generated has a thorough understanding of instructional graphics been attained.
However, when students employ instructional graphics together with other
comprehension strategies effective learning results. In addition, autonomous learning has been found to be promoted among individuals who construct instructional graphics independently (Change, Sung, Chen, 2002).

**Drawing Inferences**

Inference has been identified as the heart of the comprehension process (Dole et al., 1991) and as the glue that cements the construction of meaning (Richards & Anderson, 2003). Proficient readers produce inferences to fill in details omitted from a text and to elaborate upon what they have learned while reading. Inferences allow for the production of new information, meaning, or ideas. Keene & Zimmerman (1997) described them as “part rational, partly mystical, part definable, and partly beyond definition. They added that individual’s life experiences, logic, wisdom, creativity, and thoughtfulness, set against the text being read formed the crux of new meanings generated (p. 147-148”).

Unfortunately, struggling readers have been found to experience difficulty producing inferences. In order for inferential thought to occur, readers must combine background knowledge with information presented in a text. Less able readers often require strategy instruction designed to allow them to activate and use background knowledge, and instruction regarding the manner in which comprehension monitoring strategies such as text structure, summarization, or question generation must be employed. When students become able to activate their background knowledge and to monitor their comprehension while reading, they also become able to produce appropriate inferences.
Research findings indicate that students increase their comprehension when they focus on the process necessary for the production of inferences (Hannon & Daneman, 1998). It is then that they become able to gather facts from the information presented in a text and to link these facts with what is already known in a way which allows them to draw conclusions and to create meaning. Inferences are not stated directly in texts but are deduced from clues left by the author which become combined with the readers’ background knowledge. Students have been found to improve in their inferential thinking abilities when teachers model the manner in which they question, reason, make assumptions, and conclude (Richards & Anderson, 2003). Research indicates that inference training is both possible and uncomplicated and when presented properly allows for the development of a powerful comprehension skill (McGee & Johnson, 2003).

Researchers continue to investigate the sources of less able readers’ difficulties with making inferences. Students’ with adequate word reading and vocabulary skills but poor text comprehension have been found to experience difficulties with inference making. Results suggest that less able readers experience inference failures for several reasons. Primarily struggling readers are unable to retrieve relevant textual information and then integrate this information with their background knowledge. However less skilled readers also experience difficulty even when important information is recalled and their background knowledge is activated and often fail to integrate these two knowledge bases to make appropriate inferences.

Many less capable readers also require strategy instruction in order to develop comprehension skills which allow them to access and retrieve textual information prior to
their production of inferences (Dewitz, Carr, & Patberg; 1987). Van den Broek, Tzeng, Risden, Trabasso, & Basche (2001) suggested that questioning could be used to direct the attention of more proficient readers versus struggling readers regarding the presence in the text of specific information, and to cue them to identify specific connections among presented ideas. Unfortunately, they also found that inferential questions posed during reading activities conducted with younger and less able readers created much confusion and reduced the adequacy of their comprehension.

As indicated above, prerequisite strategy instruction designed to cause students to activate their background knowledge and to enable them to extract essential information from a text is often required before they become able to produce inferences while reading. In order for many students to internalize and appropriate the process of inferential thought, strategy instruction should be scaffolded and modeled explicitly.

Discussion

The seven strategies discussed in this section have been found to enhance most effectively the students’ ability to comprehend expository text. Unlike the other comprehension strategies discussed in this literature review, limited published data was found which described explicit comprehension strategy instruction designed to develop inferential thought. While questions posed by teachers and those presented in texts do encourage readers to infer these are designed primarily to enhance retention and typically require the reader to produce causal relationships, predictions, or explanations. Pressley (2002) suggested that before greater attention is directed toward the development of a more representative number of inferential thinking strategies, educators must become better able to understand the manner in which inference is achieved. The need to create
greater numbers of strategies and techniques teachers should employ when attempting to develop and enhance the inferential thinking capabilities of their students remain a significant research challenge.

Conclusion

When students become able to employ specific comprehension strategies while striving to develop content area knowledge, they become best equipped to gain appropriate understanding of material presented in texts (Brown, 1997; Wineberg, 2001). However, few studies describing collaborations undertaken by reading and history education researchers have been published (Afflerback & Vansledright, 2001, Bauman, 2002; Beck, McKeown, & Gromoll, 1989). What research has revealed is that textbooks are difficult to read and are written in a manner which affects comprehension development negatively. Students have been found to experience particular difficulty understanding social studies textbooks and have often failed to comprehend the complex and abstract manner in which concepts, facts, and generalizations are presented in these materials (Ciardiello, 2002). Dobbs (2003) associated the high rate of failure in social studies to several factors including the students’ inability to read and understand their textbooks. These texts have often been found to be poorly organized and inadequately structured. The Adolescent Literacy Commission, established by the International Reading Association in 1999, issued a position statement urging all middle and secondary teachers to include reading comprehension instruction in all content areas (Moore, Bean, Birdyshaw, & Rycik, 2000). Unfortunately, comprehension instruction has continued to be emphasized less in middle grade content area classrooms. In addition, current
research indicates that when reading instruction has been offered it has not been effectively integrated with content area instruction (Snow et al., 2002).

Integrating comprehension strategy instruction into content area texts requires a balance. Students have been found to develop new concepts and enjoy greater understanding more readily through their use of comprehension strategies. The goal of strategy instruction is twofold and includes developing thinking skills and imparting knowledge. While it is during reading that meaning becomes extracted or constructed and knowledge becomes developed (Snow et al., 2002), research findings indicte that when students become able to employ comprehension strategies appropriately and in a differentiated manner that learning occurs most readily. In fact, it has been determined that struggling readers benefit most when they are provided with explicit comprehension instruction. Often, middle school students require this type of training in order to process the content of expository texts (Gaskins & Elliot, 1991; Wineberg, 2001).

It does appear that content area textbooks provide an ideal vehicle which could be utilized to address comprehension and reading skill shortcomings. While textbook analysis have attempted to measure the comprehensibility of these texts based on “considerate” textual features (Armbruster & Anderson, 1985; Beck & McKeown, 1991a), the manner or degree to which comprehension strategies have become integrated into middle grade textbooks has not been studied. As already discussed in depth, when students become able to employ comprehension strategies appropriately they process information more effectively, achieve a higher degree of reading proficiency, and develop greater understanding of the material encountered (Lubliner, 2004).
CHAPTER 3

METHOD

Purpose of the Study

This study was undertaken to determine whether specific eighth grade social studies texts and their corresponding teacher editions encouraged the use of comprehension strategies to enhance student comprehension. Social studies is a content area in which the need to read is great and it provided an ideal context in which to investigate the presence of links between comprehension development and the development of subject matter knowledge (Alverman & Moore, 1991; Armbruster, Anderson, Wise, Janisch, & Meyer, 1991).

During this study textbooks were selected for review to determine: 1) whether comprehension strategies were introduced to students in the expository texts studied; 2) whether textbooks presented strategies to enhance students’ comprehension or for assessment purposes; and 3) whether textbooks introduced elements of direct explanation in their teachers’ editions. The questions that this study raised were: 1) Which comprehension strategies are introduced to students in three 8th grade social studies texts? 2) Were these strategies used to support student comprehension or for assessment purposes? And 3) Were elements of the direct explanation method (Duffy, 2003), which support strategy use, included in the teacher editions reviewed?

Method

A content analysis of textbooks and related teachers editions was undertaken. Content analysis has been proven to be a method which has wide applicability in educational research (Wallen & Fraenkel, 2001). During this study text messages were
analyzed and conceptual and procedural analyses were undertaken which allowed the examiner to address directly the research questions which were raised. As Neuendorf (2002) described, a content analysis is a systematic, objective, quantitative analysis of message characteristics that also provides opportunity for more qualitative analysis of messages (p. 1). The goal of content analyses is to illuminate the intentions of the source of the text, and allow the investigator to view and understand the text through the eyes for which it was intended (Neuendorf, 2002). For the purpose of this study explicit concepts were extracted and analyzed. This study selected messages for analysis based on a priori categories.

Sample

This study employed purposive sampling, a sampling strategy which allows an in-depth analysis of information rich data related to central issues selected for study. Since content area textbooks are central to learning in the upper grades (Sosniak & Perlman, 1990; Wade & Moje, 2000), three eighth grade world history social studies texts and corresponding teacher editions were selected for analysis. This examiner selected social studies textbooks rather than science or math textbooks for analysis since research findings have identified that these textbooks are difficult for students to comprehend (Beck, McKeown, Sinatra, & Loxterman, 1991; Harniss, Dickson, Kinder & Hollenbeck, 1991; Loewen, 1995; Wineberg, 2001). The examiner established three criteria for text selection in order to ensure the presence of a purposive sample that provided information-rich data. The criteria were: 1) texts required a current copyright date; 2) texts were produced by a leading publisher; and 3) texts were widely adopted.
This study based the first two criteria for inclusion on Durkin’s (1981) criteria for text selection. A current copyright date was determined to be one that had been assigned within the past five years. Four leading publishers of social studies texts were identified following a search of the literature. They were: Houghton Mifflin/McDougal Littell; Pearson/Prentice Hall, Harcourt/Holt; and McGraw Hill/Glencoe. Data made available by the American Textbook Council, a group organized to survey annually key states and large school districts to determine the nations most widely adopted social studies textbooks, was studied in order to satisfy third criteria demands. After meeting the criteria established world history textbooks developed for eighth grade students published by Prentice Hall (*History of our World*, 2005), Glencoe (*World History*, 2005), and McDougal Littell (*World History Ancient Civilizations*, 2006) were selected for evaluation.

The examiner systematically sampled passages selected from each textbook. To achieve a balanced sample, every third chapter of each text was included and all section and chapter assessments in these chapters underwent analysis. In all, forty eight chapters including seven selected from Prentice Hall, ten from Glencoe, and five from McDougal Littell, plus corresponding chapters in respective teacher editions comprised the sample.

*Comprehension Strategies*

Research findings have shown that students can be taught to use a variety of strategies to advance their ability and inclination to learn from a text. For the purpose of this study the term “strategy” refers to any specific technique readers learn to employ in order to achieve greater comprehension (Afflerbach in Press; Duffy, 2002). It has been determined that with directed practice strategies become habituated and employed on an
automatic basis in response to presented demands (Pressley, Goodchild, Fleet, Zajchowski, & Evan, 1989).

This study identified seven key comprehension strategies discussed in the literature which had been shown to enhance students’ understanding of expository text (NRP, 2000; Pressley, 2000; Snow, Sweet, Alvermann, Kamil, & Strickland, 2002). They were comprehension monitoring; activating background knowledge; text structure; question generation; summarization; instructional graphics; and inference. Research has shown that these seven strategies assist students in selecting, organizing, and integrating information present in expository texts (NRP, 2000). Research efforts continue to be directed at developing greater understanding of the manner in which strategy use enhances the readers’ comprehension of text materials. What has become clear from these studies is that the skilled reader employs a broad repertoire of techniques when reading for meaning and does not rely upon the use of a single all powerful reading strategy (Brown, Pressley, Van Meter, & Schuder, 1996).

Based upon her literature review, the examiner developed operational definitions for each of the seven strategies selected for study. These definitions have been presented in Table 1.
<table>
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<th>Strategy</th>
<th>Operational Definition</th>
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<tr>
<td>Comprehension Monitoring</td>
<td>Comprehension monitoring consists of two parts. First, students become aware of the quality and depth of their understanding. Second, students who monitor their comprehension develop an understanding of steps to engage in when comprehension breakdowns occur, and then take action to enhance their understanding of the material in question. To accomplish this, students must be familiar with a repertoire of text processing behaviors and employ them when needed to facilitate learning. Comprehension monitoring or metacognitive thinking can be taught to help students to increase reading comprehension and to allow them to become more active participants in the learning process (Pressley; Johnson, Symons, McGoldrick &amp; Kurita, 1989).</td>
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<td>Activate Background Knowledge</td>
<td>Readers use their existing knowledge to interpret, construct, and monitor meaning while reading. Comprehension improves when students actively seek to link text content with their background knowledge (Brown, 2002). Strategies to activate background knowledge can be taught to help students enhance comprehension and to become more active participants in the learning process. It has been determined that when students activate their background knowledge they become able to improve their reading to improve comprehension (Afflerbach, 1990; Pearson, Hansen, &amp; Gordon, 1979).</td>
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<td>Summarization</td>
<td>Findings illustrate that summarization requires the implementation of a family of strategies (Pressley, Goodchild, Fleet, Zajchowski, &amp; Evans, 1989). To summarize, readers must sift through units of text to identify important information and then synthesize ideas into succinct representations of the original text. Students often require information to complete this task explicated, in order to effectively design summarization plans of their own (Brown, Campione, Day, 1981). Strategies designed to allow for the production of appropriate summaries can be taught to help students enhance comprehension and then to become more active participants in the learning process (Friend, 2001). For example, the reader might be introduced to macrorules to identify important information and to cues which allow him to identify important text based information. Readers become able to 1) sift through units of text to differentiate important from unimportant ideas, to omit repetitious ideas, to substitute a superordinate term from a list of items; to substitute a superordinate term for components of an action, and/or to identify a topic sentence or create one when necessary; 2) to apply a macrostructure to synthesize ideas and use superordinate categories to group similar concepts; and 3) to create a new coherent text that is representative of the original and that conveys the main points concisely.</td>
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<td><strong>Question Generation</strong></td>
<td>Self questioning is a characteristic of good readers and an important comprehension fostering and self regulatory strategy (Pearson &amp; Fielding, 1991; Singer &amp; Donlan, 1994). Students must be familiar with a repertoire of text processing behaviors to facilitate initial comprehension and also possess question generation schemas to further develop meaning. The ability to identify main ideas and/or to summarize text is essential for effective question generation. For example, Lubliner (2004) suggested that students should be taught to summarize text and then encouraged to develop questions based on information derived. Strategies that enhance the student’s ability to generate questions can be taught to help them increase their comprehension and to allow them to become more active participants in the learning process (Friend, 2001; Rosenshine, Meister, &amp; Chapman, 1996).</td>
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<td><strong>Text Structure</strong></td>
<td>Good readers use text structure to facilitate recall of main ideas in texts and to enhance total comprehension and recall. For example, efficient readers who are able to make effective use of text structure when constructing meaning, tend to become significantly better able to understand their need to compare and contrast, to identify cause-effect relationships, to think sequentially, to identify information to be listed or enumerated, and to problem solve most successfully. Possessing awareness of structural patterns has also been found to correlate positively with the amount of information retained after reading (Dole Duffy, Roehler, &amp; Pearson, 1991). Strategies based on processes which facilitate the recognition of major forms of discourse can also be taught to help students become more effective thinkers and more active participants in the learning processes (Pearson &amp; Fielding, 1991).</td>
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<td><strong>Instructional Graphics</strong></td>
<td>Instructional graphics provide a means to organize and display the relationships of ideas embedded in text. Identifying these ideas and graphically depicting relationships improves students recall and comprehension (Snow, Sweet, Alvermann, Kamil, &amp; Strickland, 2002). However, the ability to identify main ideas is essential for effective and accurate instructional graphic construction. Therefore, students must be familiar with a repertoire of text processing behaviors to facilitate initial comprehension, and also possess an understanding of instructional graphic schemas to further develop meaning. Strategic procedures which allow students to produce instructional graphics can be taught to enhance comprehension while allowing students to become more active participants in the learning process (Hyerle, 1996; Robinson, 1998). For example, procedures emphasized in the concept mapping process include: the selection, propositionalization, hierarchicalization, and structuralization of key concepts (Change, Sung, &amp; Chen, 2002).</td>
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</table>
Inference has been identified as the heart of the comprehension process (Dole et al., 1991). However, in order for an inference to be produced it is essential that the reader possess the ability to identify major ideas presented literally and then to combine this information with preexisting background knowledge. An inability to retrieve relevant textual information has been found to be the main source of inference failure in less skilled readers (Cain, Oakhill, Barnes, & Bryant, 2001). Therefore, students must be familiar with a repertoire of text processing behaviors to facilitate initial comprehension, and they must also possess inference schemas to further expand their understanding. Strategy instruction designed to develop readers’ abilities to activate and use background knowledge along with comprehension monitoring procedures such as understanding the use of text structure and summarization are necessary to develop inferential thinking skills. Strategic processes can be taught to help students enhance their ability to infer while concomitantly becoming more active participants in the learning process (McGee & Johnson, 2003).

Each of the seven definitions of the key comprehension strategies selected for study included three components. Each definition introduced learning procedures which, if engaged in properly, would allow new information to become internalized as higher level thinking operations were performed. Strategy definitions also emphasized the need for readers to be provided with opportunities to engage in specific, strategic thinking activities. In addition, each strategy definition explicated the role of the strategy with regard to the way in which it served to enhance comprehension development and the manner in which students became able to employ strategies independently as they assumed control of the learning demands they encountered.

While each of the seven strategies investigated were viewed as distinct as reflected in their operational definitions, they were all rooted in an explicit comprehension strategy perspective. Consequently their presence was verified by their
ability to meet the common criteria discussed above. For example the criteria to be met for summarization to be found to be explicited included: 1) the text directs the reader to design summarization plans; 2) the text directs the reader to abstract the gist of the text; and 3) the role of summarization in forming meaning is explicated. Again, sharing similar elements while remaining faithful to it’s identity as a distinct strategy, the following criteria was established for instructional graphics: 1) the text directs the reader to become aware of features of instructional graphics; 2) the text directs the reader to follow procedures associated with instructional graphic construction; 3) the text directs the reader to develop instructional graphics; and 4) the role of instructional graphics in monitoring and forming meaning is explicated. The criteria for the seven strategies and direct explanation was presented in rubric form and was used during data collection and during data analysis (See Appendix A).

Other Definitions

Strategies to support comprehension or strategies for assessment purposes

Research question two asked: Are these strategies used to support student comprehension or for assessment purposes? This study categorized strategies as supporting comprehension when the text encouraged students to employ a strategy while reading, and/or recommended a process to be engaged in while participating in a reading activity. For example, when concept mapping the reader is required to identify major ideas, to connect and organize concepts through the use of relational links, and to produce a major framework for the text. Words, phrases, symbols, and lines and arrows represent relationships. Since it is essential for students to possess the ability to identify and select the global ideas in a text before they become able to depict relationships graphically,
recommendations regarding the process to engage in to develop essential skills would be required if the strategy in question could be viewed as supporting comprehension. When students were presented with information which would enable them to identify a text's structure in order to gain meaning or extend their understanding, and encouraged to employ this knowledge while reading, this study identified and coded the strategy as supporting comprehension. Table 2 presents an example of a strategy included to support comprehension.

Strategies presented merely for assessment purposes required students to employ the strategy to answer a question or to meet a specific demand. For example, one text directed students to “create a Venn diagram like the one shown below to compare and contrast the lifestyles of the Australopithecines and Neanderthals (Glencoe, 2005, p. 25). This strategy was identified and coded as one which served only assessment purposes. Similarly, requiring students to “summarize why particular years were called the golden age” in a section review, would also be coded as strategy employed for assessment purposes only. During analysis the frequency with which strategies were presented to enhance comprehension or for assessment was determined.

*Strategies cited other than the seven in Table 1*

This study also recorded text information citing comprehension strategies other than the seven noted in Table 1. This data was collected and reviewed following the same procedures noted in Table 1. Table 2 provides an example of an “other strategy”
Table 2

Example of “Other Strategy”

<table>
<thead>
<tr>
<th>Other Strategies</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previewing/ Set</td>
<td>Text directs reader to become aware of strategies to clarify meaning</td>
<td>“List the various text features you will be previewing: section title, text headings, introduction, list of key terms, questions or taks in the reading selection, photographs, drawings, maps, charts, and other visuals in the text. Focus students’ attention on some of these items, or ask them to look at all of the items (PH: TE p. 4f)”. “Model setting a purpose by looking at the main head and subheads on pp. 8-9 and develop the following focus: I will read this section for the purpose of understanding different methods of learning about early history (PH: TE p. 6)”</td>
</tr>
<tr>
<td>Purpose</td>
<td>Text directs reader to apply strategies while reading</td>
<td>“Prompt students to reflect after examining various text features. They may ask themselves questions such as “what is this reading selection about? What are some key words I will learn? How should I tackle this reading and divide up the task (PH: TE p. 4f)”</td>
</tr>
<tr>
<td></td>
<td>The role of the other strategy in forming meaning is explicated</td>
<td>“Tell students that previewing will help them identify the text structure and develop a mental outline of ideas they will encounter in the text. Students who do a brief preliminary reading of complex material are in a strategic position to take control of their learning and comprehension. (PH: TE p. 4f)”. “Tell students that setting a purpose before they start reading can help them read more effectively (PH: TE p. 6)”</td>
</tr>
</tbody>
</table>

**Direct explanation**

Direct explanation, recognized as an effective method for developing comprehension abilities (NRP, 2000) is an instructional technique employed during explicit comprehension instruction. This instructional method also serves as the basis for transactional strategy instruction, the most contemporary explicit approach to comprehension development currently employed (Pressley, El-Dinary, Gaskins, Schuder,
Explicit instruction employing direct explanation has been based on research findings which indicated that readers develop greater awareness and higher achievement when teachers discuss explicitly their thought processes as they employ comprehension strategies (Duffy & Roehler, 1987; Roehler, Duffy, & Meloth, 1986). When direct explanation is engaged in, teachers provide strategy instruction through a modeling of their own strategic thinking. Strategies are taught to be used flexibly while the reader interacts with the text. When modeling their thinking, teachers participate in think alouds and provide students with verbal descriptions of their thought processes (Duffy, 2002). These think alouds enable teachers to demonstrate to students how to select appropriate strategies (Block & Israel, 2004) and how to apply them when engaged in reading. These conversations are designed to be metacognitive, not mechanical. Instruction is presented in an organized and scaffolded manner and in a way in which allows the learner to assume personal appropriation of the strategy in question (Vygotsky, 1987).

Based on a review of the literature, the investigator established three criteria for identifying the presence of direct explanation methodology in the teacher edition textbooks studied. Direct explanation was identified if: 1) the text directed the teacher to introduce strategies and explicate the utility of strategy use; 2) the text directed the teacher to connect knowledge of strategies to students’ background knowledge; and 3) the text directed the teacher to model text processing behavior and “how to” information. Table 3 provides an example of the manner in which direct explanation might be explicated in social studies teacher edition textbooks.
### Table 3

**Example of Direct Explanation**

<table>
<thead>
<tr>
<th>Direct Explanation</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text directs teacher to introduce strategies and explicate the utility of strategy use</td>
<td>“Students are often asked to summarize text. This task requires you to sift through large units of text, differentiate important from unimportant ideas, and then synthesize those ideas to create a new coherent text that is representative of the original (Dole, Duffy, Roehler, &amp; Pearson, 1991). Students who summarize well are able to state the gist of what was read in their own words. Applying a summarization strategy will help you identify the main points in the reading and apply this information to construct a summary. Overall, this will help you understand and remember what you read”.</td>
<td></td>
</tr>
<tr>
<td>Text directs teacher to connect knowledge of strategies to students’ background knowledge</td>
<td>“Developing the ability to summarize is one tool to improve your metacognitive control while reading. What are some summarization strategies that you can use to help you understand text? For example, we applied macrorules to help us with this task. How would using this strategy help you during other reading activities?”</td>
<td></td>
</tr>
<tr>
<td>Text directs teacher to model text processing behaviors and “how to” information</td>
<td>“Model how to summarize by reading aloud while applying macro rules for comprehension (Kintsch &amp; van Dijk, 1978). These are 1) deleting trivial information, 2) deleting redundant information, 3) substituting a superordinate term for a list of items, 4) substituting a superordinate term for components of an action, 5) selecting a topic sentence, and 6) when there is no topic sentence inventing one. Think aloud to model and make overt your thinking as you use this strategy. Then have students read the paragraph while applying this summarization strategy. Encourage students to model how they use this strategy for classmates while thinking aloud to make their internal thinking overt”.</td>
<td></td>
</tr>
</tbody>
</table>
Data Collection Procedures

The researcher examined three social studies textbooks and corresponding teacher editions during a one year period. The textbook examination process involved several steps and data collection at the onset of examination of each text was recursive. The investigator determined that it was necessary to return and reread previous chapters as new material was read as understanding was developed. Each series presented material in varied ways and at times their nuances made the presence of strategies less obvious. Due to this circumstance it was necessary for the examiner to recursively read the text to collect data effectively and to become confident that the analysis undertaken was accomplishing stated goals. After the investigator read each chapter, previous chapters were read to check codes, and to ensure that identified strategies met definitional requirements. After this level of exactness was achieved, and typically after at least four chapters had been read from each series, the examiner was able to read the remaining chapters in each text and effectively collect all pertinent data.

An identical evaluation process was employed when texts and corresponding teacher editions underwent analysis. The examiner read every page of every third chapter in each social studies text (chapters 1, 4, 7, 10, 13, 16…), and associated pages of the corresponding teacher editions, in order to determine whether any of the seven comprehension development strategies selected for study were recommended for use and the manner in which these strategies were to be employed. During an initial reading of the text, the examiner also identified and recorded information regarding the presence of strategies or techniques other than those seven selected for study which research suggested enhanced comprehension development, or which were simply included to
achieve this purpose. During data collection involving teacher editions the researcher also read to identify the presence or absence of elements of direct explanation. The examiner recorded all data on a prepared rating tool in order to identify the presence of strategies embedded in the texts analyzed and to produce counts of key categories (Neuendorf, 2002) (See Appendix A). The examiner recorded detailed field notes throughout data collection process.

*Reliability*

Before this study was carried out a pilot study was undertaken to determine if the coding system designed allowed sought information to be retrieved. This examiner collected data over a two week period of time and read every page of chapter one of “History of Our World” (Prentice Hall, 2005) for the purpose of answering the three research questions. Following the examiner’s review of the text a second, third, and fourth examiner replicated data collection procedures to identify comprehension strategies and “other strategies” and to record the presence of recommendations for teaching comprehension strategies embedded within the text. One hundred percent inter-coder agreement was judged to be necessary for adequate reliability to be attained. Coders achieved this level of agreement through discussion.

In order to ensure reliability in the current study, measuring procedures were required to yield similar results on repeated trials and among multiple coders. To achieve adequate inter-coder reliability, a second and third examiner participated to verify and check the first examiner’s understanding and analysis of the text. During this process it was established that more than one individual could use the coding scheme as a measurement tool.
All examiners were provided with text processing training for one month before formal code collection was undertaken. During this period of time they became completely familiar with the rating tool. During training period understanding of all operational definitions by all coders was assured. Participants collaboratively scored sample sections to develop understanding of the complexities of each code and ensure that their decisions were based upon their complete knowledge of specific operational definitions. For example, when considering the instructional graphic code, three subcodes were found to exist. A code of “text directs reader to develop instructional graphic” differs from a code of “text directs reader to become aware of procedures associated with instructional graphic”. Their understanding of operational definitions allowed each examiner to code data accurately. Formal data collection began only after coders had achieved ninety percent agreement when engaged in practice.

Once appropriate inter-rater reliability was established each examiner selected a subsection of each text consisting of four chapters along with all appropriate section and chapter assessments and replicated data collection procedures to identify the presence of comprehension strategies and to record the repertoire of actions recommended on the prepared rating tool. Examiners two and three also reviewed a sample of the teacher editions and recorded the presence of recommendations for teaching comprehension strategies embedded within the text. Each collector of data engaged in an identical process of text evaluation. Each of the four chapters was read for the purpose of identifying and recording recommendations that matched any of the seven key strategies. During their initial reading of the text, examiners two and three recorded information that did not meet the comprehension strategy instruction criteria established, had either been
identified in the research as supporting comprehension development or was simply suggested by the authors to achieve this purpose. During data collection involving teacher editions, each coder followed identical procedures while also reading to identify the presence of elements of direct explanation. All data were recorded on the prepared measurement tool (See Appendix A). Ninety percent inter-coder agreement was judged to be necessary before acceptable reliability could be attained.

Once data collection began, all three participants met on a monthly basis to maintain inter-coder reliability. A random numbers table was created and employed to select codes to be discussed by the group. To be in agreement, coders were required to examine a segment of text, record ten codes, and match the judgments of two of the three other coders at least ninety percent of the time. Group members discussed scoring discrepancies extensively until agreement was reached. Each individual analyzed roughly 100 codes per session during a twelve month period. Operational definitions provided the standard which allowed coders to resolve any disagreements.

Validity

This study achieved internal and external validity. Since valid measurement devices tend to yield valid data, it was essential that the measurement device designed for this study was of high quality (Neuendorf, 2002; Ryan & Bernard, 2000). For this reason data were recorded on a measurement tool developed from research based operational definitions (See Table 1). Content validity was attained as a result of the fact that only research based strategies designed to enhance comprehension of expository material were selected for study (NRP, 2000; Pressley, 2000; Snow, Sweet, Alvermann, Kamil, & Strickland, 2002).
External validity was assured since a purposive sample was attained by including for study texts produced by leading publishers which had been widely adopted nationally, and which possessed current copyright dates. In addition, construct validity was attained since this study was framed conceptually by theory and the rating tool designed faithfully represented comprehension strategy instruction.

Data Analysis

Once the primary examiner collected all data from each series studied it was read and reviewed in its entirety and then grouped and sorted with the aid of the rating tool employed during data collection (See Appendix A). After data collected from each series were sorted, an analysis was undertaken to determine the presence of strategies explicated and their frequency. This information was then presented in table form. Through analysis it was determined how students were guided to employ strategies and whether strategies encouraged the use of techniques while reading which supported and enhanced comprehension development or were presented solely for assessment purposes. In addition, analysis was conducted to resolve question three and to determine whether explicit recommendations included in the teacher editions studied instructed teachers to develop text comprehension through the use of direct explanation.

Limitations and Assumptions

Among the major limitations of this study are those which affect the generalizability of its findings. While the purposive sampling technique was employed, findings from this study remain limited to just three textbooks and teacher editions. Findings from this sample were limited further since this study analyzed every third chapter of each textbook. Therefore, findings only reveal what was included in these
particular chapters. Additionally, the operational definitions developed and utilized in this study represent one interpretation based on a review of pertinent literature. Similarly, this study made certain assumptions about direct explanation. Debate continues over how much guidance students require (Kirschner, Sweller, & Clark, 2006), and how overt teachers need to be when employing this technique.

Summary

This study employed content analysis to determine whether three widely adopted social studies textbooks and their corresponding teacher editions included seven comprehension strategies found to enhance student comprehension and learning from expository text. Social studies is a content area where the need to read is great and, therefore, provides an ideal context to explore the links between reading research and the classroom materials that students and teachers use. This study posed three questions: 1) Do the three textbooks explicate comprehension strategies? 2) Are the strategies presented to enhance comprehension or to assess student content knowledge? and 3) Do the three textbooks incorporate elements of direct explanation (2003), when explicating comprehension strategies? The seven strategies investigated included comprehension monitoring, activating background knowledge, summarization, text structure, question generation, instructional graphics, and inference.
CHAPTER 4
RESULTS

This examiner undertook a content analysis of three widely adopted eighth grade social studies textbooks and their respective teacher editions to determine if these texts explicated seven key comprehension strategies. Through analysis this study determined whether the teacher editions introduced elements of direct explanation. This study posed three questions: 1) Do the three textbooks explicate comprehension strategies? 2) Are the strategies presented to support comprehension? and 3) Do the three textbooks incorporate elements of direct explanation (Duffy, 2003) when explicating comprehension strategies? The seven key comprehension strategies selected for study included comprehension monitoring, activating background knowledge, summarization, text structure, question generation, instructional graphics and inference (NRP, 2000; Pressley & Block, 2002; RAND Reading Study Group, 2002).

This study selected textbooks for analysis since they remain the main source of data with which both teachers and students work during content area instruction (Moje, 1996; Sewall, 2000). Research findings revealed that social studies textbooks are among the most difficult for students to read with appropriate comprehension (Beck, McKeown, Sinatra, & Loxterman, 1991; Harniss, Dickson, Kinder & Hollenbeck, 1991; Loewen, 1995; Wineberg, 2001). While these materials continue to be widely used, teachers’ philosophical orientations determine the manner in which they are employed (Cuban, 1991; Wade & Moje, 2002). Textbooks are employed primarily to develop students content knowledge and far less often to develop or enhance students’ reading abilities (Konopak, Wilson, & Readance, 1994). At the same time, the student’s ability to meet
specific reading demands influences significantly the manner in which textbooks are used (Alvermann & Moore, 1991; Bean, 2000).

Reading theory and research framed the research questions and guided data collection procedures. The examiner selected three eighth grade world history social studies textbooks and corresponding teacher editions for analysis. Texts were selected based on three criteria. All texts selected for study possessed a current copyright date, were the product of a leading publisher, and were widely adopted. This study based the first two criteria for inclusion on Durkin’s (1981) criteria for text selection. The third criteria for inclusion was based on data produced by the American Textbook Council, an organization that surveys key states annually to determine which materials are most widely adopted. Based on these criteria this study evaluated world history textbooks developed for eighth grade students published by Prentice Hall (History of our World, 2005), Glencoe (World History, 2005), and McDougal Littell (World History Ancient Civilizations, 2006).

Although reading researchers identified explicit instruction of comprehension strategies as a “best practice”, this study found in the literature no existing measurement tools which identify the presence of comprehension strategies or direct explanation. Hence, the examiner developed and employed a measurement device during this investigation that was unique.

The examiner collected data over the course of one year. An identical textbook examination process was developed for all materials studied. The researcher read every third chapter in each textbook and associated pages of the respective teacher editions for the purpose of identifying the presence of any of the seven comprehension strategies
selected for analysis. During the initial reading of the text, the examiner also recorded the presence of comprehension strategies cited even if they were not included in the focus of this study. The examiner undertook an identical analysis of accompanying teacher editions to identify the presence of explicit recommendations included in the teacher editions that instructed teachers to utilize direct explanation. The examiner recorded this information on a prepared rubric to identify strategies and to produce counts of key categories.

The textbook examination process occurred in a step-wise manner and data collection was undertaken recursively. Since each textbook series presented material in varied ways, the examiner reread previous chapter to analyze codes and to ensure the coding scheme was internally consistent until approximately the fifth chapter of each series was read. After achieving this level of mastery the researcher read all remaining chapters to collect all pertinent data.

To ensure reliability and to achieve acceptable inter-rater reliability, a second and third examiner reviewed the first examiners analysis of the text. These examiners were provided with one months’ training and became proficient when processing text using the prepared rubric. Training was provided to assure that satisfactory inter-rater reliability would be attained. Each examiner selected a subsection of each text consisting of four chapters and replicated data collection procedures to identify strategies and to record the repertoire of actions recommended. Examiners two and three also reviewed a sample of teacher editions and recorded recommendations for teaching comprehension embedded in the text. All judgments required ninety percent inter-rater agreement.
Once all data was collected, the researcher read it in its entirety. The researcher then reread the data and sorted data from each chapter. When all data was sorted it was subjected to analysis to determine the presence of strategies explicated and their frequency of occurrence. This information is presented in table form (See Table 10).

This study also identified through analysis how the textbooks guided students to employ comprehension strategies. Strategies were defined as techniques which, if implemented, would allow for improved comprehension to occur. In addition, analyses were undertaken to determine whether existing strategies supported student comprehension or were included in the textbooks for assessment purposes. The researcher also analyzed the teacher editions to determine whether explicit recommendations instructed teachers through direct explanation to develop comprehension skills.

The code presented below was developed to identify where examples of strategies were explicated. Since the teacher edition textbooks were all “wrap around” editions, the teacher edition text was physically situated around the student edition text. Therefore, the primary examiner was able to analyze information included in the student edition while studying the teacher edition text.

Table 4

Code Key

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH</td>
<td>Prentice Hall</td>
</tr>
<tr>
<td>ML</td>
<td>McDougal Littell</td>
</tr>
<tr>
<td>G</td>
<td>Glencoe</td>
</tr>
<tr>
<td>TE</td>
<td>Teacher Edition</td>
</tr>
<tr>
<td>SE</td>
<td>Student Edition</td>
</tr>
</tbody>
</table>
Research Question 1 asked: *What comprehension strategies are introduced to students?*

The textbooks evaluated introduced several comprehension strategies to students. They included activating background knowledge, summarization, text structure, instructional graphics, and “other strategies”. “Other strategies” or strategies found to be present but not among the seven selected for study included making inferences, paraphrasing, previewing, re-reading/read ahead, setting a purpose, reading and saying something, KWL, using possible sentences, knowledge rating, and using context clues.

Examples of the manner in which strategies were explicated by the textbook authors have been presented in Tables 5, 6, 7, 8, & 9. This study coded inference as “other strategy” because the textbooks did not include material that met the criteria established for inference as a comprehension strategy.

Table 5

**Activating Background Knowledge**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activating Background Knowledge</td>
<td>Text directs reader to use existing background knowledge</td>
<td>“Ask students to recall what they have learned in lesson 3 about what archaeologists do” (ML: TE p. 34).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to make text to text, text to self, and/or text to world connections</td>
<td>“This question requires you to use your knowledge of social studies to identify the correct answer” (ML: TE p. s7).</td>
</tr>
<tr>
<td></td>
<td>The role of background knowledge in forming meaning is explicated</td>
<td>“Recognizing what you already know about each of these terms can help you understand the chapter” (ML: SE p. 4).</td>
</tr>
<tr>
<td>Strategy</td>
<td>Criteria</td>
<td>Example</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Summarization</td>
<td>The text directs reader to design summarization plans.</td>
<td>“Summarize using the following steps: 1). Identify the main ideas 2). State them in the order in which they appear 3). Note when one event causes another” (PH:SE p. 645).</td>
</tr>
<tr>
<td></td>
<td>The text directs reader to abstract gist of the text</td>
<td>“For each of the major headings, summarize the key points in a bulleted list like the one below” (PH:SE p. 652).</td>
</tr>
<tr>
<td></td>
<td>The role of summarization in forming meaning is explicited</td>
<td>“You can better understand a text if you pause occasionally to summarize-to review what you have read so far” (PH:SE p. 645).</td>
</tr>
<tr>
<td>Strategy</td>
<td>Criteria</td>
<td>Example</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>Text Structure</td>
<td>The text directs reader to use text structure to identify main ideas</td>
<td>“What cause and effect relationships are described in the paragraph at the right?” (PH:SE p. 108).</td>
</tr>
<tr>
<td></td>
<td>The text directs reader to become aware of various expository text structures</td>
<td>“In this chapter you will learn how to focus on identifying the cause and effect relationships in your text” (PH:SE p. 104). “In this chapter you will learn to compare and contrast to help you sort out and analyze information” (PH:SE p. 196).</td>
</tr>
<tr>
<td></td>
<td>The text directs reader to use strategies to recognize forms of discourse</td>
<td>“Sometimes, certain words such as affect, from, and as a result, signal a cause or an effect. In the following sentence, from signals both a cause and an effect: From this blending of ideas and beliefs came one of the world’s oldest living religions, Hinduism. The cause is a blend of ideas and beliefs, and the effect is Hinduism. As you read, look for signals announcing other causes and effects” (PH:SE p. 114).</td>
</tr>
<tr>
<td></td>
<td>The role of using text structure in forming meaning is explicated</td>
<td>“Determining causes and effects can help you understand the relationships among situations or events” (PH:SE p. 106). “Comparing and contrasting can help you sort out and analyze information. When you compare, you examine the similarities between things. When you contrast, you look at the differences” (PH: SE p. 198).</td>
</tr>
</tbody>
</table>
## Table 8

### Instructional Graphics (outline)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Graphics</td>
<td>The text directs reader to become aware of features of instructional graphics</td>
<td>“Identify the most important points or main ideas and list them with Roman numerals. 2) Decide on important subtopics for each main idea, and list them with capital letters. 3) Use Arabic numerals to list supporting ideas or details under each subtopic. 4) Check your outline for balance” (PH: SE p. 372).</td>
</tr>
<tr>
<td></td>
<td>The text directs reader to follow procedures associated with instructional graphic construction</td>
<td>“Identify the most important points or main ideas and list them with Roman numerals. 2) Decide on important subtopics for each main idea, and list them with capital letters. 3) Use Arabic numerals to list supporting ideas or details under each subtopic. 4) Check your outline for balance” (PH:SE p. 372).</td>
</tr>
<tr>
<td></td>
<td>The text directs reader to develop instructional graphics</td>
<td>“Practice this skill: Use the passage at the right as the source for the beginning of your outline. Then follow the steps below to outline it” (PH:SE p. 373).</td>
</tr>
<tr>
<td></td>
<td>The role of instructional graphics in forming meaning is explicated</td>
<td>“An outline is a way to organize information. It identifies the main ideas and supporting details. You can use an outline to take notes on what you read or to plan a report that you will write” (PH: SE p. 372).</td>
</tr>
</tbody>
</table>
Table 9

“Other Strategies”

<table>
<thead>
<tr>
<th>“Other Strategies”</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reread/Read Ahead</td>
<td>The text directs the reader to become aware of strategies to clarify meaning</td>
<td>“Rereading and reading ahead are strategies that can help you understand words and ideas in the text” (PH: SE p. 471).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to apply strategies while reading</td>
<td>“If you do not understand a certain passage, reread it to look for connections among the words or sentences. It might also help to read ahead, because a word or idea may be clearer later on in the text” (PH: SE p. 471).</td>
</tr>
<tr>
<td></td>
<td>The role of the “other strategy” in forming meaning is explicited</td>
<td>“Rereading or reading ahead are strategies that can help you understand words and ideas in the text” (PH: SE p. 47).</td>
</tr>
<tr>
<td>Previewing/Setting a Purpose</td>
<td>The text directs the reader to become aware of strategies to clarify meaning</td>
<td>“When you set a purpose for your reading, you give yourself a focus. Before you read this section, preview the headings and pictures to find out what the section is about. Then set a purpose for reading this section. Your purpose might be to find out about the study of history, or to learn about the connections between geography and history. Finally, read to meet your purpose” (PH: SE p. 4).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to apply strategies while reading</td>
<td>“Set a purpose. If your purpose is to learn about the study of history, how does reading about oral traditions help you achieve your purpose?” (PH: SE p. 8).</td>
</tr>
<tr>
<td></td>
<td>The role of the “other strategy” in forming meaning is explicited</td>
<td>“In this chapter you will focus on previewing to help you understand and remember what you read” (PH: SE p. 4).</td>
</tr>
<tr>
<td><strong>Read and Say Something</strong></td>
<td>The role of the “other strategy” in forming meaning is explicated</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Text directs reader to apply strategies while reading</td>
<td>“This is a useful tool for students who need help with reading comprehension, especially reading difficult material. It can also be used with a primary source to introduce a unit.” (G: TE p. 106).</td>
<td></td>
</tr>
<tr>
<td>The text directs the reader to become aware of strategies to clarify meaning</td>
<td>“Students can use what they Know about a topic to generate questions about what they Want to know, and then record what they Learned. (G: TE p. 122).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>KWL</strong></th>
<th>The role of the “other strategy” in forming meaning is explicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>The text directs the reader to become aware of strategies to clarify meaning</td>
<td>“Students can use what they Know about a topic to generate questions about what they Want to know, and then record what they Learned. (G: TE p. 122).</td>
</tr>
<tr>
<td>Text directs reader to apply strategies while reading</td>
<td>“Ask students to share what they know about classical Greece. W- What I want/Need to know: have students work in pairs coming up with ideas of what they would like to know. L- What I Learned: As the student read, have them add to the lists” (G: TE p. 122).</td>
</tr>
<tr>
<td>The role of the “other strategy” in forming meaning is explicated</td>
<td>“Students can use what they Know about a topic to generate questions about what they Want to know, and then record what they Learned. K-</td>
</tr>
</tbody>
</table>
## Making Inferences and Drawing Conclusions

<table>
<thead>
<tr>
<th>Action</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text directs reader to become aware of strategies to clarify meaning</td>
<td>“Follow the steps below to help make inferences and draw conclusions” (G: SE p. 423).</td>
</tr>
<tr>
<td>Text directs reader to apply strategies while reading</td>
<td>“Follow the steps below to help make inferences and draw conclusions: 1) read carefully to determine the main facts and ideas, 2) write down the important facts, 3) consider any information you know that relates to this topic, 4) determine how your own knowledge adds to or changes the material, what inferences can you make about the material that are not specifically stated in the facts that you gathered from your reading? 5) use your knowledge and reason to develop conclusions about the facts 6) If possible, find specific information that proves or disproves your inference” (G: SE p. 423).</td>
</tr>
<tr>
<td>The role of the “other strategy” in forming meaning is explicated</td>
<td>“While driving you hear a news report about a fire downtown. As you approach downtown traffic is heavy. You cannot see any smoke but you infer that the traffic is caused by the fire” (G: SE p. 423).</td>
</tr>
</tbody>
</table>

## Using Possible Sentences

<table>
<thead>
<tr>
<th>Action</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text directs the reader to become aware of strategies to clarify meaning</td>
<td>“This strategy allows students to speculate about word meanings” (G: TE p. 942).</td>
</tr>
<tr>
<td>Text directs reader to apply strategies while reading</td>
<td>“Choose ten vocabulary words and write them on the board. Write sentences using the words either correctly or incorrectly. Then ask students to comment on whether the sentences are “possible”. As students encounter the words in the section, they should note the use of each term in the selection’s context. After</td>
</tr>
<tr>
<td>Knowledge Rating</td>
<td>The role of the “other strategy” in forming meaning is explicated</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>“The role of the “other strategy” in forming meaning is explicated” (ML:TE p. 4).</td>
</tr>
<tr>
<td></td>
<td>“The role of the “other strategy” in forming meaning” (G: TE p. 942).</td>
</tr>
<tr>
<td>The text directs the reader to become aware of strategies to clarify meaning</td>
<td>“This strategy allows students to speculate about word meanings” (G: TE p. 942).</td>
</tr>
<tr>
<td></td>
<td>“Understanding key terms and vocabulary is central to understanding content. Knowledge rating is a strategy that helps students identify words and terms they should look for as they read. It provides students with an opportunity to look up the meanings of words they need to know to fully understand the section content” (ML:TE p. 4).</td>
</tr>
<tr>
<td>Text directs reader to apply strategies while reading</td>
<td>“Have students follow these steps: read the “Before You Read” instructions and copy the list of terms on a sheet of paper. Use a dictionary to look up the meanings of words that you rated 2 or 1. With this information, write sentences in which the words are used properly. When you come to these words in you reading, review what you learned about their definitions” (ML TE p. 4).</td>
</tr>
<tr>
<td></td>
<td>“Understanding key terms and vocabulary is central to understanding content. Knowledge rating is a strategy that helps students identify words and terms they should look for as they read. It provides students with an opportunity to look up the meanings of words they need to know to fully understand the section content” (ML:TE p. 4).</td>
</tr>
<tr>
<td>Using Context Clues</td>
<td>Paraphrasing</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>The text directs the reader to become aware of strategies to clarify meaning</td>
<td>The text directs the reader to become aware of strategies to clarify meaning</td>
</tr>
<tr>
<td>“In this chapter you will learn and apply the reading skill of using context clues” (PH:TE p. 528b).</td>
<td>“Because it is difficult to paraphrase something you do not understand, learning to paraphrase encourages students to take an active role in clarifying what they read. Paraphrasing asks students to examine a passage closely and interpret the author’s views. If you asked five students to paraphrase the same passage, you’d probably get five different paraphrases. This is true because paraphrasing requires the student to convey his or her own viewpoint about what the author is saying” (PH:TE p.452 f).</td>
</tr>
<tr>
<td>Text directs reader to apply strategies while reading</td>
<td>Text directs reader to apply strategies while reading</td>
</tr>
<tr>
<td>“As a follow up as students to answer the Target Reading Skill question in the student edition. Find the word alliances. Look for context clues to help you determine the meaning of alliances” (PH:TE p. 547).</td>
<td>“One active way to help students learn to paraphrase is to show them how to analyze a passage. Have students follow these steps. 1). Select a passage from the text that is 2-3 sentences long. Read and reread the passage. 2). Find in a dictionary the meaning of any words that may be confusing. 3). Replace some of the words in the passage or combine several words into one idea. 4). Combine the sentences in a way that does not alter the main idea of the</td>
</tr>
<tr>
<td>The role of the “other strategy” in forming meaning is explicated</td>
<td></td>
</tr>
<tr>
<td>“Understanding how to derive meaning from context clues can help students become better, more confident readers” (PH:TE p. 528b)</td>
<td></td>
</tr>
</tbody>
</table>
The frequency with which textbooks presented comprehension strategies (comprehension monitoring, activating background knowledge, summarization, question generation, text structure, instructional graphics, inference, and “other strategies”) have been listed in Table 10. The examiner organized frequency data by strategy and series for the teacher and student editions. All criteria for each strategy must have been met to be included in this frequency count. Instances were counted each time any of the criteria was met.
Table 10

Frequency Counts of Strategies Explicated in Three 8th Grade Textbooks

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td></td>
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<td></td>
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<tr>
<td>Activating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background Knowledge</td>
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<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Summarization</td>
<td>39</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71</td>
</tr>
<tr>
<td>Question</td>
<td></td>
<td></td>
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<tr>
<td>Generation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Text Structure</td>
<td>107</td>
<td>112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>219</td>
</tr>
<tr>
<td>Instructional</td>
<td>55</td>
<td>43</td>
<td>84</td>
<td></td>
<td>66</td>
<td>40</td>
<td>288</td>
</tr>
<tr>
<td>Graphics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Other Strategy”</td>
<td>144</td>
<td>117</td>
<td>21</td>
<td>4</td>
<td>19</td>
<td></td>
<td>305</td>
</tr>
<tr>
<td>Total</td>
<td>345</td>
<td>304</td>
<td>105</td>
<td>4</td>
<td>98</td>
<td>40</td>
<td>896</td>
</tr>
</tbody>
</table>

This study organized the results of Question 1 into four sections. Sections one, two and three discuss these findings by publisher. Section four presents those key comprehension strategies never explicated including comprehension monitoring, question generation, and inference.


Comprehension strategies explicated included summarization, text structure, instructional graphics, and “other strategies”. “Other strategies” explicated in this series included paraphrasing, previewing, re-reading/reading ahead, setting a purpose, and employing context clues. Specifically the Prentice Hall, teacher edition (History of our World, 2005) explicated comprehension strategies 345 times, and the student edition explicated strategies 304 times.


Findings from the Glencoe student and teacher edition (World History, 2005) textbooks revealed that of the seven strategies investigated, only instructional graphics
was identified, and only in the teacher edition. Table 11 provides an example of an instructional graphic presented in this series. The student edition did not include key criteria to qualify instructional graphics as a comprehension strategy, although the text did direct readers repeatedly to develop instructional graphics to support comprehension and to assess content knowledge.

This study identified “other strategies” in both the teacher and student editions. “Other strategies” found in the Glencoe teacher edition text included reading and saying something, KWL, making inferences, previewing, and using possible sentences (See Table 9). Inference development was the only “other strategy” included in the student edition.
Table 11

**Instructional Graphic Glencoe (word map)**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Graphics</td>
<td>Text directs the reader to become aware of features of instructional graphic</td>
<td>“Common maps of these types show a central bubble containing a key word or ideas. Surrounding bubbles may be used to show semantic relationships or to explain structure relationships” (G:TE p. 128).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to develop instructional graphics</td>
<td>“Create a word map on the board and write “Greek Philosophy” in the center bubble” (G:TE p. 128). “Have students complete the surrounding bubbles to identify the major philosophers and their ideas” (G:TE p. 128).</td>
</tr>
<tr>
<td></td>
<td>The role of instructional graphics in forming meaning is explicated</td>
<td>“Word maps or concept maps are designed to show relationships between words or concepts” (G:TE p. 128).</td>
</tr>
</tbody>
</table>

Although the Glencoe textbook (*World History, 2005*) included elements of comprehension strategies, they did not present strategies in such a way that they met the criteria for inclusion in this study. For example, on no occasion did this series meet the criteria for text structure. However, the text emphasized that by understanding text structure the learner could develop a coherent model of the text (Dymock, 2005). In particular, students were encouraged to isolate text structure to identify main ideas, and to compare and contrast information presented. For example, readers were told that “when making comparisons you identify the similarities and differences among two or more
ideas, objects, or events”. The text also provided students with instruction designed to enhance their ability to apply this strategy. For example, the text directed readers to:

1) Find two subjects that can be compared. They should be similar enough to have characteristics that are in common to both. For example, it would be more appropriate to compare a Greek statue to an Egyptian statue than an abstract modern painting.
2) Determine which features the subjects have in common that are suitable for comparison.
3) Look for similarities and differences within these areas.
4) If possible, find information that explains the similarities and differences.
(G: SE, p. 114).

Unfortunately, the text never explicating the role of text structure in developing meaning. Consequently, for the purposes of this study, text structure was not coded as a comprehension strategy.

McDougal Little, World History (2006)

The McDougal Littell, world history textbooks analyzed explicating two comprehension strategies. Through analysis instructional graphics involving time lines and bar graphs in both the teacher and student editions was identified. In addition, activating background knowledge was also coded as a comprehension strategy, although only in the teacher edition. An example of the manner in which background knowledge activation met the criteria for inclusion as a comprehension strategy has been presented in Table 12. This textbook series also integrated two “other strategies” including making predictions and knowledge rating.
### Table 12

**Activating Background Knowledge McDougal Littell**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activating Background Knowledge</td>
<td>Text directs reader to use existing background knowledge</td>
<td>“Ask students to recall what they have learned in lesson 3 about what archaeologists do” (ML: TE p. 34).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to make text to text, text to self, and/or text to world connections</td>
<td>“This question requires you to use your knowledge of social studies to identify the correct answer” (ML TE p. s7).</td>
</tr>
<tr>
<td></td>
<td>The role of background knowledge in forming meaning is explicated</td>
<td>“Recognizing what you already know about each of these terms can help you understand the chapter” (ML SE p. 4).</td>
</tr>
</tbody>
</table>

The example presented in Table 12 met the criteria for activating background knowledge as a comprehension strategy. However, most often in the chapters analyzed the text included two of the three criteria for background knowledge. Specifically, the McDougal Littell texts frequently directed the reader to use existing background knowledge, and explicated the role of background knowledge in forming meaning. In contrast, only once, on page 7 did the text direct the reader to make the necessary connections to background knowledge. In particular, the text directed teachers to present the following statement: “This question requires you to use your knowledge of social studies to identify the correct answer (McDougal Littell, *World History*, 2006 p.7)” . The inclusion of this directive was the only instance in either edition in which the reader was directed to connect background knowledge to text content. In this instance, the textbook met the criteria for activating background knowledge as a comprehension strategy. Although the McDougal Littell student edition textbook included certain criteria for
activating background knowledge as a comprehension strategy, the text failed to direct the reader to make text to text, text to self, or text to world connections. Therefore, this study did not identify activating background knowledge as a comprehension strategy in the student edition.

Although summarization was not coded as a comprehension strategy in this textbook, stress was placed on teaching students summarization principles. Two key criteria for including summarization as a comprehension strategy were met in both textbook editions in eighty percent of the chapters analyzed. In each text, students were directed to design summarization plans and to abstract the gist of important information presented while reading. For example, see Table 13.

Table 13

**Elements of Summarization McDougal Littell**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarization</td>
<td>Text directs students to design summarization plans</td>
<td>“When you summarize you supply only main ideas and important details. As you read use a diagram like the one below to identify the main idea of each section” (ML: SE p. 8). “As you read make a summary statement about each topic and record it in a chart” (ML:SE p. 8).</td>
</tr>
<tr>
<td></td>
<td>Text directs students to abstract the gist of the text</td>
<td>“Identify the main ideas and important details in each section of the lesson. Then put them in your own words and record them in a diagram like the one below” (ML: SE p. 8).</td>
</tr>
</tbody>
</table>
However, the text never introduced the role of summarization in forming meaning. Instead, this series explicated the process of summarization and provided explanations that defined the strategy. For example, the text directed teachers to inform students that “summarizing involves creating a brief statement that captures only the central points of a longer passage (McDougal Littell 2006, p. 227)”, and that “summarizing means restating main ideas and details (McDougal Littell 2006, p. 112)”. To explicate the role of summarization in forming meaning, a sentence that stated, “You can better understand a text if you pause occasionally to summarize and to review what you have read so far” (Prentice Hall, History of Our World, 2005, p. 645)” should have been included. Explaining the role of strategies to aid comprehension enables readers to become increasingly cognizant of the importance of purpose setting when reading, and more aware of strategies, which, if employed differentially, increase the reader’s understanding of the text. When comprehension strategies are explained appropriately, it becomes increasingly likely that students will become meta-cognitive and self initiating strategy users (Stahl, 1988).

Similarly, through analysis it was revealed that while the importance of developing knowledge of text structure was stressed, on no occasion were all criteria necessary for its inclusion as a comprehension strategy. For example, while the McDougal Littell (2006) textbooks analyzed did direct readers to use text structure to identify main ideas and to become aware of various text structures, and explained the role of text structure in forming meaning, on no occasion were readers directed to use strategies or introduced to strategies to help them recognize text patterns or forms of discourse inherent in expository text. To use text structure to monitor comprehension,
research findings advise teaching students to recognize different forms of discourse presented in expository text (Downing, Bakken, & Whedon, 2002). A variety of techniques have been developed to help students to identify these implicit structures and facilitate learning from expository text (Armbruster, Anderson, & Ostertag, 1987).

Strategies Not Explicated

In none of the textbooks analyzed were comprehension monitoring, question generation, or inference explicated.

Comprehension Monitoring

Proficient readers actively think about what they are reading and monitor their comprehension. Comprehension monitoring requires students to consistently assess their understanding of textual material while maintaining access to tools/strategies which allow them to facilitate understanding when breakdowns occur. These are known as fix-up strategies. The ability to ask and answer questions is a fundamental part of this process (Neufeld, 2005, p. 308). For example, while reading, students monitor their understanding and continue to self question, “Do I understand this?” and/or “Is what I am reading making sense?” If a breakdown in comprehension should occur, the reader would then be aware of it and would be in position to apply fix-up strategies. Students can also monitor their comprehension by applying any of the additional six strategies presented in this paper. For example, the reader could monitor understanding while reading by using text structure. To accomplish this, the reader would identify the form of discourse presented in the text, such as cause and effect or problem-solution, and then use this structure to help identify main ideas and key information. Or, the reader might employ instructional graphics as a strategy which could guide and maintain
comprehension. While reading, the student would develop a graphic to illustrate the key information presented in the text. To employ this technique as a comprehension monitoring strategy most effectively, it would be necessary for the reader to be aware of the existing range of instructional graphics, and to have had prior experience developing them. The reader would also have had experience employing question generation strategies in order to understand what to ask to identify key information. Although metacognitive theory suggests that comprehension monitoring should be taught to help students independently regulate their comprehension while reading (Taylor and Frye, 1992), the textbooks analyzed in this study did not include this strategy. Table 14 illustrates how comprehension monitoring might have been explicated.
Table 14

Comprehension Monitoring

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension Monitoring</td>
<td>Text directs reader to think about thinking while reading</td>
<td>The text directs the reader to ask, “Is what I just read clear to me?” and “What parts of the text are still fuzzy or unclear?” (Neufeld, 2005).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to become aware of strategies to clarify understanding</td>
<td>The text directs the reader to ask: “What strategies can I use to help me better understand this text?” (Neufeld, 2005). Students can use for example, a text structure strategy to abstract the macrostructure of the text. To achieve this, students are directed to recognize and summarize the problem in each passage, the actions taken by the people to solve the problem, and the results that followed from the action (Armbuster, Anderson, Ostertag, 1987). Students should organize this information in a three box diagram.</td>
</tr>
<tr>
<td></td>
<td>The role of comprehension monitoring in forming meaning is explicited</td>
<td>In the text the following sentence is written: “monitoring comprehension while reading facilitates awareness when understanding breakdowns occur”. The text also provides strategies to “fix up” these breakdowns and explicates the role of that strategy in forming meaning. For example the text states that: “Applying text structure as a comprehension monitoring strategy helps to identify the macrostructure implicit in the text, identify important information, and remember what was read”.</td>
</tr>
</tbody>
</table>
Inference

In each textbook analyzed inference generation was recommended as a comprehension tool, but was coded consistently as an “other strategy” and did not meet the criteria necessary for identification as a comprehension strategy. Table 15 has been included to add definitional clarity to the manner in which inference was coded. What distinguishes inference as a comprehension strategy from an “other strategy” is that inference as a comprehension strategy requires the reader to combine two components; background knowledge and text content. Directing readers to combine background knowledge with text content explicates the manner in which inference is developed.

While none of the textbooks analyzed presented inference as a comprehension strategy, Glencoe, “World History” (2005) student edition did provide students with the “how to” information necessary for them to infer and explained the manner in which students were to infer. In particular, the text directed students to: 1) consider any information you know that relates to this topic; 2) determine how your own knowledge adds to or changes the material; 3) use knowledge and reason to develop conclusions about the facts; and 4) if possible, find specific information that proves or disproves your inference (p. 423).

Although inference as a specific comprehension strategy was not coded, this study found that the inclusion of the directions presented above was significant. Pressley (2002) noted that the manner in which inferential thinking is developed and its importance has not been properly addressed by textbook authors. Consequently, the fact that the Glencoe text provided students with directions regarding the manner in which inference could be developed was important. Unfortunately, none of the text books
analyzed explicated the role of inference in forming meaning and therefore did not meet this study’s criteria for including inference as a comprehension strategy. At the same time, in the vast majority of Glencoe texts analyzed, inference was included as an “other strategy” to support comprehension and for assessment purposes.

Table 15

Comparison of Criteria

<table>
<thead>
<tr>
<th>Inference</th>
<th>Criteria</th>
</tr>
</thead>
</table>
| Comprehension Strategy     | 1. Text directs reader to integrate background knowledge and text information  
                           | 2. The role of inference to expand understanding is explicated             |
| “Other Strategy”           | 1. Text directs reader to become aware of strategies to clarify meaning  
                           | 2. Text directs reader to apply strategies while reading                  
                           | 3. The role of the OS in forming meaning is explicated                    |

While only the Glencoe text provided readers with a learning procedures designed to teach them to infer, all textbooks reviewed repeatedly directed students to produce inferences. This finding is consistent with those presented by Durkin (1981), who noted that students are typically asked to perform comprehension tasks, but receive no instruction regarding the manner which such tasks are to become accomplished.

Pressley (2002) also found that educators continue to lack understanding of the manner in which inferential thinking should be taught. This lack of knowledge might result from the fact that less published literature exists regarding inference than any of the other comprehension strategies investigated. It is possible that the creation of teaching techniques designed to enhance the inferential thinking capabilities of students reading
expository texts must occur before this strategy can become integrated appropriately into content area textbooks.

Although research shows that students can be taught to infer, the investigator identified few inference activities/techniques in the existing literature (Hannon & Daneman, 1998; Richard & Anderson, 2003). One technique which textbook authors might include to develop inferential thought could involve the study of character traits and the construction of charts. To this end, the text would direct the student to produce a three column chart to be completed while reading. In the first column, the reader would be instructed to record a page number. In the second column, specific character traits would be recorded. In the third column, the reader would be instructed to record examples of the trait found in the text. To identify specific traits, the reader would first seek clues regarding the manner in which the character acts. While reading the reader self question and ask: 1) “What does the character say or think?” 2) “What does the character do?” and 3) “How does the character do and say it?” (The Benchmark School, circa 1995). When engaged in this activity readers identify character traits by combining background knowledge with information stated explicitly in the text. By following this prescribed sequence of behaviors the text provides students with the opportunity to monitor their comprehension by producing inferences while concomitantly applying other strategic processes such as self questioning and instructional graphics.

*Question Generation*

Although an important comprehension fostering strategy, none of the textbooks analyzed stressed question generation when attending to the reader’s need to construct or extract meaning on an on-going basis. When generating questions while reading, students
inspect text, identify main ideas, and link information to form questions. These activities involve students in a deep processing of textual material and establish a modality through which learners guide their comprehension before, during, and after reading (Brown, 2002). Students often require instruction to be able to ask appropriate questions while reading in order for them to select relevant information and increase comprehension. When readers know what to ask, comprehension improves. In particular, research findings indicate that signal words and generic questions act as prompts to help students to develop schemas which allow general questions to become formulated while the learner reads independently (Rosenshine, Meister, and Chapman, 1996). Table 16 provides an illustration of the manner in which question generation might have been explicated if it had been included in the textbooks analyzed.
Table 16

**Question Generation**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question Generation</td>
<td>Text directs reader to ask literal and inferential questions to identify main ideas</td>
<td>The text directs the reader to ask “What was the gist of the text? and/or What are the main points made by the author?; and/or What organizational structures did the author use to present the information?” (Neufeld, 2005).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to develop question generation schemas</td>
<td>The text directs the reader to ask the following questions sequentially, once each is answered: “1). Why am I reading this? 2). How is the text organized 3). What do I know about the topic already?” (Neufeld, 2005).</td>
</tr>
<tr>
<td></td>
<td>Text directs reader to use textual prompts to generate questions</td>
<td>“The text directs the teacher to model asking questions by looking at the headings and visuals and forming two questions about the material. As the students read the section have them refer back to these questions” (PH: TE p. 20).</td>
</tr>
<tr>
<td></td>
<td>The role of question generation in forming meaning is explicated</td>
<td>In the text the following sentence is written: “Generating questions helps readers identify important information, understand text, and remember the information they are to learn”</td>
</tr>
</tbody>
</table>
Research Question 2 asked: *Are these strategies used to support student comprehension or for assessment purposes?*

The textbooks analyzed integrated comprehension strategies including activating background knowledge, text structure, summarization, instructional graphics, and “other strategies” to support student comprehension and for assessment purposes. Most often the textbooks included these strategies to support comprehension in both the teacher and student editions reviewed. This study categorized strategies as supporting comprehension when the text encouraged students to utilize a strategy while reading, and/or recommended a process for completing this task. Strategies presented for assessment purposes merely asked students to use the strategy to answer a question. Through analysis the frequency with which textbooks presented strategies to enhance comprehension and for assessment was calculated. The total frequency with which comprehension strategies were explicited to support comprehension development has been presented in Table 10.

*Prentice Hall: History of Our World (2005)*

The Prentice Hall (2005) World History textbooks explicited summarization, text structure, instructional graphics, and “other strategies” to support student comprehension and for assessment purposes. The teacher edition included strategies sixty three percent of time to support comprehension. The student edition presented strategies fifty seven percent of the time for this same purpose. Unlike Durkin’s earlier textbook analysis study (Durkin, 1981), this study determined that the Prentice Hall texts most often presented comprehension strategies to support student comprehension. In fact, the Prentice Hall texts presented comprehension strategies designed to support student comprehension almost twice as often as noted in the past.

The Glenocoe teacher edition text explicated comprehension strategies one hundred five times. In contrast in the student edition comprehension strategies were explicated on only four occasions. Primarily, Glencoe presented strategies in both texts to support student comprehension. Specifically, this series presented strategies sixty two percent of the time to support comprehension in the teacher edition, and seventy five percent of the time in the student edition. However, of the seven comprehension strategies investigated, Glencoe only stressed instructional graphics, and then only in the teacher edition.

McDougal Littell, World History (2006)

In total, the McDougal Littell, World History text explicated comprehension strategies ninety eight times in the teacher edition and forty times in the student edition. The teacher edition presented comprehension strategies to support comprehension ninety six percent of the time. Within the student edition only instructional graphics was included and it was presented to support comprehension ninety percent of the time.

Research Question 3 asked: Are elements of the direct explanation method included in the teacher editions reviewed?

Three elements are critical to meet the definition of direct explanation. They include: 1) readers are introduced to strategies and their utility is explicated; 2) knowledge of comprehension strategies is connected to the readers’ background knowledge; 3) and text processing behavior and “how to information” are modeled for readers. The teacher editions reviewed included two of these three elements. In two of the three series, the text directed the teacher to introduce and explicate the utility of strategies. These textbooks also directed teachers to model text processing behaviors and
“how to” information to employ “other strategies”. However, these texts never directed teachers to connect students’ knowledge. Therefore, through analysis it was determined that none of the textbooks explicated direct explanation. Table 17 presents the frequency with which each teacher edition presented any criteria for direct explanation.

Table 17
Frequency that Textbooks Explicated Elements of Direct Explanation

<table>
<thead>
<tr>
<th>Criteria for Direct Explanation</th>
<th>Prentice Hall</th>
<th>Glencoe</th>
<th>McDougal Littell</th>
</tr>
</thead>
<tbody>
<tr>
<td>The text directs the teacher to introduce strategies and explicate the utility of strategy use</td>
<td>19</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>The text directs the teacher to connect knowledge of strategies to students’ background knowledge</td>
<td>41</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

*Prentice Hall: History of Our World (2005)*

The Prentice Hall textbooks analyzed included multiple instances of teacher modeling and scaffolding of comprehension processes. These texts directed teachers to introduce, explicate the use of, and model reading actively, and to formulate predictions, and to compare and contrast various ideas and concepts. In particular the textbooks included two elements critical to direct explanation. First, the texts directed teachers to introduce strategies and explicate their utility and to model text processing behavior and “how to” information for students. For example:
“Tell students that reading actively helps readers retain knowledge and become better readers. One way of actively reading is to preview and think about the text before reading” (PH:TE p. 4b).

The Prentice Hall (2006) teacher edition also directed teachers to model this skill (active reading).

“Model this skill by thinking about the chapter aloud: This chapter title is..., and I will be learning about...The first section is called...I wonder what the relationship between the... and ...is. I’ll read the section to find out. The second section is called...What does...mean exactly? It includes..., which is the subject of the course. I predict that in this section, I’ll find out what...means. The third section is called...I have heard the word...before, and I know it relates to...How did...begin? I’ll read this section to find out” (PH:TE p. 4b).

Unfortunately these texts never directed teachers to connect students’ knowledge or strategies to their background knowledge which remains a critical component of direct explanation.

*Glencoe: World History (2005)*

The Glencoe World History (2005) textbooks did not include any elements of direct explanation.

*McDougal Littell, World History (2006)*

The McDougal Littell World History (2006) textbook never met all of the criteria for direct explanation. However the teacher edition did include two of the three elements of direct explanation, but on only four occasions. The text directed teachers to introduce strategies, to explicate the utility of strategy use, and to model text processing behaviors and “how to” information. As was the case with the Prentice Hall (2005) and Glencoe (2005) world history teacher edition textbooks analyzed, the McDougal Littell teacher edition never directed teachers to connect students’ understanding of strategies to their background knowledge, a connection which allows the reader to construct meaning most effectively.
Conclusion

This study yielded several key findings. First, all of the textbooks selected for study introduced comprehension strategies. However, strategies included varied across textbooks analyzed. Second, the results indicate that textbooks typically presented these strategies to support comprehension. Third, it was determined that while elements of direct explanation were present in teacher editions studied, the textbooks did not present them in a manner which allowed them to be appropriately explicated.
CHAPTER 5

DISCUSSION

While the benefits of explicit instruction of comprehension strategies have been accepted for some time by members of the reading research community, this study was undertaken to determine whether these strategies and the instructional model formulated by Duffy and his colleagues (Duffy et al., 1986; Duffy & Roehler, 1987) were included in materials students and teachers commonly employ. Durkin (1981) found that a significant correlation existed between the manner in which teachers presented lessons in their classrooms and the directions and suggestions provided to them in manuals of the textbooks that guided their efforts. However, at the present time data does not exist regarding the extent to which comprehension strategies and explicit teaching methods have been incorporated into middle school content area texts. This lack of data was not surprising since research in content area literacy/adolescent literacy education has seldom addressed the issue of comprehension strategies, despite a growing understanding of their importance (Conley, in press p.2). Also, no published measurement tools existed before this study was undertaken which could identify the presence of comprehension strategies or direct explanation in content area texts.

Literature Review

Explicit Instruction

During the past 25 years reading researchers have investigated the impact of explicit instruction of comprehension strategies on the development of comprehension skills. Based on these research findings, explicit methods have been developed to teach students who struggle to comprehend to independently and actively construct meaning
(Berman and Schuder, 1992-1993; Brown, Pressley, VanMeter, & Schuder, 1996; Duffy, Roehler, Meloth, Varus, Putnam, & Wesselman, 1986; Markman, 1985; Pearson & Dole, 1987). The development of these methods grew out of the awareness that students often require direct attention in order to enhance comprehension skills. Through the process of explicit instruction, a form of meta-cognitive control, students become able to guide their thinking when reading while employing specific comprehension strategies independently and in a differentiated manner.

While reading researchers continue to refine explicit instruction, and while explicit instruction continues to evolve, instructional practices developed by earlier researchers continue to be emphasized in its most current model. Explanation, modeling, guided practice, strategy application, and independent practice remain its key instructional features. The active roles of the reader and teacher in the learning process also remain essential components of the model. Figure 1 illustrates the history of this model.
Figure 1

Evolution of Explicit Instruction

P. David Pearson and his colleagues initially presented the term explicit instruction to describe a particular method of comprehension instruction. Since its introduction, explicit instruction evolved as research and theory informed this topic. Consequently, explicit instruction is understood differently today than when the term emerged in the 1980’s. Reading researchers originally developed explicit instruction as a means to enhance student reading comprehension (Pearson, 1984; Pearson, 1987). Initially, these researchers believed that the goals of explicit instruction would be...
achieved if greater class time was devoted to comprehension skill development and if comprehension instruction was presented in a broader range of teaching contexts.

Research studies conducted during the 1980’s determined that explicit instruction as initially conceived lacked the depth and breadth necessary for comprehension development to be most effectively increased (Duffy and Roehler, 1984). During this same period, data revealed that the more explicit an instructional cue, the more likely it was that students would infer a teacher’s intended instructional goal. Studies also revealed that comprehension improved when teachers modeled appropriate behaviors while discussing directly and overtly the internal thought processes they engaged in when attempting to construct meaning. The development of current explicit instruction methodologies that apply direct explanation resulted from these findings (Duffy et. al, 1986).

During direct explanation, teachers provide strategy instruction through the modeling of their own strategic thinking. Teachers participate in think alouds and provide students with verbal descriptions of the thought processes they engage in. These meta-cognitive explanations guide students to develop and internalize comprehension strategies. Research findings suggest that during explicit instruction students learn best when a collaborative form of explanation regarding strategy use and application is employed. By incorporating Vygotsky’s notion of the Zone of Proximal Development (Vygotsky, 1987), scaffolded instruction became a central figure of direct explanation. Reading literature recognizes direct explanation as a method which effectively develops students’ reading comprehension abilities (NRP, 2000), and is, in fact, the instructional method utilized during transactional strategies instruction.
Transactional strategies instruction, a holistic research based model of explicit instruction, was developed during the early 1990’s, grew out of earlier explicit comprehension instruction research findings, and continues to be most similar to the direct explanation model of comprehension development. Contributing significantly to the theoretical foundation of transactional strategies instruction are findings from research studies conducted during the 1980’s which analyzed the relationships between skilled reading and strategy use (Meyer, Brandt, & Bluth, 1980; Moore & Readence, 1984; Wong, 1982), and findings from studies designed to investigate the effects of direct explanation and the modeling of small repertoires of strategies on comprehension effectiveness (Duffy et al., 1986; Palincsar, 1987; Palincsar & Brown, 1989).

Through transactional strategy instruction (TSI) the student’s aesthetic (interpretative) and efferent (information gathering) abilities undergo development and enhancement (Rosenblatt, 1978). In addition, during transactional strategy instruction, instructors stress the development of inferential thinking skills. Through collaboration with peers, students are encouraged to build meaning together in a manner suggested by Vygotsky (1978), first on a social level and in a manner which contributes to the development of a learning community. Research findings suggested that this joint construction of meaning is essential since learning and understanding developed in a group context differ significantly from the interpretations students generate individually as they read and learn (Brown et. al, 1996). Although group members are not explicitly assigned to tutor less capable peers, TSI classrooms emphasize the role of the “expert”. While teachers continue to assume primary responsibility for instruction, modeling and
scaffolding are provided by both the teacher and other students during instructional periods.

Data generated during the past three decades validates the efficacy of explicit instruction (Gaskins, 2005). Even as the concept of explicit instruction has undergone change over time, what has remained as a defining goal of this methodology has been the need to develop each student’s ability to become a self initiating thinker and learner. Explicit instruction assists students to accomplish four broad tasks: (1) to construct meaning; (2) to monitor understanding; (3) to develop and retain concepts; and (4) to gain control of tasks, person, strategy, and environmental variables (Gaskins and Elliott, 1991, page 28). By employing explicit instruction methodologies, students are taught to become cognizant of the importance of developing purposes for reading and to become aware of their need to employ strategies differentially in order to appropriately understand the text (Stahl, 1998).

Explicitly teaching students to use comprehension strategies assists them to achieve these objectives and enables them to become proficient and self regulated strategy users. Current research indicates that students taught to employ comprehension strategies become better able and more inclined to learn from text (Bergman & Schuder, 1992-1993; Pressley et al., 1992; Pressley et al., 1996). Recent findings also suggest that a relatively narrow set of strategies which, if appropriated and employed efficiently, enhance the students’ understanding of expository text (NRP, 2000; Snow, Sweet, Alvermann, Kamil, & Strickland, 2002).
Comprehension Strategies

This study identified seven key strategies in the literature to enhance students’ understanding of expository text (NRP, 2000; Presley, 2000; Snow et al., 2002). These strategies included: comprehension monitoring (Massey, 2003; Pressley; Goodchild, Fleet, Zajchowski, & Evans, 1989; Taylor and Frye, 1992); activating background knowledge (Afflerbach, 1999; Brown, 2002; Pearson, Hansen & Gordon, 1979); the use of text structure (Armbruster, Anderson, & Ostertag, 1987; Ciardielo, 2002; McGee & Richgels, 1992); question generation (Lubliner, 2004; Rosenshine, Meister & Chapman, 1996; Singer and Donlan, 1982); summarization (Dole, Duffy, Roehler, & Pearson, 1991; Kintsch & Van Kijk, 1978; Friend, 2001); instructional graphics (Armbruster, Anderson, & Meyer, 1991; Bean, Singer, Sorter, & Frazee, 1986; Robinson, 1998); and inference (Dewitz, Carr, & Patberg, 1987; McGee & Johnson, 2003; Van den Broek, Tzeng, Risden, Trabasso, & Basche, 2001). This study presented the term strategy to identify techniques and accompanying processes which efficient learners engage in while attempting to meet comprehension demands (Afflerbach, in press; Duffy, 2002).

The examiner developed operational definitions for each of the seven strategies selected for study. Each definition: 1) identified learning processes necessary for the internalization of new information and for the development of higher level thinking skills; 2) emphasized the need for readers to be provided with opportunities to employ specific strategic thinking processes; and 3) explicated the contribution of the particular strategies to the construction of meaning.

For example, the operational definition developed for summarization states that:

“Findings illustrate that summarization requires the implementation of a family of strategies (Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989). To summarize, readers must sift through units of text to identify important information and then..."
synthesize ideas into succinct representations of the original text. Students often require information to complete this task explicated, in order to effectively design summarization plans of their own (Brown, Campione, Day, 1981). Strategies designed to allow for the production of appropriate summaries can be taught to help students enhance comprehension and then to become more active participants in the learning process (Friend, 2001). For example, the reader might be introduced to macrorules to identify important information and to cues which allow him/her to identify important text based information. Readers become able to 1) sift through units of text to differentiate important from unimportant ideas, to omit repetitious ideas, to substitute a superordinate term from a list of items; to substitute a superordinate term for components of an action, and/or to identify a topic sentence or create one when necessary; 2) to apply a macrostructure to synthesize ideas and use superordinate categories to group similar concepts; and 3) to create a new coherent text that is representative of the original and that conveys the main points concisely.

For purposes of clarity, the examiner selected the term “explicate” rather than the term ”explain” for inclusion in this study. The operational definition for explicated is “to make apparent to the reader”. The term, explain has typically been employed to mean “to define, expand, or make plain”. Each of these terms are qualitatively different in that explicate reflects most accurately the intended purpose of strategy instruction.

Content Area Textbooks

Connecting comprehension strategy instruction to student’s content area knowledge allows him/her to develop increased awareness of content by deliberately employing strategies designed to improve comprehension. Content area reading provides an important context within which instructional techniques can be employed to increase the reading and learning abilities of students who deal with expository texts. Within content area classrooms, students encounter numerous opportunities to develop their text processing abilities. Textbooks are the most commonly used learning tool in content area classrooms (Campbell and Knight, 1991; Crawford & Carnine; 2000; Kinder, Bursuck, & Epstein, 1992) and provide an excellent and relatively unexplored context for developing comprehension abilities of students in the upper grades.
Reading researchers have determined that when techniques which foster reading development are integrated into content area textbooks, students not only develop content knowledge, but also enhance existing reading skills (Armbruster, 1985; Crawford & Carnine, 2000; Wineberg, 2001). Social studies publishers too have begun to recognize the important role that these materials play in enhancing student’s reading comprehension abilities. They have begun to consult with literacy specialists to develop texts designed to enhance content knowledge and reading skill development (McDougal Littell, 2002; Prentice Hall, 2005). Consequently, a number of content area textbooks now provide students in the upper grades with much needed reading support through their incorporation of reading instruction principles. These publishers have taken an important step to assist older students to become better readers and more independent learners.

**Purpose**

This study was undertaken to determine whether three widely adopted eighth grade social study textbooks explicated comprehension strategies. Social studies is a content area in which the need to read is great and, therefore, it provided an ideal context to investigate the links between comprehension development and learning of subject matter knowledge. This study asked three distinct research based questions: 1) Do the three textbooks explicate comprehension strategies? 2) Are the strategies presented designed to enhance comprehension or to assess student content knowledge? And, 3) Do the textbooks incorporate elements of direct explanation (Duffy, 2002) when explicating comprehension strategies? Strategies investigated included comprehension monitoring, activating background knowledge, summarization, text structure, question generation, instructional graphics, and inference.
Methods

This examiner conducted a content analysis to determine whether three widely adopted, eighth grade social studies textbooks and their respective teacher editions explicated comprehension strategies. The examiner also reviewed corresponding teacher editions to determine if these texts recommended strategy use and whether they encouraged teachers to engage in direct explanation (Duffy, 2002). This study employed descriptive methods grounded in qualitative theory found to be appropriate for data collection and analysis (Preissle-Goetz and LeCompte, 1991). These methods enabled the researcher to determine with appropriate scientific certainty whether the textbooks explicated the specific strategies selected for study and whether the texts presented direct explanation.

Sample

Since content area textbooks remain central to learning in the upper grades (Sosniak and Perlman, 1990; Wade & Moje, 2000), this study selected three eighth grade world history social study texts and corresponding teacher editions for analysis. Social studies textbooks were selected for study since they demand intensive reading in order for learning to occur. The primary researcher established three criteria for text selection: 1) each was required to possess a current copyright date; 2) texts were to be produced by leading publishers; and 3) texts were to be widely adopted. This study based the first two criteria for textbook inclusion on those employed by Durkin (1981). Also, no text could be included for study if it had been copyrighted more than five years before this study was undertaken. Ultimately, this study selected eighth grade history textbooks published by Prentice Hall (History of Our World, 2005), Glencoe (World History, 2005),
and McDougal Littell (*World History Ancient Civilizations*, 2006) for evaluation. During this study passages selected from each text were sampled systematically. To achieve a balanced sample, every third chapter of the texts selected underwent analysis. In all, forty eight chapters selected from student editions along with corresponding chapters available in respective teacher editions were studied.

*Data Collection*

During a one year period this examiner conducted a descriptive content analysis of textbooks and corresponding teacher editions. The examiner read every third chapter of each social studies text and relevant pages of each teacher editions for the purpose of identifying and recording recommendations for the implementation of any of the seven key strategies selected for study. During an initial reading of each text, the examiner identified and recorded the presence of information that did not meet criteria for inclusion in this particular study but had been found by other researches to strengthen the reader’s comprehension abilities. The researcher also recorded the manner in which textbooks guided students to employ each strategy. In this manner it was determined whether the textbooks presented the seven strategies in a way which enhanced comprehension or for assessment purposes. Textbooks that presented strategies and encouraged students to employ techniques while reading and recommended a process for completing a particular task met the criteria for supporting comprehension. The examiner also recorded explicit recommendations that instructed teachers to develop comprehension of text content to determine whether the textbooks employed direct explanation. The examiner recorded all collected data on a prepared rating tool (See Appendix B) and also recorded detailed field notes during data collection to provide for fuller descriptions and discussions of relevant
information. The examiner found no published measurement tools before this study was undertaken which identified the presence of comprehension strategies or direct explanation. In essence, the rating tool developed and employed in this study was unique.

Once the examiner completed data collection for each textbook series, the researcher sorted and grouped all data. The researcher did this to identify the presence of strategies embedded in the text, to produce counts of key categories, and to note the manner in which strategy use was represented.

Reliability

Before undertaking this study, the researcher carried out an unpublished pilot study to determine if the coding system successfully identified information sought. To achieve inter-coder reliability, a second and third examiner participated and compared their results with those of the primary researcher. This process established that more than one individual could employ the coding scheme accurately as a measurement tool.

All coders involved in the current study underwent intensive training during a one month period. During that time instruction in the manner in which they were to employ the rubric while collecting data was provided. The primary researcher led discussions concerning the operational definitions of the seven strategies selected for study and elements of direct explanation. All examiners collaboratively coded sample sections in order to develop understanding of the methodology employed. Once satisfactory inter-coder reliability had been attained each examiner selected a subsection of each text consisting of four chapters and replicated data collection procedures to identify strategies and to record the repertoire of actions recommended. Examiners two and three also
reviewed teacher editions and recorded recommendations for teaching comprehension skill development embedded in these texts. The process of text evaluation employed by coders two and three was identical to that employed by the primary examiner and ninety percent inter-rater agreement was achieved.

Once data collection began, all participants met on a monthly basis to maintain inter-coder reliability. A random numbers table was created and used to select codes to be discussed and to be processed by the group. To attain agreement, each coder examined a segment of a text, recorded ten codes, and achieved at least 90 percent agreement with one other coder regarding the analysis undertaken. All coders discussed discrepancies extensively until participants reached agreement. Roughly 100 codes were analyzed per session during a twelve month period of data collection. Analysis revealed the presence of an inter-coder reliability coefficient of ninety eight percent.

Validity

The design of the rubric and the manner in which this study employed it allowed for internal and external validity to be assured. This study recorded data on a prepared measurement tool based on criteria developed from research based definitions. A thorough literature review revealed that strategies selected for analysis when employed appropriately, significantly and positively affected the reader’s ability to comprehend expository material. This study selected textbooks for analysis which provided for greater external validity and those which also allowed findings to be generalized readily. The study achieved construct validity since theory conceptually framed the investigation, and the measurement device developed faithfully represented explicit comprehension strategy instruction.
Results

Several key findings resulted from the analysis of the data attained. This study determined that the materials selected for study introduced several comprehension strategies. Comprehension strategies explicated included activating background knowledge, summarization, text structure, instructional graphics, and “other strategies”. However, the textbooks failed to include comprehension monitoring, question generation, and inference. Strategies varied across the textbooks analyzed, except for instructional graphics and “other strategies,” which were explicated in each textbooks series. “Other strategies” included making inferences, paraphrasing, previewing, re-reading/reading ahead, setting a purpose, reading and saying something, KWL, using possible sentences, knowledge rating, summarizing, and using context clues. The frequency with which textbooks explicated comprehension strategies varied among the textbook series studied.

Analysis of the manner in which the textbooks presented the specific strategies yielded a second key finding. Typically the Prentice Hall (2005) and McDougal Littell (2006) world history texts presented comprehension strategies to support comprehension. Similarly, these texts most often included “other strategies” to support comprehension in both teacher and student editions reviewed. This finding was found to be significant since it suggested that progress has been made since Durkin’s (1981) study, in which she reported that greater attention was directed by text authors and publishers to assessment rather than to instruction.

Finally, data analysis revealed that while the teacher editions did include elements of direct explanation, textbooks did not present them in a manner which allowed them to
meet this study’s criteria satisfactorily. Therefore this study concluded that the textbooks
did not incorporate direct explanation into instruction.


Through analysis of the Prentice Hall student and teacher editions it became
apparent that this publisher had begun to identify the utility of comprehension strategies.
The authors of this series did seem to try to “provide students with skills instruction,
practice, and applications opportunities” as they promised (Prentice Hall Student Edition,
2005 p. 18). Comprehension strategies explicates included summarization, text structure,
instructional graphics, and “other strategies”. “Other strategies” explicates in this series
included paraphrasing, previewing, re-reading/reading ahead, setting a purpose, and using
context clues. Within this series comprehension strategies were included to support
student comprehension and for assessment purposes. Unlike Durkin’s earlier textbook
analysis study (Durkin, 1981) the Prentice Hall textbooks most frequently presented
strategies to support student comprehension. In fact, this series included comprehension
strategies designed to support student comprehension almost twice as often as noted in
the past. Comprehension strategies explicates to assess students’ content knowledge,
were most often were presented in question form at the end of a section or chapter.


textbooks revealed that these texts were not deeply rooted in an explicit comprehension
strategy perspective. Of the seven strategies investigated, only instructional graphics was
explicated, and then only in the teacher edition. The student edition did not include key
criteria to qualify instructional graphics as a comprehension strategy although readers
were directed repeatedly to develop instructional graphics to enhance comprehension and to assess content knowledge. This finding supported Durkin’s (1981) early claim that students continue to be asked to perform comprehension tasks but receives little or no instruction regarding the manner in which comprehension skill development might become improved.

Current findings were found to be surprising in light of the information presented in the first few pages of the student and teacher editions studied. Information provided in these pages stressed the importance of the development of reading comprehension skills. For example, the student edition included the following information:

“When you read this textbook, you are reading for information, but you are also gaining insights into the world around you, the how and why of events that have happened. History is non fiction writing—it describes real life events, people, ideas, and places. Here is a menu of reading strategies that will help you become a better textbook reader. As you come to passages in your textbook that you do not understand, refer to these reading strategies for help (Glencoe Student Edition 2005, p.xxx).

While the seven comprehension strategies investigated in this study if taught properly have been found enhance the student’s ability to develop understanding of expository material (Singer and Dolan, 1994), and while they continue to be recommended by leading researchers (NRP, 2002), the Glencoe textbooks did not acknowledge their importance or appropriateness in either student or teacher editions. While these texts did acknowledge the importance of choosing the “right strategies” such as drawing information from background knowledge, identifying sequences, questioning, inferring, understanding text structure, and comparing and contrasting, the seven research based comprehension strategies selected for analysis in this study were not explicated.

*McDougal Littell: World History (2006)*
Within this series two comprehension strategies were explicated. These included instructional graphics explicated in both the teacher and student editions and activating background knowledge which was explicated only in the teacher edition. An example of the manner in which instructional graphics was explicated has been presented in Table 18. Making predictions and knowledge rating were two “other strategies” identified in this textbook series. In both editions the text presented strategies at least ninety percent of the time to support student comprehension.
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Graphics</td>
<td>The text directs reader to become aware of features of instructional graphics</td>
<td>“Making a timeline is a good way to understand material that includes a lot of dates. Events are placed on a time line in the order that they happened. When events are in the proper order, you can see the relationships among them” (ML: SE p. 340).</td>
</tr>
<tr>
<td></td>
<td>The text directs reader to follow procedures associated with instructional graphic construction</td>
<td>“Look for clue words about time as you read the passage. These are words such as first, next, then, before, after, finally, and by that time. Use specific dates provided in the text. Look for phrases that link two events together to help you find an exact date. Use a timeline like the one below to help you put the events in a passage in the right order. Look for the earliest date to know how to mark the beginning of the timeline and latest to mark the end of the timeline” (ML: SE p. 340).</td>
</tr>
<tr>
<td></td>
<td>The text directs reader to develop instructional graphics</td>
<td>“To put events in sequence means to put them in order based on the time they happened. As you read Lesson 2, make a note of things that happened in the kingdoms of Israel and Judah. Use a time line like this one to put events in order” (ML: SE p. 340).</td>
</tr>
<tr>
<td></td>
<td>The role of instructional graphics in forming meaning is explicated</td>
<td>“Making a timeline is a good way to understand material that includes a lot of dates. Events are placed on a time line in the order that they happened. When events are in proper order you can see the relationships among them” (ML: SE p. 340).</td>
</tr>
</tbody>
</table>
**Direct Explanation**

This study was also designed to determine whether three textbooks analyzed incorporated elements of direct explanation when explicating comprehension strategies. Textbooks that make apparent the ways direct explanation is applied place teachers in better positions to assist students to control their comprehension by providing clear information and active modeling of strategies regarding the manner in which they influence understanding. The analysis of the three textbooks involved in this study revealed that the Prentice Hall and McDougal Littell teacher editions included elements of the direct explanation method, but the Glencoe *World History* (2005) text did not.

The Prentice Hall teacher edition text expanded the teachers’ role well beyond simply explaining content and providing a vocabulary review. Unlike Kragler, Walker and Martin’s (2005) findings, this study identified multiple instances of teacher modeling and scaffolding of comprehension processes in the Prentice Hall teacher edition. In particular this text directed teachers to introduce, explicate the use of, and model reading actively, to formulate predictions, and to compare and contrast various ideas and concepts. Unfortunately this series did not direct teachers to connect students’ knowledge of strategies to their background knowledge which remains a critical component of direct explanation. Although the Prentice Hall teacher edition claimed to “support the teaching of each skill by providing full modeling in each lesson” (p.18), this textbook did not provide full modeling according to direct explanation criteria. Had the text explicated full modeling, the textbooks would have urged teachers to connect
students’ knowledge of strategies to their background knowledge, and the criteria would have been met.

Although the Glencoe teacher edition stressed the importance of supporting comprehension strategy instruction, this text did not explicate explicit instruction of selected strategies. This finding was surprising in lieu of the information provided. In particular, the teacher edition included the following information:

“Why Should I Teach Reading To My Social Studies Students? For many social studies teachers, helping students develop reading skills is a low priority-nice to do if there’s time, but not necessary. After all, there is scarcely time to meet many of the state mandated subject-area learning objectives. Why add reading instruction to the list? The answer is that reading skills are essential to the learning of subjects. In the social studies, students must read to learn. Struggling readers risk learning less than those who are proficient in reading. Teachers who infuse literacy strategies with social studies content actively engage students in learning. Once students internalize reading strategies such as visualizing, predicting, and making connections, they inevitably become better social studies students” (Glencoe Teacher Edition, 2005 p. RH).

Within the teacher edition information was also presented regarding Project CRISS (Creating Independence through Student-Owned Strategies) and the importance of teacher modeling and reciprocal teaching was noted. The following information was provided:

“Teachers may find it effective to implement some of the following instructional methods. They help struggling students take increasing ownership of the reading process. For example, by using Reciprocal Teaching or modeling. As a part of the modeling process, think aloud as you apply a strategy to solve a reading problem, putting words to the inner voice that successful readers have with text and demonstrating the strategy used for understanding. To construct a “think-aloud”, read aloud a passage, stopping at pertinent points to talk about what you are thinking. A think aloud demonstrates the cognitive process and allows students to observe how a proficient reader approaches a problem with reading (Glencoe Teacher Edition, 2005 p.T 43)
The examiner found the inclusion of these terms significant since reciprocal teaching is grounded in explicit instruction of comprehension strategies, and this comprehension monitoring strategy emphasizes direct explanation as a complimentary instructional approach (Brown and Palincsar, 1989). At the same time, it was quite surprising that the Glencoe *World History* (2005) teacher edition analyzed included no elements of direct explanation.

Data analysis revealed that the McDougal Littell (2006) *World History* teacher edition studied included two elements of direct explanation. As was the case with the Prentice Hall (2005) teacher edition analyzed, the McDougal Littell text directed teachers to introduce strategies, to explicate the utility of strategy use, and to model text processing behaviors. Unfortunately, on no occasion did any of the textbooks analyzed direct teachers to connect students’ knowledge of strategies to their background knowledge. Consequently, this study determined that none of the textbooks analyzed incorporated direct explanation.

While none of the textbooks directed teachers to apply direct explanation, Table 19 illustrates the manner in which direct explanation of the comprehension strategy activating background knowledge might be explicated for teachers.
Table 19

Direct Explanation of Activating Background Knowledge

<table>
<thead>
<tr>
<th>Direct Explanation</th>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text directs teacher to introduce strategies and explicate the utility of strategy use</td>
<td>“Good readers use their existing knowledge to interpret, construct, and monitor meaning while reading. Comprehension improves when readers actively seek to link text content with their background knowledge. Strategies to activate background knowledge can be taught to help readers comprehend better and become more active participants in the learning process”</td>
<td></td>
</tr>
<tr>
<td>Text directs teacher to connect knowledge of strategies to students’ background knowledge</td>
<td>“Developing the ability to activate and use background knowledge is one strategy to improve metacognitive control while reading. What are the three types of connections you can make while reading to activate your background knowledge and support your comprehension of the text? For example, you can make text to text, text to self, or text to world connections. How would using this strategy help you during other reading activities?”</td>
<td></td>
</tr>
<tr>
<td>Text directs teacher to model text processing behaviors and “how to” information</td>
<td>“I will read the next section of text out loud, stopping periodically to model my thinking as I activate and use my background knowledge to support comprehension. While thinking aloud I will model making text to text, text to self, and text to world connections. This think aloud should explicate how background knowledge is activated and how it influences my understanding of the content. (The teacher then engages in the think aloud.) Students should then read a paragraph of text while applying this strategy. Encourage students to model for classmates how they activated and used background knowledge, thinking aloud to make their internal thinking overt”</td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

The analysis of the three textbooks and teacher editions selected for this study yielded inconsistent findings. However, this study found that certain commonalities existed among the material analyzed. For example, each of the three textbooks investigated did explicate comprehension strategies, and they presented strategies primarily to support comprehension. In particular, the textbooks encouraged activating background knowledge, summarization, text structure, instructional graphics, and the use of “other strategies”. However, strategies suggested for use varied across the textbooks analyzed.

Among its important findings, this study determined that certain textbook publishers have begun to understand the importance of comprehension strategies and their relationship to the enhancement of concept formation and learning. This finding was found to be remarkable in light of the fact that little evidence was available which indicated that textbooks publishers or authors were particularly interested in, or aware of their ability affect positively the development of literacy skills, and particularly the comprehension abilities of their students (Conley, in press).

The analysis undertaken determined that Prentice Hall had committed to assisting students to gain content knowledge while concomitantly developing reading skills. An analysis of student and teacher edition textbooks revealed that students using Prentice Hall materials were provided with reading comprehension instruction, practice, and application opportunities regarding their use of comprehension strategies. This series explicated three comprehension strategies in addition to several “other strategies”.

Frequent presentation of these research based strategies in the textbook set the series apart from the others.

At the same time, data analysis indicated that the other publishers appeared less aware of the importance and utility of comprehension strategy instruction and failed to readily incorporate the seven key strategies at the focus of this study into their materials. For example, it was revealed that of the seven strategies investigated only instructional graphics met criteria for identification, and only in the teacher edition text of the Glencoe, *World History* (2005) textbook. Similarly, the McDougal Littell texts selected for study explicated instructional graphics and activating background knowledge, but only stressed the importance of activating background knowledge in the teacher edition.

The results of this investigation also revealed that the textbooks analyzed did include elements of direct explanation in the teacher editions. This finding was encouraging. In particular, two of the three teacher edition textbooks analyzed incorporated two elements of direct explanation. The Prentice Hall and McDougal Littell teacher edition texts introduced strategies, explicated the utility of strategy use, and directed teachers to model text processing behaviors and “how to” information. However, they failed to direct teachers to connect students’ knowledge of the strategies to their background knowledge. This omission was found to be quite unfortunate since research has shown that direct explanation most effectively fosters comprehension development when teachers direct students to connect their knowledge of strategy use to information existing in their experiential backgrounds. Therefore, while data analysis revealed the presence of elements of direct explanation, this study did not find direct explanation as discussed in the literature (Duffy 2002) to be integrated adequately into
the textbooks analyzed. Reading research findings indicate that when direct explanation has been taught and stressed, students become able to enhance significantly their understanding of comprehension strategies and markedly improve in their ability to construct meaning effectively and on an on-going basis as they read. Despite these findings, the results of this study reflect the fact that little has been done even at this point in time by the publishers and authors of the textbooks analyzed to apply reading research findings when producing their works.

The fact that the textbooks analyzed in this study did not explicate direct explanation could have resulted at least to some degree from the presence of semantic confusion surrounding this term itself. Even though direct instruction and explicit instruction differ on conceptual and practical levels, these terms are often used interchangeably. In addition, an accepted history illustrating the evolution of explicit instruction and its theoretical underpinnings has yet to be published. Finally, reading researchers continue to tend to omit research citations which connect their specific efforts with other published literature. This omission limits the degree to which the efficacy of explicit instruction might become disseminated.

Implications for Research

As indicated above, a major factor limiting greater understanding of the importance of explicit instruction and the manner in which it could be explicated by classroom teachers, teacher educators, and textbook publishers results from the fact that terms rooted in conflicting methodologies continue to be employed synonymously when discussing this approach. In particular, the popular but typically inappropriate use of the term direct instruction continues to affect negatively the development of a broad based
understanding of explicit instruction. For example, Dymock (2005) noted that; “students require direct instruction in order to understand how to comprehend expository text structure”. In the same paragraph this author indicated that “explicit teaching of text structural awareness has a positive affect on comprehension” (Dymock, 2005). Direct instruction and explicit instruction connote different instructional practices and the interchangeable use of these terms causes much confusion. When Pressley et al., (1998) wrote that “we were struck by an almost complete absence of direct instruction regarding comprehension strategies” direct instruction was identified as the instructional method investigated. However, the work of Pressley and his colleagues is unquestionably rooted in an explicit instruction framework. Therefore, to have presented his thoughts more clearly and accurately Pressley might have written, “we were struck by an almost complete absence of explicit instruction”. Authors who interchangeably employ these terms negatively affect the development of greater awareness and understanding of the explicit instruction methodology. The term, explicit instruction, was coined by Pearson and his colleagues (Markman, 1985; Pearson & Dole, 1987) to differentiate this form of instruction from other direct models and to describe a more effective and research based approach to comprehension enhancement than those currently available. It is essential that steps be taken to formally define the process of explicit instruction at this time. As indicated above, no uniformly accepted definition of this methodology currently exists. To this end, this investigator has provided in Figure 1, a graphic entitled “The Evolution of Explicit Instruction”.

It is also important for investigators employing the term explicit instruction to provide citations which would allow other researchers to understand the manner in which
this methodology was employed and its effectiveness. The absence of such citations in the literature creates an incomplete view regarding the theoretical roots of this term. As indicated above, a significant lack of clarity continues to exist in literature regarding explicit instruction and the lack of an internally consistent definition of this topic continues to allow it to become confused with other direct teaching methods. For example, Purcell-Gates, Duke, and Martineau (2007) recently examined the roles of authentic experiences and explicit teaching on the students’ ability to read and write genre-specific texts effectively. Their operational definition of explicit instruction in genre figures follows:

“Our conceptualization of explicit teaching of genre features involves naming, describing, and explaining the function of genres and genre features, in this case science informational and science procedural genres. We considered modeling the use of genre features as explicit teaching if that modeling was accompanied by verbalization or thinking aloud. Underlying this conceptualization of explicit is the occurrence of talking or saying (Purcell-Gates, Duke, & Martineau, 2007, p. 15)”.

Based upon existing information, the conceptualization of explicit instruction presented by these researchers appears quite inadequate. These authors failed to provide references which would have allowed one to link their view of explicit instruction to that presented in the existing literature. This omission caused them to present an incomplete view of this methodology and the manner in which it was conceptualized by its developers. Additionally, the authors did not mention direct explanation in the article although they did include in their definition defining elements of this method (e.g., thinking aloud). At the same time, it is possible that Purcell-Gates et, al. might have omitted certain citations purposively since direct explanation was not, in fact, the methodology discussed. As described by Duffy, (2002) and Duffy, (1986) the point of direct explanation “is to make visible the essentially invisible mental processing involved
Genre features are not strategies and it can be argued that they do not call for mental processing in a manner essential for typical strategy use. However, should mental modeling be engaged in during the teaching of genre features, it would appear that direct explanation could enhance concept development even in this case.

The omission of appropriate citations in the literature regarding direct explanation also slows markedly the development of greater understanding of this methodology. Although direct explanation is an effective method (NRP, 2000), and while it remains a defining element of explicit instruction in its most current form, this term is often omitted from discussions regarding explicit instruction. Blair, Rupley, and Nichlos, (2007) noted that even when explicit methods have been used to enhance comprehension skill development they have most often not been linked to the direct explanation model. This lack of linkage was clearly evident in work produced by Bishop, Reyes, and Pflaum (2006). While discussing the importance of employing explicit methods and models which allow the student’s thinking to be guided, and even when encouraging students and teachers to think aloud and to model comprehension processes, these authors failed to include the term direct explanation in their writing and omitted any reference to the work produced by Duffy and his colleagues.

Similarly, Neufeld (2005) strongly supported the explicit instruction of comprehension strategies and noted that in order for strategy instruction to be effective it would be necessary for students and teachers to follow specific steps and /or to engage in particular behaviors. These included: 1) the presentation of strategy introductions complete with a rationale for learning particular strategies; 2) teacher modeling that incorporates demonstration and think aloud opportunities; 3) guided practice to provide
students with numerous opportunities for strategy practice; and 4) independent practice to allow students the opportunity to assume full responsibility for strategy use. Neufeld (2005) also indicated that the think aloud discussed in step 2 required teachers to explain their thought processes while demonstrating a strategy. He indicated that this should be done to “show students how to use a particular covert thinking strategy by expressing thoughts aloud, and to implement the strategy while students look on” (p. 309). Although Neufeld presented in his writings the essence of the direct explanation method, he made no mention of direct explanation, nor did he assign credit to the work of other researchers and practitioners which informed this topic. As indicated above, this type of omission tends to add to existing confusion regarding the nature of explicit instruction and limits a broader dissemination of information regarding this methodology.

In order to reduce or eliminate confusion concerning the nature of explicit instruction it is critical that authors and researchers provide in their works citations that correctly link instruction to a particular model and its theoretical underpinnings. It is also critically important that researchers develop a common view of explicit instruction and one which is complete and internally consistent.

It is also important that the term comprehension strategy becomes better defined. It would appear prudent to view comprehension strategies as distinct and deliberate plans which, if employed intentionally with sufficient practice and gained experience, become habituated and automatically generated. A critically important element contributing to the value of comprehension strategies is the fact that through a process of learned metacognitive control, independent student application is achieved.
Implications for Classrooms

These findings illustrate the need for social studies textbook publishers and literacy specialists to work more in concert to maximize the learning potential of students. When students improve their ability to construct meaning, integrate information, and form concepts, the depth of their learning improves. With regard to teacher education, content area teachers must be exposed to the explicit comprehension strategy methodologies, and learn to select strategies that will work in their area of discipline, and develop the ability to teach students to utilize these strategies.

As existing semantic confusion becomes lessened and as important techniques and methodologies become defined distinctly, it should become increasingly less complicated for teachers, perspective teachers, reading educators, and textbook publishers to distinguish among them and to incorporate strategies more readily into instruction.

Limitations

The definitions presented in this study represented this examiner’s personal interpretation of commonly employed terms. As suggested above, it is quite possible that other investigators could define these terms somewhat differentially. Until a greater degree of semantic standardization regarding explicit instruction of comprehension strategies is achieved, it will continue to be difficult to facilitate greater accessibility of this approach to teachers, researchers, and textbook publishers.

This study selected seven strategies for investigation based on research that determined these techniques significantly enhance reading comprehension of expository texts. Additional research is required to determine whether the particular expository text
strategies selected for study could, if employed in a broader context, allow for the development of increased comprehension among science, math, and English students. Conley (in press) suggested that specific content areas should not be viewed as monolithic disciplines with regard to the importance of comprehension strategy instruction. Further research is required in order to determine which strategies might be employed most effectively within specific content area disciplines, and which are least generalizable across various areas.

To achieve a balanced sample from each textbook evaluated, this study evaluated every third chapter of the textbooks. This sample was selected to keep the analysis from growing unwieldy or the number of chapters too large. Further study might select chapters from a numbers table and evaluate them randomly.
APPENDIX A

Seven Comprehension Strategies and Supporting Research
| Comprehension Monitoring                                                                 | Dole, Duffy, Roehler, & Pearson, 1991 |
|                                                                                            | Harvey Goudvis, 2000                   |
|                                                                                            | Massey, 2003                          |
|                                                                                            | Palincsar & Brown, 1989               |
|                                                                                            | Palincsar & herrenkohl, 2002          |
|                                                                                            | Peverly, Brobst, & Morris, 2002       |
|                                                                                            | Pressley, Goodchild, Fleet, Zajchowski, & |
|                                                                                            | Evans, 1989                           |
|                                                                                            | Taylor & Frye, 1992                   |
|                                                                                            | Taylor & Frye, 1992                   |
|                                                                                            | Tovani, 2000                          |
|                                                                                            | Baker & Anderson, 1992                |

| Activating Background Knowledge                                                          | Afflerbach, 1990                      |
|                                                                                            | Alverman, Smith, & Readance, 1985     |
|                                                                                            | Brown, 2002                           |
|                                                                                            | Brown, Campione, & Day, 1981          |
|                                                                                            | Gaskins & Elliot, 1991                |
|                                                                                            | Pardo, 2004                           |
|                                                                                            | Pearson, Hansen & Gordon, 1979        |
|                                                                                            | Stahl, Jacobson, Davis & Davis, 1989  |
|                                                                                            | Street, 2002                          |

| Summarization                                                                            | Bean & Steenwyk, 1984                 |
|                                                                                            | Brown, Campione, Day, 1981            |
|                                                                                            | Brown, 2002                           |
|                                                                                            | Dole, Duffy, Roehler, & Pearson, 1991 |
|                                                                                            | Friend, 2001                          |
|                                                                                            | Gaskins & Elliot, 1991                |
|                                                                                            | Kintsch & van Dijk, 1978              |
|                                                                                            | Taylor, 1986                          |
|                                                                                            | Taylor & Beach, 1984                  |
|                                                                                            | Winograd, 1984                        |
| Text Structure                  | Armbruster, Anderson, & Ostertag, 1987  
|                               | Armbruster & Armstrong, 1993  
|                               | Brown, 2002  
|                               | Ciardielo, 2002  
|                               | Cooter & Flynt, 1996  
|                               | Downing, Bakken, & Whedon, 2002  
|                               | Gaskins & Elliot, 1991  
|                               | Harniss, Dickson, Kinder & Hollenbeck, 2001  
|                               | Meyer, Brandt, Bluth, 1980  
|                               | McGee & Richgels, 1992  
|                               | Pearson & Fielding, 1991  
|                               | Piccolo, 1987  
|                               | Richgels, McGee, Lomax, & Sheard, 1987  
| Question Generation          | Brown, 2002  
|                               | Ciardielo, 1998  
|                               | Davey & McBride, 1987  
|                               | Lubliner, 2004  
|                               | Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989  
|                               | Rosenshine, Meister, & Chapman, 1996  
|                               | Singer & Donlan, 1982  
|                               | Wong & Jones, 1982  
|                               | Bean, Singer, Sorter, & Frazee, 1986  
|                               | Brown & Day, 1983  
|                               | Chang, Sung, & Chen, 2002  
|                               | Gaskins & Elliot, 1991  
|                               | Griffin & Malone, 1995  
|                               | Moore & Readence, 1984  
|                               | Robinson, 1998  
|                               | Trabasso & Bouchard, 2002 |
| Inference | Dewitz, Carr, & Patberg, 1987  
Dole, Duffy, Roehler, & Pearson, 1991  
Hannon & Daneman, 1998  
Keene & Zimmerman, 1997  
McGee & Johnson, 2003  
Richards & Anderson, 2003  
Van den Broek, Tzeng, Risden, Trabasso, & Basche, 2001 |
APPENDIX B

Comprehension Strategy Rating Tool
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Criteria</th>
<th>Support Comp.</th>
<th>Assess Comp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension Monitoring</td>
<td>Text directs reader to think about thinking while reading</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Text directs reader to become aware of strategies to clarify understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The role of comprehension monitoring in forming meaning is explicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activating Background Knowledge</td>
<td>Text directs reader to use existing background knowledge</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Text directs reader to make text to text to self, and/or text to world connections</td>
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</tr>
<tr>
<td></td>
<td>The role of background knowledge in forming meaning is explicated</td>
<td></td>
<td></td>
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<tr>
<td>Summarization</td>
<td>Text directs students to design summarization plans</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Text directs students to abstract gist of the text</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>The role of summarization in forming meaning is explicated</td>
<td></td>
<td></td>
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<tr>
<td>Question Generation</td>
<td>Text directs reader to ask literal and inferential questions to identify main ideas</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Text directs reader to develop question generation schemas and or use textural prompts to generate questions</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>The role of generating questions in forming meaning is explicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Text Structure</td>
<td>Text directs reader to use text structure to identify main ideas</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The text directs reader to become aware of various expository text structures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Text directs reader to use strategies to recognize forms of discourse</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The role of using text structure in forming meaning is explicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Graphics</td>
<td>Text directs the reader to become aware of features of instructional graphics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Text directs reader to follow procedures associated with IG construction</td>
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<tr>
<td></td>
<td>Text directs reader to develop instructional graphics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The role of graphic organizers in forming meaning is explicated</td>
<td></td>
<td></td>
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<tr>
<td>Inference</td>
<td>Text directs reader to integrate background knowledge and text information</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>The role of inference to expand understanding is explicated</td>
<td></td>
<td></td>
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<tr>
<td>Other Strategies</td>
<td>Text directs reader to become aware of strategies to clarify meaning</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Text directs reader to apply strategies while reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The role of the other strategy in forming meaning is explicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Explanation</td>
<td>Text directs teacher to introduce strategies and explicate utility of strategy use</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Text directs teacher to connect knowledge of strategies to students’ background knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Text directs teacher to model text processing behaviors and “how to” information</td>
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</tbody>
</table>
APPENDIX C

Strategies Presented in Glencoe’s Introduction
“Using what you know: Believe it or not, you already know quite a bit about what you’re going to read. You bring background knowledge and personal experience to a selection. Drawing on your own background is called activating prior knowledge, and it can help you create meaning in what you read. Ask yourself, what do I already know about this top

1. **Identifying Sequence:** When you discover the logical order of events or ideas, you are identifying sequence. Do you need to understand step by step directions? Are you reading a persuasive speech with the reasons listed in order or importance? Look for clues and signal word that will help you find the way information is organized.

2. **Questioning:** Keep up a conversation with yourself as you read by asking questions about the text. Ask about the importance of the information you are reading. Ask how one event relates to another. Ask yourself if you understand what you just read. As you answer your questions, you are making sure that you understand what is going on.

3. **Monitoring your comprehension:** As you read, check your understanding by using the following strategies:
   
   1. **Summarize** what you read by pausing from time to time and telling yourself the main ideas of what you have just read. Answer the questions Who? What? Where? When? Why? And How? Summarizing tests your comprehension by encouraging you to clarify key points in your own words.
   
   2. **Inferring:** You may not realize it but you infer, or make inferences every day. When you read you go through exactly the same process because writers don’t always directly state what they want you to understand. By providing clues and interesting details, they suggest certain information. Whenever you combine those clues with your own background and knowledge, you are making an inference. An inference involves using your thinking and experience to come up with an idea based on what an author implies or suggests. In reading, you infer when you use context clues and your own knowledge to figure out the author’s meaning.

   3. **Understanding Text Structure:** Good writers do not just put together sentences and paragraphs in any order. They structure each piece of writing in a specific way for a specific purpose. That pattern of organization is called text structure. When you know the text structure of a selection, you will find it easier to locate and recall an author’s ideas. Here are four ways that writers organize text.

      - **Comparison and contrast:** Comparison and contrast structure shows the similarities and differences between people, things, and ideas. When writers use comparison and contrast structure, often they want to show you how things seem alike that are different, or how things that are different seem alike. Signal words include, similarly, on the other hand, in contrast to, but, and however.

      - **Cause and effect:** Just about everything that happens in life is the cause or the effect of some other event or action. Writers use cause and effect structure to explore the reasons for something
happening and to examine the results of previous events. This structure helps answer the question that everybody is always asking: Why? Cause and effect structure is all about explaining things. Signal words and phrases: so, because, as a result, therefore, for the following reasons

- **Problem and Solution**: Signal words and phrases: how, help, problem, obstruction, difficulty, need, attempt, have to, must

- **Sequence**
  
  *Chronological order signal words*: first, next, then, later, finally
  
  *Spatial order signal words*: above, below, behind, and next to.
  
  *Order of importance* signal words: principal, central, important, fundamental
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LITERACY CONSULTANT, The Gerda and Kurt Klein Foundation, Narberth, PA
  Review and develop curricular materials that are embedded in literacy theory that foster an awareness of diversity and a tolerance for all people. Responsibilities also include the development of curricular materials and extension activities for the service learning component of this curriculum. (Sept 2000-present)

INSTRUCTOR, Rutgers Graduate School of Education, New Brunswick, NJ
  Organized and taught a course in adolescent literature for pre-service middle and high school English teachers. Determined coursework, designed group and independent activities and teacher directed presentations. (January 2004-May 2004)

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  Organized and taught a course in literacy methods and learning strategies for pre-service middle and high school content area teachers. Determined coursework, designed group and independent activities and teacher directed presentations. (September 2003-January 2004)

PROGRAM COORDINATOR, Rutgers, The State University of New Jersey, New Brunswick, NJ
  Coordinator of America Reads literacy program. Train, place, and oversee 50+ college students who work as literacy tutors in two local, urban, public k-8 schools. (Aug 2001-May 2003)

PROFESSIONAL DEVELOPMENT FACILITATOR, New Brunswick School District, New Brunswick, NJ
Develop and organize the instructional plan and implement a series of professional development workshops for middle school teachers. (January 2003-May 2003)

INSTRUCTOR, Rutgers Graduate School of Education, New Brunswick, NJ
Organized and taught a course in literacy methods and tutoring strategies for pre-service elementary and middle school teachers. Determined coursework, designed group and independent activities and teacher directed presentations (January 2001-May 2001)

READING AND LEARNING SPECIALIST, Main Line Psychological and Educational Associates, Ardmore, PA
Consulted with on site psychologists to develop reading and learning strategies based on formal and informal assessment measures. Worked collaboratively with students to implement instructional plans. (Sept 1996-June 2001)

TEACHER, Upper Darby High School, Upper Darby, PA
Taught 9th and 10th grade students remedial reading. Developed course plans and curriculum, presented materials, guided discussions, and assessed student progress to determine term grades (Sept 1998-May 2000)

READING CONSULTANT, Upper Darby High School, Upper Darby PA
Assisted 9th grade English and Social Studies teachers in incorporating reading and learning strategies into content area instruction. (Sept 1997- May 1998)

CO-TEACHER, The Benchmark School, Media PA
Language arts co-teacher in a 5/6 grade classroom. Worked collaboratively with the head teacher to develop course plans, present new material, guide discussions, and assess student progress (Sept 1995-May 1996)

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