Literacy Across the Curriculum:

Teachers Teaching Teachers about Content Area Reading

Strategies and their Perceptions of the

Effectiveness of these Strategies

by

Barbara Lee Cahoon

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ABSTRACT

This study employed a mixed method research design to examine a teachers-teaching-teachers method of professional development for training secondary school teachers to use content area reading strategies and their perceptions of the effectiveness of these strategies. Teachers were trained by the researcher (who is also a teacher) to use three content area reading strategies: one before reading strategy (K-W-L), one during reading strategy (Student-Generated Questions), and one after reading strategy (Learning Logs).

The findings revealed that teachers perceived content area reading strategies to be very effective for improving student comprehension. The Duke and Pearson (2002) model of comprehension instruction (and particularly the modeling portion of this framework) was found to be an effective way in which to teach both teachers and students how to use content area reading strategies.

This study provides teachers with information they can use to learn more about content area reading strategies. It also provides information for administrators, reading clinicians, resource teachers, and professional development committees regarding effective methods of teacher training.

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DEDICATION

To my wonderful and loving sons—Alex, Brendan, and Myles McTavish.

May your love of reading be lifelong.

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Context of the Study

<u>Theoretical</u>

It has been a long-held belief that students entering secondary school are competent readers who are able to decode and comprehend text adequately. Unfortunately, this is not always the case. More and more secondary school students do not have the decoding and/or comprehension skills necessary to read and understand the texts with which they are presented in secondary school classrooms.

Although it is true that secondary school students struggle with both the decoding and comprehension components of the reading process, this study focused only on the area of comprehension. Many of the students with whom the researcher has worked were able to decode the words in the text, but they appeared to have little or no understanding of what they read. When asked to re-tell the story or answer questions about a passage they had just completed reading, most of these struggling students were unable to do so or did so very poorly.

Many students who struggle in the area of reading are not caught in early identification programs and often continue into high school reading at low levels (Fischer, 2000). Vacca, Vacca, and Begoray (2005) explain that some struggling readers avoid eye contact with the teacher, misbehave in class, forget to bring their books to class, and get help from their peers. These unsuccessful readers "have developed a complex set of coping strategies to avoid reading or being held accountable for reading"

(Brozo, 1990, as cited in Vacca et al., p. 11). Some secondary level students who struggle with reading are able to "fake" their way through assignments by getting help from their peers and are actually able to achieve passing grades in classes, albeit with relatively low marks. Other struggling readers sit in classes, do very little work, and are then deemed to be "lazy". This apparent laziness may be due to the fact that the student is unable to read and understand the material being covered or the assignment being given. Struggling readers are "often unable to undertake the simplest course assignments due to their inability to read" (Wood & Nichols, 2000, p. 233). Finally, some struggling readers reach the point of frustration and end up dropping out of high school.

Struggling readers are not the only ones who experience reading-related problems in secondary school. Reading requirements and reading materials change greatly between elementary school, and middle and secondary school. Much of the reading material in elementary school is narrative text while a considerable amount of middle school and secondary school reading material is centered on expository or informational text (Schifini, 2005). Students are not always prepared to deal with the new material and text structures presented in expository text. As students progress through the grade levels, the volume of reading required becomes much greater, vocabulary becomes more specialized, and concepts become more complex.

According to Chall (1983), reading in the elementary grades is about *learning to read* and acquiring the skills needed to decode words automatically and fluently, while reading in the secondary grades is about using those skills to comprehend what one has read, or *reading to learn*. Texts used in content areas often use language, syntax,

vocabulary, and concepts that are specialized to a certain field of study (Jacobs, 1999).

Students at the middle and secondary school levels are also asked to complete more

demanding assignments based on the reading material. They are required, for example, to

do research essays, summaries, projects, tests, and oral presentations. The average reader

is not always prepared to deal with the academically rigorous texts presented at the

middle and secondary school levels. Even good readers can become overwhelmed with

the increased demands centered on reading which they encounter upon entering middle

and secondary school. Moreover, these reading demands will only become greater when

students enter post-secondary education.

It is important to note that reading for learning is not only an important skill for

students interested in post-secondary education; it is also a life skill. Even if students do

not pursue an academic career past secondary school, they must be able to read in order

to function in society. Everyday tasks such as driving, grocery shopping, banking, and

reading the newspaper require some amount of reading proficiency. The Madison

Metropolitan School District High School Reading Task Force Report (1999) reiterates

the importance of reading in school and as a life skill by stating, "A student's ability to

read is key for success in all academic areas as in life itself" (p. 1).

Traditionally, the teaching of reading has been left up to English language arts

teachers. Most English language arts teachers focus on the teaching of narrative-based

texts in literary classes, and this does not necessarily transfer to the teaching of

information-based texts in content area classes. It is often the case that teachers trained to

teach secondary school English language arts (or any other subjects) have had very little

training in the area of reading instruction. The majority of teachers at the secondary

school level do not consider themselves to be reading teachers (Wren, 2003). Even if

teachers are aware of weak readers in their classes, they are often unaware of the best

way to help them.

       Reading is not only important in the English language arts classroom. Students

are required to read and respond to text in social studies, science, math, health, family

studies, computer applications, and a myriad of other subject areas. Struggling readers

will more likely than not experience reading-related problems in many of their classes.

For this reason, all teachers, not just English language arts teachers, need to be addressing

the issue of weak readers and planning ways to assist them. Zwiers (2004) argues that

teachers of content areas, especially in subjects like science and social studies where

there is a great deal of reading, are "uniquely qualified to teach students how to actively

think about texts in their particular classes" (p. v). He suggests that social studies teachers

can have students analyze cause and effect of historical processes and science teachers

can have students visualize physical and chemical processes. Finally, teachers in all

subject areas must help prepare students for reading and guide them through the texts so

that they will learn from them most effectively (Jacobs, 1999).

       One of the ways in which teachers can help students improve their reading skills

is through strategy instruction (Duke & Pearson, 2002).   The idea behind strategy

instruction is that reading comprehension can be improved by teaching students to use

specific cognitive strategies when they experience problems with reading comprehension

(Williams, 2002). Beckman (2002) states, "strategy instruction involves teaching students

about strategies, teaching them how and when to use strategies, helping students identify

personally effective strategies and encouraging them to make strategic behaviors part of

their learning schema" (p. 3). The goal of strategy instruction is for students to acquire a

repertoire of strategies. Students should then be able to choose the appropriate strategies

to use at the appropriate time in their learning and use them independently of the teacher.

According to Pressley (2000a), good readers are very active in the reading

process. They read strategically. Good readers establish a purpose for reading, preview

the text, make predictions as they read, ask questions, re-read to clarify ideas, use context

clues to figure out vocabulary, relate new ideas to information they already know, make

notes to remember key ideas, and discuss ideas they have learned in the reading.

Effective readers also possess metacognitive knowledge about their reading. They

monitor their understanding of the text as they are reading and also use reading strategies

consciously when they read (Pressley, 2002). Teachers can help their students become

active, strategic, metacognitively-aware readers by teaching them how to use reading

strategies.

Reading strategies can be categorized according to the purpose of the strategy

(i.e., to activate background knowledge, to summarize, to preview the text, etc.). There

are a number of specific strategies that fit into each broad category. Furthermore, reading

strategies can be placed into categories based on when during the reading process they

are used—before reading, during reading, or after reading. Some examples of reading

strategies are outlined in the following:

Before Reading Strategies

- activating prior knowledge (K-W-L Strategy, Brainstorm and Sort)

- making predictions (Oral Predictions, Visual Predictions)

- previewing the text (THIEVES, Read Around the Text)

During Reading Strategies

-summarizing (Semantic Organizers, GIST)

- creating student-generated questions (Question Tree and Different
Levels of Questions Diagrams,
QARs)

- clarifying (Re-Read, Clarify Word Meaning)

After Reading Strategies

- reflecting on learning (Learning Logs, Discussion)

- organizing text information (Venn Diagrams, Compare and Contrast
Frames)

- highlighting main ideas (Concept Overviews, Fact-Based/Issue Based
Article Analyses)

Reading strategies listed above are explained in greater detail in the *Definitions*

section (p. 19) at the end of this chapter.

Although strategies tend to be taught independently of one another, it is important

to note that good readers often use more than one strategy at a time (Duke & Pearson,

2002). A good reader might make predictions and activate background knowledge *before*

reading, visualize and clarify *during reading,* then make connections and reflect on the

learning process *after reading*. Furthermore, there are a number of reading strategies such

as predicting, visualizing, generating questions, and making connections that can be used at any stage of the reading process.

The ultimate goal of strategy instruction is to create independent strategic learners who possess metacognitive knowledge about reading strategies. Metacognitive knowledge "includes an understanding of when, where, and how to apply the strategies, as well as assessing the success of the strategy" (Symons, Richards, & Greene, 1995, p. 67). Keene and Zimmerman (1997) refer to metacognition as *comprehension monitoring* or "being aware of our level of understanding as we read, and using this awareness to guide us" (as cited in Zwiers, 2004, p. 133)*.* Using this definition*,* Zwiers explains that metacognition or comprehension monitoring is difficult to teach, because "we must reflect on how we monitor our own comprehension when we read, and then we must figure out how to model that for our students" (p. 133). He posits that we need to make our thinking processes visible to the students and create ways for students to practice metacognition enough so that it becomes a solid habit. Establishing a purpose for reading, combining new knowledge with previous knowledge, focusing attention during reading, and using fix-up strategies (i.e., rereading the text, sounding out words, asking for help) when comprehension breaks down are the steps that students need to be taught in order to develop their metacognitive skills.

Personal

I have been teaching English language arts at the middle and secondary school levels for fifteen years. During this time, I have also taught social studies, drama, Native

studies, geography, and computer. Throughout my career, I have had the opportunity to teach many struggling learners. I have worked with students whose reading levels have ranged anywhere from one to eight years below grade level. My desire to find new ways to help these students was the impetus for starting my Master of Education degree. I wanted to further my education in the area of remedial reading at the middle and high school levels, so I could eventually develop reading programs to assist struggling readers in the upper grades. From what I have seen, a great deal of research and programming has been done in the area of remedial reading at the elementary level, and many elementary schools address the issue of struggling readers with intervention programs such as Reading Recovery. This, however, does not appear to be the case in the middle and secondary schools. Wren (2003) explains:

> According to the National Assessment for Educational Progress, approximately one in four students in the 12th grade (who have not already dropped out of school) are still reading "below basic" levels, while only one in twenty reads at advanced levels. Clearly, teaching reading is not just an elementary school problem. Middle and high schools need to provide interventions and support for older struggling readers. (p. 1)

My goal for the future is to be able to enter a middle or secondary school and teach students, struggling readers in particular, the skills and the strategies they need to help them improve their reading skills, so they are better able to function in the classroom and in life.

Graduate school has given me a wealth of knowledge in the areas of reading assessment and remediation. I have had the great privilege of working alongside my peers and professors who have shared their knowledge and experience in the field of reading. Through listening to many educators talk about their experiences in the classroom, I have learned about numerous strategies that can be used to help at-risk students. The information I have attained via reading and studying, along with the knowledge I have gleaned from my peers and professors, has been instrumental in improving my teaching and my ability to assist struggling readers. I also believe that my ability to help students of all ability levels has improved as a result of my graduate school experience. Through this study, I was hoping to find effective ways to help other teachers learn about the strategies they can use to assist struggling readers, and readers of all ability levels, in their classrooms.

Purpose of the Study

The overall goal of this study was to investigate the process by which the researcher could help teachers implement research-based reading strategies in their content area classrooms and to examine their perceptions of these reading strategies. The study looked specifically at the Duke and Pearson (2002) model of comprehension instruction as a framework for training both teachers and students how to use a before reading strategy (K-W-L), a during reading strategy (Student-Generated Questions), and an after reading strategy (Learning Logs). This study also sought to determine the teachers' prior use of content area reading strategies, as well as the type of professional

development they had received in the field of content area reading instruction. An additional purpose of the research was to determine teachers' perceptions of the effectiveness of the teacher-training-teacher method of instruction used in the study.

This study was based on the premise that all levels of readers (poor, average, and good) can benefit from using reading strategies (Zwiers, 2004). Moore, Bean, Birdyshaw, and Rycik (1999) explain that "almost all students need to be supported as they learn unfamiliar vocabulary, manage new reading and writing styles, extend positive attitudes toward literacy, and independently apply complex learning strategies to print" (p. 4). For this reason, all levels of readers were included in this study. Struggling readers can use content area reading strategies to aid in comprehension. Average readers might use reading strategies to help deal with the increased amount of expository text and increased volume of reading with which they are faced in the upper grades. Good readers can use reading strategies to hone their existing reading skills and assist them if they encounter problems with a text. According to Vacca et al. (2005):

> The difference between good readers and poor readers is that when good
> readers struggle with text, they know what to do to get out of trouble.
> When a text becomes confusing or doesn't make sense, good readers
> recognize that they have a repertoire of reading strategies at their
> command that they can use to work themselves out of the difficulty. (p.
> 308)

Statement of Research Questions

1. What content area reading strategies are secondary school teachers currently using in their classrooms, and with what frequency do secondary school teachers use content area reading strategies in their classrooms? What type of professional development have secondary school teachers received on the topic of content area reading instruction?

2. Do secondary school teachers perceive the Duke and Pearson (2002) model of comprehension instruction to be an effective method of teaching teachers how to implement content area reading strategies? Do secondary school teachers perceive the Duke and Pearson (2002) model of comprehension instruction to be an effective method of implementing content area reading strategies in their classrooms?

3. How do secondary school teachers perceive the effectiveness of using content area reading strategies in their classrooms? What concerns do secondary school teachers have about implementing reading strategies in their content area classes?

4. Do secondary school teachers think that teachers teaching teachers about reading strategies is an effective form of professional development for learning about reading strategies?

Significance of the Study

Theoretical

This study attempted to offer insights into the assertion that literacy should be taught across the curriculum. Curricular integration of reading instruction into content

area courses is necessary to meet the needs of adolescent struggling readers (Madison Metropolitan School District, 1999; Vacca et al., 2005). This study was built out of a knowledge base indicating teaching students a repertoire of reading strategies promotes comprehension (Duke & Pearson, 2002; Gaskins, Laird, O'Hara, Scott, & Cress, 2002; Keene, 2002; Knuth & Jones, 1991; Palinscar & Brown, 1984; Reutzel, Camperell, & Smith, 2002; Sweet & Snow, 2002). Although there has been a great deal of research done showing the effectiveness of reading strategies, little research has been done on the best method for teaching teachers how to implement these strategies. This study examined one model of comprehension instruction (Duke & Pearson, 2002) for training teachers and students how to use reading strategies. Teachers were asked to share their perspectives on: (a) the effectiveness of the training they were given in the area of reading strategy implementation, (b) the effectiveness of the reading strategies themselves, and (c) their own learning from the teachers-learning-from-teachers method of professional development employed in the study.

Practical

The practical implications of this study are significant for content area teachers, resource teachers, administrators, reading clinicians, and professional development planners in the field of reading instruction. If this study shows that the teachers' perceptions of reading strategies are generally positive, then more content area teachers might be willing to use these strategies in their classrooms to help students tackle the complex texts often used at the middle and secondary school level. Furthermore, resource

teachers, reading clinicians, and professional development planners in the area of reading instruction can take note of the model of comprehension instruction (Duke & Pearson, 2002) used to teach the reading strategies, and if it proves to be effective, it can then be used to train both teachers and students how to use reading strategies. Also, if the teachers' perceptions of the reading strategies are generally positive, this might be an indication to administrators that schools need to put more emphasis on training teachers in the field of content area reading instruction.

Finally, the study has practical implications for students. If this study shows that teachers perceived the method of instruction and/or the reading strategies to be effective, then students might benefit by teachers implementing these strategies in their content area classrooms.

Scope of the Study

Five content area teachers, who teach a variety of content area subjects, were the participants in this study. This was a convenient sampling in that the five teachers were "available and willing to be studied" (Creswell, 2005, p. 590) at the school where the study was being conducted. It was thought that these five content area teachers were representative of a larger group (i.e., secondary level content area teachers). Teachers were asked to volunteer for the study via a notice posted in the staff room.

The five content area teachers were asked to complete a survey (adapted from Forget, 2004) that examined their background knowledge and use of content area reading strategies. On the survey, the teachers were asked to indicate, via a checklist, which

content area reading strategies they had used before. They were also asked to state which subject areas they had taught and how many years they had been teaching. There were also questions about the amount and type of professional development the teachers had received on the topic of content area reading instruction.

The teachers were then trained by the researcher (who is also a teacher) in the use of three reading strategies: one before reading strategy (K-W-L), one during reading strategy (Student-Generated Questions), and one after reading strategy (Learning Logs). The Duke and Pearson (2002) model of comprehension was used to teach the teachers how to use the reading strategies. Teachers were asked to write in a journal in order to reflect on the effectiveness of the training following each teacher training session. They were provided with a list of questions to guide their journal responses and were also given the opportunity to comment freely on the training.

The teachers were asked to implement the reading strategies in their content area classrooms using the same format that was modeled for them in the teacher training sessions (i.e., the Duke and Pearson [2002] model of comprehension instruction). Teachers were asked to implement each strategy twice over the course of two weeks. Throughout the two-week implementation period for each strategy, teachers were asked to write a journal entry expressing their reactions to the strategy. They were given questions to guide their journal responses, but were also given the chance to comment freely (in writing) on the implementation of the strategy. Individual teachers were able to choose at which point during the two-week implementation process they wanted to write

their journal responses. Teachers then took part in a final interview following the implementation of the three reading strategies.

The three strategies for this study were chosen to represent each stage of the reading process: before, during, and after reading. One of the key factors in choosing the K-W-L, Student-Generated Questions, and Learning Logs strategies was that all three strategies have a research base (Vacca et al., 2005) indicating their effectiveness in helping students improve comprehension.

The K-W-L strategy was chosen specifically because it is a fairly well-known strategy that is straightforward and easy to understand. It was thought that this would be a fairly non-threatening strategy with which to start the study for both the teachers and the students. The Student-Generated Questions strategy was selected due to the fact that effective visuals (i.e., the Different Levels of Questions and Question Tree diagrams) can be used to support it. The researcher believed that these visual aids would assist the teachers in both learning and implementing the strategy and would also help to engage the students' interest in the strategy. The Learning Logs strategy was chosen, because similar to the K-W-L strategy, many students and teachers are familiar with the journal format, and it was thought that this strategy would be one to which both teachers and students could relate. (Visuals accompanying these strategies can be found in Appendix A: Teacher Training Sessions—Information Sheets and Instructions for Implementation.)

The Duke and Pearson (2002) model of comprehension was chosen for use in this study for a number of reasons. First, Duke and Pearson clearly explain the five phases of the model and give classroom examples of each phase. It was thought that the teachers

participating in the study would have no difficulty understanding the directions for this

model of comprehension instruction. Second, Duke and Pearson also stress the

importance of coordinating strategies during the instruction process. If a teacher is using

the model of comprehension instruction to teach prediction, he or she should also model

other strategies such as activating background knowledge or clarifying, throughout the

process. The concept of using more than one strategy is a key for successful strategy use,

and it was important that teachers participating in the study were aware of this point.

Third, it was thought that the Duke and Pearson model of comprehension instruction

would give students the opportunity to interact with texts using reading, writing, and

discussion. Students might gain a greater appreciation and understanding of the text if

they can experience it in different ways.

The study took place over the course of nine weeks. The nine-week period was

chosen to allow one week for completing the survey, six weeks for training and

implementation of the strategies, one additional week for teachers to finish implementing

the strategies, and one week for final interviews to be conducted. As the study

progressed, it became apparent that the additional week to finish implementing the

strategies was needed for teachers who were involved in school activities or trips, or

teachers who had students who were involved in school activities or trips.

Limitations of the Study

There are several limitations to this study that need to be addressed. There were

only five teachers participating in the study, and this is a relatively small number of

participants. It is, however, believed that these five teachers are representative of other

content area teachers, and therefore the results are generalizable to other content area

teachers. Furthermore, the depth of information gained from the five participants was also

an important consideration.

The research explored three reading strategies, each taught two times over a

period of two weeks using the Duke and Pearson (2002) model of comprehension

instruction. This study did not examine the multitude of other reading strategies that

might be effective in improving comprehension. Furthermore, the fact that the teachers

only used each strategy twice over a period of two weeks did not allow for the possibility

that the teachers' perspectives of the strategies might have changed over time if they had

used these strategies for a longer period of time and become more comfortable with them.

The teachers in the study were also only exposed to one model of comprehension

instruction (Duke & Pearson, 2002). Although the Duke and Pearson is a relatively

universal model of comprehension instruction, the teachers might have felt that a

different model of instruction would have been better suited to their individual learning

and teaching styles.

Another limitation to the study was the fact that the teachers participating in the

study had varying experience in implementing content area reading strategies. Teachers

who had used content area reading strategies before might have had more confidence and

success with the reading strategies, than those who had limited prior exposure to them.

Beyond the boundaries of these limitations, there were a number of positive

aspects of the study. Content area teachers were taught three reading strategies they

could use in their classrooms to promote comprehension. If they perceived the reading

strategies to be effective, hopefully they will continue to use these reading strategies in

their classrooms, and will take the initiative to find other content area reading strategies

they can use, as well. If the teachers perceived the Duke and Pearson (2002) model of

comprehension instruction to be an effective framework for implementing reading

strategies, they could then continue to use this model to implement reading strategies in

their classrooms.

      The results of the study are generalizable to secondary school content area

teachers. If the teachers' perceptions of the content area reading strategies used in the

study are positive, then other content area teachers might have positive experiences with

them, as well. Also, professional development coordinators, resource teachers, and

reading clinicians working with secondary school teachers might be able to use ideas

from the study to train teachers how to use content area reading strategies.

      Finally, administrators might find the study relevant and use the results as an

impetus for addressing the need for professional development in the field of content area

reading instruction and possibly even the need for literacy across the curriculum

programs in their schools.

Definitions

Activating Prior Knowledge—Activating prior knowledge increases the chance that

students will understand what they read (Zwiers, 2004). When students read, they

connect the new material to the related material that they already know, and making

these connections between the new and the known can improve comprehension.

Brainstorm and Sort—Students brainstorm ideas about a topic then group ideas

together into categories in which the ideas fit logically (Zwiers, 2004).

Brainstorming activates background knowledge, builds interest, and exposes

students to new ideas. Sorting the ideas into categories builds classifying and

categorizing skills that aid comprehension.

Clarifying—Students take time during the reading of a text to clarify concepts or word

meaning. Clarification can come in the form of re-reading the text, asking for

assistance from a peer or teacher, doing research, looking up words in the

dictionary or on the Internet, or using context clues to determine word meaning.

Compare and Contrast Frame—The Compare and Contrast Frame (Manitoba

Education and Training, 1996) is a chart that allows students to organize text

information by helping them *see their thinking* as they find

similarities and differences.

Comprehension—The process of constructing meaning from text is called

comprehension. Text can include print, visual, and electronic texts. The act of

comprehension requires an interaction between three elements: the reader, the

text, and the activity associated with or purpose for reading the text (Sweet &
Snow, 2002).

Concept Overview—A Concept Overview (Manitoba Education and Training, 1996) is a
framework for highlighting and examining key concepts.

Content Area—Content area refers to an organized body of knowledge or discipline,
such as mathematics, social studies, or science, that is reflected in its technical
vocabulary (Tarasoff, 1993).

Content Area Reading—Reading in subject or discipline areas, such as biology,
geography, or history, is known as content area reading (Tarasoff, 1993).

Expository Text—Expository text is written communication with the purpose of
explaining and providing information (Tarasoff, 1993).

Fact-Based /Issue-Based Article Analyses—Fact-Based/Issue Based Article
Analyses (Manitoba Education and Training, 1996) are frameworks that give
students the opportunity to pick out key ideas, represent main ideas visually, and
distinguish between factual information and opinion.

GIST—Developed by Cunningham (1982), the GIST (Generating Interactions between
Schema and Text) strategy has students convey the main idea or "gist" of the text
by summarizing what they have read in 20 words or less (Northwest Regional
Educational Laboratory, 2001).

Highlighting Main Ideas—Highlighting main ideas is the process of
determining important ideas in a text from less important ideas in a text (Vacca
& Vacca, 2002).

Journal—A personal record of occurrences, experiences, and reflections kept on a

regular basis is called a journal (The American Heritage Dictionary of the English

Language). Journals can be structured (i.e., a list of topics and questions to guide

the writer) or unstructured (i.e., the writer freely chooses his/her own content).

K-W-L Strategy—K-W-L is a strategy (developed by Ogle, 1986) which is used for

activating prior knowledge, establishing a purpose for reading, and reflecting on

what has been learned. The basic K-W-L strategy uses three columns to write down

information that we **K**now (background knowledge), **W**ant to know (asking

questions), and have **L**earned (key points) (Zwiers, 2004).

Learning Logs—Learning Logs centre on the metacognitive procedures involved in learning

(Manitoba Education and Training, 1998). Students communicate how and what they

have understood about the content and what questions they still might have. Students

clarify their thinking through writing.

Making Predictions—Making predictions before and during reading provides us with a

purpose and motivation for reading (Zwiers, 2004). Making predictions also helps

the reader's mind prepare itself to comprehend upcoming ideas in the text.

Metacognition—Metacognition is the "awareness and understanding of one's thinking and

cognitive processes; thinking about thinking" (Webster's New Millennium

Dictionary of English).

Model of Comprehension Instruction—A framework employed to teach reading

strategies is referred to as a model of comprehension instruction. The model of

comprehension instruction posited by Duke and Pearson (2002) includes the

following five components:

1. An explicit description of the strategy and when and how it should be used.

2. Teacher and/or student modeling of the strategy in action.

3. Collaborative use of the strategy in action.

4. Guided practice using the strategy with gradual release of responsibility.

5. Independent use of the strategy. (pp. 208-209)

Narrative Text—Narrative text tells a story. Narrative text structure is typically made up

of a main character, a time period or setting, a major goal the main character

is trying to reach, a plot explaining how the character overcomes a problem to

achieve the goal, a conclusion describing whether the character reaches the goal,

and a moral or theme (Symons, Richards, & Greene, 1995).

Oral Predictions—Readers use information learned by examining the text

prior to reading, or information learned while reading the text, to make oral

predictions before and during the reading of the text.

Organizing Text Information—Comprehension occurs when students are able to

organize text information by combining their prior knowledge of a topic with the new

knowledge they have read in the text to determine key ideas and summarize main

points (Zwiers, 2004).

Previewing the Text—Previewing the text might include examining text structure, finding

main ideas in the text, examining key vocabulary, and visualizing concepts prior to

reading. Previewing the text provides "the kind of instructional support that allows

students to interact with and respond to difficult texts in meaningful ways" (Vacca & Vacca, 2002, p. 323).

Question-Answer Relationships (QARs)—Question-Answer Relationships (developed by Raphael, 1982) is a strategy that gives students guidance in answering questions. Vacca et al. (2005) explain that the strategy involves having students identify different question types based on the information source needed to answer the questions. Text implicit (Right There) questions can be answered using information directly from the story, while text implicit (Think and Search) questions require students to search for ideas in the text and put these ideas together to answer the questions. Schema-based or script-implicit (Author and You and On My Own) questions require students to use their prior knowledge and experience to complete the questions.

Question Tree and Different Levels of Questions Diagrams—The Question Tree and Different Levels of Questions diagrams give students the guidelines needed to create text explicit (on-the-surface), text implicit (under-the surface), and life application questions (Zwiers, 2004).

Read Around the Text—Read Around the Text (developed by Jacobs & Jones) is a previewing the text strategy that gives students an opportunity to build their knowledge of the text before they actually begin reading. Students are guided through the following steps prior to reading: Look at the pictures, Look at the captions and read them, Look at the maps, charts, and graphs, Look at the

titles and headings, Read the first and last lines of each paragraph, Ask questions (Anchorage School District Online).

Reading Strategies—Reading strategies are actions that are applied intentionally during the process of reading.   Different reading strategies use skills and knowledge organized in different ways (Tarasoff, 1993).

Reflecting on Learning—Students reflect on what they have learned. Reflections can be in the form of writing or a discussion. Students can comment on content, the learning process, questions they might have, and/or personal connections to the material.

Semantic Organizers—Semantic organizers are used to organize information hierarchically, and they are like an outline presented in visual form (Zwiers, 2004). According to Zwiers, "Many semantic organizers have a central concept, surrounded by key supporting concepts that increase in detail as you move away from the central concept" (p. 46).

Strategic Readers—Strategic readers know which reading strategies to use in a particular situation. They know how to activate background knowledge to increase comprehension, how to set purposes for reading, how to vary their reading rate, and how to monitor comprehension while reading (Johns & Lenski, 1997).

Student-Generated Questions—Students create questions based on the text. Questions can be created at any point in the reading process—before reading, during reading, or after reading (Zwiers, 2004). Students can answer their own

questions or give their questions to peers to answer. Question-Answer

Relationships (QAR's) can be used to help students generate questions.

Summarizing—"Summarizing involves reducing a text to its main points. To become

adept at summary writing, students must be able to discern and analyze text

structure" (Vacca & Vacca, 2002, p. 307). Students must learn how to pick key

ideas out of the text, organize the ideas into broader categories, and then use their

own words to explain the ideas in the form of a written summary.

The Reading Process—The reading process refers to the idea that reading is a process, and

that activities done before reading, during reading, and after reading can enhance

comprehension.

THIEVES—THIEVES is a strategy that helps students preview the text prior to reading.

THIEVES (adapted from Manz, 2002) is an acronym that guides students

through the necessary prereading steps before they actually begin reading a

textbook chapter: title, headings, introduction, everything they

know, visuals, end of chapter materials, and "so what?" (Zwiers, 2004).

Venn Diagram—A form of visual representation that allows students to organize

text information by comparing how a concept or object is alike and different

(Vacca & Vacca, 2002).

Visual Predictions—Students predict the content of the text based on photographs,

images taken from the Internet, or other types of visuals that are related to the

content (Fischer, 2005).

CHAPTER TWO: REVIEW OF THE LITERATURE

"Reading is like rocket science—only more complicated" (Zwiers, 2004, p. 2).

Introduction

In today's world, literacy demands are constantly growing, and young people need high levels of literacy in order to understand the large amounts of information they encounter (International Reading Association, 2005). Due to the importance of reading in our society, the goal of all middle and secondary schools should be to help their students become better readers. Administrators, teachers, and reading specialists need to work together to ensure that struggling readers are getting the assistance they need to improve their reading skills, so they can function both in school and in society. Furthermore, average and good readers need to be taught strategies that will help them cope with difficult texts in middle and secondary school and in university. The purpose of this Review of Literature is to examine some of the key elements that contribute to the improvement of students' reading ability.

The first section of this Review of Literature will discuss the concept of literacy across the curriculum, and why it is important for all teachers to take responsibility for the reading development of their students. Next, strategy instruction and how it can be used to enhance comprehension of text will be examined. The next topic to be covered will be the three individual strategies that are being used in the current study. The

following section will examine research on teachers' perceptions of content area reading strategies, which is relevant to the topic of the study at hand. Models of comprehension instruction, with a focus on the Duke and Pearson (2002) model of comprehension instruction being employed in the current study, will then be covered briefly. The final section of this Review of Literature will examine a teachers-learning-from-teachers method of professional development.

Literacy Across the Curriculum

Marcia D'Arcangelo (2002) interviewed Donna Ogle, a past president of the International Reading Association, and asked her a number of questions regarding the challenges of content area reading. Ogle explained that "we're still struggling to make reading across the curriculum a reality, particularly at the middle and high school levels" (as cited in D'Arcangelo, p. 3). It is assumed that by the time students are in high school, they know how to read well enough to function in classrooms, and as a result, many secondary schools do not even include reading as part of their curriculum. One of the reasons why it is so difficult to teach reading and writing at the secondary school level is that many secondary school teachers consider themselves to be content experts who focus on the content and not on teaching students how to learn (Ogle, as cited in D'Arcangelo).

That brings us to the question: Whose responsibility is it to teach reading at the middle and secondary school level? In a study conducted with middle and high school teachers, Haydey (2005) found that "some content area teachers dismissed the idea that they somehow must share the responsibility for teaching text processing. That, in their

view, was the purview of the language arts teachers" (p. 207). Many educators would

agree that the responsibility for teaching reading should lie with the English language arts

teachers. One of the problems with this line of thinking is that many English language

arts teachers at the middle and secondary school levels have had very little or no training

at all in *how* to teach reading. In addition, the texts used in English language arts

classrooms often differ from the texts used in content area classrooms. The purposes for

reading are also different in English language arts classes than they are in content area

classes. The focus in many English language arts classrooms is on narrative text while

content area classrooms focus on expository text. The strategies English language arts

teachers use to tackle narrative text might not always transfer to expository text, and

strategies needed to address expository text might not come up at all in an English

language arts classroom. Furthermore, reading is a key skill necessary in both English

language arts and content area classes (not to mention in life), and the teaching of it

should, therefore, be addressed by all types of teachers. In an ideal school, both English

language arts teachers and content area teachers would share the responsibility for

teaching reading. "All teachers play a critical role in helping students think and learn with

text" (Vacca et al., 2005, p. 3).

        One of the concerns expressed by content area teachers is that they will not have

enough time to teach their subject matter if they also have to teach reading strategies.

According to Ogle (as cited in D'Arcangelo, 2002), it is not difficult to incorporate

reading strategies into a lesson. She says it can be something as simple as encouraging

students to take notes in three columns. Beers (2002) explains that initially some extra

time may need to be given to the teaching of strategies at the beginning of the school year, but as students learn the strategies and are able to use them independently and automatically, less and less time will need to be spent teaching the strategies. As the students become more strategic learners, they will be able to read the text and understand the content matter better and more efficiently.

It is becoming more and more evident that large numbers of middle and secondary school students are not necessarily equipped to deal with the increasingly complex reading texts they are presented with in the middle and secondary school classrooms. As a result of this finding, Florida's Miami-Dade School District developed a comprehensive reading plan which required middle and high school teachers in the various subjects to teach reading comprehension as part of the curriculum. On a rotating basis, teachers were required to set aside 30 minutes a day for free reading, and students were asked to read an extra 30 minutes in the evening (Manzo, 2001). As a result of this program, some teachers found that the students benefited from the reading instruction, even in the area of mathematics where there had been dramatic improvement in the students' understanding of algebra problems.

A middle school case study conducted by Loranger (1999) also found that teaching literacy across the curriculum was beneficial. In this study, Loranger observed a grade six science teacher who incorporated a Reading through the Content Areas (RCA) program in his classroom. At this middle school, the administration decided that content area teachers could teach reading in their own classrooms. They then worked with all grade six teachers to develop a program that would be taught by each of the four content

teachers—English, social studies, science, and math. Teachers were then given training in the following areas: teaching students how to differentiate between learning from narrative text and expository text, teaching students reading strategies for activating background knowledge, teaching students about metacognition, and teaching study strategies such as using graphic organizers. Portfolios were used as an assessment tool in the RCA program.

Loranger (1999) observed a grade six science teacher's class as he incorporated the RCA program into his teaching. In this class, students were given 15 minutes a day of Sustained Silent Reading. They were also required to share information about their books using a variety of written or oral formats, keep reading logs to track their daily reading, write in a journal, and keep portfolios of their work. Loranger believes that this middle school's team members are "practitioners who are truly bridging the gap between theory and practice" (p. 242). According to Loranger, the qualitative data obtained for this study indicated that "an integrated approach to reading can be implemented in a middle school environment" (p. 242).

Vacca (2002) contends that although most content area teachers do not think they are responsible for adolescents' reading development, "the responsibility for teaching reading is a shared one, belonging to all teachers in all subjects" (p. 187).

Strategy Instruction

There is an extensive body of knowledge indicating that teaching students how to use reading strategies can enhance their reading comprehension (Dole, Brown & Trathen,

1996; Duke & Pearson, 2002; Palinscar & Brown, 1984; Paris, Lipson, & Wixson, 1994; Pressley, 2000b; Vacca & Vacca 2002). According to Lipson and Wixson (2003), good readers are *planful*. They have a repertoire of strategies from which they can choose when they approach a text.

In order to be considered a strategic reader, a reader's action "must be elected from alternative actions and it must be intended to attain the specific goal. Thus, the reader who happens to find the main idea of a paragraph by reading only the topic sentence could be correct and lucky, but not necessarily strategic" (Paris, Lipson, & Wixson, 1994, p. 789). Being a strategic reader requires thought and effort. As readers become more skilled at using reading strategies, the use of the strategies may occur more automatically and with less conscious effort. In fact, one of the key goals in strategy instruction is to help readers "*automatically* and unconsciously use strategies, even to the point at which they cannot help but use them" (Zwiers, 2004). When a reader, however, encounters difficulty in reading a text, he or she needs to consciously search for a strategy to help fix the problem.

The number of reading strategies students can use to become more competent readers is relatively small, and there is an accepted group of research-based reading strategies that can be taught to students to help them improve their comprehension (Lipson & Wixson, 2003).   These research-based reading strategies include the following: Make Connections, Infer and Predict, Question, Visualize, Monitor/Clarify, Summarize, and Evaluate (p. 572). According to Lipson and Wixson, effective readers make connections between the text and their prior knowledge of the content, make

inferences to connect information, ask questions throughout the reading process, visualize and create mental images as they are reading, monitor their understanding of the text, clarify things they do not understand, stop occasionally to summarize what they have read, and evaluate the new information they have learned.

Within each of the broad categories of research-based reading strategies, there are specific strategies that can be used to fulfill the function of the strategy. In the *Summarize* category, for example, students can use a number of specific strategies such as GIST, Semantic Organizers, and Fact-Based Article Analyses to pause and reflect on what they have read, to distinguish important ideas, and to identify main points or major themes. There are a myriad of strategies existing which fulfill the function of each of the seven categories of research-based reading strategies.

It is important to note that reading strategies are not used independently of one another. Good readers do not only use one strategy at a time; they use multiple strategies (Duke & Pearson, 2002). First, good readers might determine a purpose for reading, preview the text, and/or make predictions before they begin reading. Second, they might ask questions, identify main points, and re-read for clarification while they are reading. Third, they might reflect on what they've read, make connections, and/or summarize information. Duke and Pearson stress that teachers and students must be aware of the need to coordinate and orchestrate comprehension strategies.

Although teaching students how to use reading strategies is a key element of comprehension instruction, it is not the only aspect of comprehension instruction. Duke and Pearson (2002) indicate that comprehension instruction should be *balanced.* Good

comprehension instruction also requires a supportive classroom context which

includes the following:

● A great deal of time spent actually reading.

● Experience reading real texts for real reasons.

● Experience reading the range of text genres that we wish students to comprehend.

● An environment rich in vocabulary and concept development through reading

experience, and above all, discussion of words and their meanings.

● Substantial facility in the accurate and automatic decoding of words.

● Lots of time spent writing texts for others to comprehend.

● An environment rich in high-quality talk about text.

(Duke & Pearson, pp. 207-208)

Finally, strategy instruction can be affected by student motivation. If students are

not motivated to learn the reading strategies and do not put in the effort needed to

understand and use these strategies, then these students might not benefit from strategy

instruction. For this reason, it is important that teachers make comprehension instruction

as motivating for students as possible (Duke & Pearson, 2002). Comprehension

instruction can be made more motivating by creating a supportive classroom context, by

encouraging the students to make connections between the texts and their lives whenever

possible, by choosing texts that are not too hard for the students, by giving students

ample opportunities to practice and use reading strategies, and by giving students lots of

positive feedback about their use of the reading strategies.

Strategies Relevant to the Current Study

K-W-L Strategy

According to schema theory*,* "a reader's schema, or organized knowledge of the world, provides much of the basis for comprehending, learning, and remembering the ideas in stories and texts" (Anderson, 1994, p. 469). In other words, when we read, we connect the new information to the related information that we already know, and comprehension can be enhanced by making these connections between the new and the known. Zwiers (2004) states, "Background knowledge is like a backbone for comprehension" (p. 54). He explains that as we read we have to connect the information from the text to related knowledge and experiences we already have in our brains, and we use our prior knowledge as *raw material* to construct meaning as the text dictates.

A number of studies (Carr & Thompson, 1996; Dole, Valencia, Greer, & Wardrop, 1991; Rowe & Rayford, 1987) have shown that activating one's prior knowledge of a topic before reading can improve one's comprehension. While it is true that prior knowledge affects how easily students process and understand new information, it is important to note that having inaccurate prior knowledge can detract from a student's learning (Svinicki, 2006). If a student's prior knowledge of a topic clashes with the new information being learned, this can lead to confusion and frustration for the student. Svinicki cautions that teachers need to take the time to activate students' prior knowledge and also to check for faulty prior knowledge.

In 1986, Donna Ogle developed a strategy called K-W-L which is used for activating prior knowledge, establishing purpose for reading, and reflecting on what has been learned.

The basic K-W-L strategy uses three columns to write down information that we **K**now (background knowledge), **W**ant to know (asking questions), and have **L**earned (key points) (Zwiers, 2004). The K-W-L strategy also gives students the opportunity to practice writing questions and determine main ideas from the text.

Zwiers (2004) outlines the procedure for the K-W-L strategy in the following:

1. Create three columns on the board and head them with "What we know," "What we want to know," and "What we learned."

2. Ask students what they know about the subject or text you are about to study. Prompt the students with pictures, titles or subjects to fill in the first column.

3. Ask students what they want to know, and fill the second column with their questions.

4. Have students read the text or do research on the topic.

5. In the third column, have students answer their questions from the second column and add any extra key information that they learned.

(p. 70)

There are also a number of variations of the K-W-L strategy such as K-W-L Plus which uses graphic organizers within a K-W-L chart to help students further organize information into additional categories, or the K-W-H-L-S which adds two extra columns, one for how students will learn the information and one for how they will show what they learned (Zwiers, 2004).

Student-Generated Questions Strategy

Teachers asking students questions about text material has been a cornerstone of content area classrooms for many years. Zwiers (2004) believes that students are tired of answering questions and thinks that "we need to let the students generate their own questions to drive their learning. This gives students more personal investment into what they will think about and what they will look for as they read" (p. 97). There are a number of studies (Chin & Brown, 2002; Davey & McBride, 1986; Singer & Donlan, 1994) that have shown the significance of student-generated questions in enhancing reading comprehension.

According to Zwiers (2004), when teachers first ask students to generate questions, they often get a number of poor questions. Initially, students do not have the skill to create good questions. It is necessary for teachers to model how to create good questions. Zwiers explains that good questions help the reader make connections between two parts of the same text, between the text and life experiences, and between the text and world events and situations. Good questions also help the reader to stay focused and to understand the different types of information the author is trying to communicate to the reader.

Zwiers (2004) goes on to explain that good questions come in three layers:

On-the-surface questions, also known as "right there" questions, are the concrete and practical questions that help a reader keep track of explicit information. Under-the-surface questions, also called inferential questions, help a reader to understand implied or "read between the

lines" information. They also require a reader to fill in needed concepts

from background knowledge. Even deeper are the life application

questions, sometimes called "text and me" questions, which help a

reader connect the text to his or her own life or to the world. (pp. 99-

100)

These three types of questions are based on work done by Raphael (1982, 1986)

in which questions were categorized based on question-answer relationships or QAR's .

Raphael (1986) explains that QAR's begin with two categories (*In the Book* and *In my*

Head) which are primary sources of information for answering questions. Answers to *In*

the Book QAR's can be classified as "Right There" or "Think and Search" questions.

"Right There" questions are text explicit, and the answer is directly in the text and easy to

find. "Think and Search" questions are text implicit, meaning that the answer is in the

text, but the student must put together different parts of the text to find it. *In my Head*

QAR's are script-implicit and can be defined as "Author and You" and "On My Own"

questions. The student must think about what he or she already knows and combine it

with what the author has said to find the answers to "Author and You "questions.

Answers to "On My Own" questions are not found in the book, and the student must use

his or her prior knowledge and experience to answer them. Generally speaking, Raphael

found that if students were aware of the types of questions they were being asked, they

were better able to answer the questions.

Finally, Zwiers (2004) stresses the fact that good questions need to be asked at all

stages of the reading process: before reading, during reading, and after reading. Before

reading, we ask questions to activate background knowledge and establish a purpose for reading. During reading, we ask questions to clarify ideas and determine key points. After reading, we ask questions to re-organize information and make connections.

Learning Logs Strategy

According to the Saskatoon Public School Division's Instructional Strategies Online index (2004):

> Learning Logs are a simple and straightforward way to help students integrate content, process, and personal feelings. Learning logs operate from a stance that students learn from writing rather than writing what they have learned. The common application is to have students make entries during the last five minutes of class or after a completed week of class. The message here is that short, frequent bursts of writing are more productive over time than are infrequent, longer assignments. (p. 1)

Learning Logs give students the opportunity to reflect on what they have learned and to increase their awareness of how they learn and remember. They also give students a place to keep an ongoing record of challenges they are facing during learning. Learning Logs also provide a vehicle for writing about thinking as a way of learning and provide a place for recalling previous learning and summarizing present learning (Manitoba Education and Training, 1998).

In order to have students use Learning Logs properly, teachers need to engage students in regular discussions about what they are learning and why they are learning it.

Teachers need to encourage students to voice the problems they are experiencing and how they are attempting to solve these problems (Manitoba Education and Training, 1998). According to Manitoba Education and Training, these discussions are necessary "to provide students with the language they require to talk or write effectively about their learning and problem-solving processes" (p. 110).

To encourage students to reflect on their learning in their Learning Logs, teachers might want to present their students with a list of questions to guide their writing. Manitoba Education and Training (1998) suggests the following questions which might be helpful for students:

- What did I understand about the work today?

- What was difficult?

- When was I confused? What is still confusing to me?

- What do I know now that I did not know yesterday?

- What questions do I still have?

- What do I hope to learn tomorrow?

- How could I try to find answers? (p. 110)

Finally, it is recommended that students share these learning logs with teachers, peers, and parents so that all parties become involved in the learning process and can learn from one another (Manitoba Education and Training, 1998).

The theoretical basis for Learning Logs is rooted in the theory that the processes of reading and writing are connected. According to Graves, Juel, and Graves (2001), reading and writing are "parallel and reciprocal processes" (p. 41). Reading and writing

both involve "purpose, commitment, schema activation, planning, working with ideas,

revision and rethinking, and monitoring" (Vacca & Vacca, 2002, p. 250). A number of

studies (Hand, Wallace, & Yang, 2004; Pinnell, 1988; Tynjala, 1998) have also shown

that students' comprehension of content area material is enhanced when students are

asked to use both reading and writing tasks as learning tools. Vacca and Vacca explain

that writing, along with reading, in the content areas can help students learn better:

> From a content area perspective, writing about ideas and concepts
>
> encountered in texts will improve students' acquisition of content
>
> more simply than reading without writing. When reading and
>
> writing are taught in concert, the union fosters communication,
>
> enhances problem solving, and makes learning more powerful than
>
> if reading or writing is engaged in separately. (p. 251)

To sum up, writing can be used to help students make connections with the text,

reflect on their learning, ask questions about the text, highlight main ideas, celebrate

successes, and express opinions.

Teachers' Perceptions of Content Area Reading Strategies

While it is true that a large body of knowledge supports the use of reading

strategies in the classroom to enhance student comprehension of text (Dole, Brown, &

Trathen, 1996; Duke & Pearson, 2002; Klinger & Vaughn, 1999; Palinscar & Brown,

1984; Tierney, Readence, & Dishner, 1990; Vacca & Vacca, 2002), the students cannot

benefit from these reading strategies if teachers do not implement these strategies in their

classrooms. A number of studies have been conducted, similar in nature to the present study, which strive to determine the types of strategies content area teachers are using in their classrooms, and with what frequency they are being used.

Forget (2004) conducted a large-scale study which "sought to determine whether significant differences existed between groups of students based on the amount of exposure students had with content area reading strategy instruction within their content classrooms" (p. 14). Ninety-three teachers took part in the study and were required to complete a survey that measured each teacher's frequency of strategy use (which is similar to the survey teachers in the present study will be required to complete). Students were considered to have either a *frequent user of strategies* teacher or a *non-frequent user of strategies* teacher based on the frequency of strategy use reported by the teachers.

The amount of professional development in the area of strategy use was also examined in the Forget (2004) study. Teachers were placed in a high, medium, or low level group depending on the amount of professional development they reported receiving on the topic of content area reading instruction. They were also asked about the amount of ongoing support they received from peers and administration.

Based on the survey results, Forget (2004) then categorized the teachers into a number of groups: frequent and non-frequent users of strategies; low, medium, or high level of professional development; and low, medium, or high level of ongoing support in the area of content area reading instruction. Forget then took the current study one step further and looked at the impact these two factors had on three dependent variables:

(1) students' attitudes toward reading, (2) metacognitive strategy awareness, and (3) reading achievement.

The results of the study were somewhat mixed in that the students in the high-frequency use of strategies group of teachers did not always score the highest on the three dependent variables, as one might have initially thought they would. Forget (2004) believes that this finding might be related to student motivation, outside experiences with reading, and teachers not reporting their strategy use accurately.

Furthermore, students who had teachers who were categorized as high for their level of professional development in the area of content area reading instruction did not always score higher on the dependent variables either. Forget (2004) believes that these results might be due to mere chance, or due to the fact that just because teachers participated in professional development in the area of content area reading instruction does not mean that they used the ideas from this instruction in their classrooms on a consistent or correct basis. She also believes that the results might have been impacted by student attitude, prior experience, family background, student motivation, and learning styles.

Finally, looking at the amount of ongoing support teachers received in the area of content area reading instruction, students in groups with teachers who rated their level of support as high, did not score the highest on the dependent variables, as one might have initially expected. Forget (2004) believes that this might be the case because teachers who were rated as high for support in content area reading strategy use might have asked for support, received it, but then never really used the strategies in their instruction.

One of the intentions of the current study is to determine which content area reading strategies are currently being used by content area teachers in their classrooms. Haydey (2005) conducted a study which, in part, examined "the most often used before, during, and after cognitive text-processing strategies employed by middle and senior years social studies and science teachers" (p. 48). Haydey found that activating or building background knowledge and using analogies were the most common before reading strategies used. Using questions to guide reading was the most commonly used during reading strategy, and providing feedback was the most frequently used after reading strategy. Haydey also indicated that "the use of before reading instructional strategies was greater than the use of both during and after reading instructional strategies" (p. 99).

Barry (2002) conducted a study which determined the reading strategies used by content area teachers. The participants for this study consisted of former students of Barry's who had taken a university course which she taught called *Teaching Reading in the Content Areas.* All preservice middle and secondary teachers were required to take this course. Barry was interested in finding out which reading strategies her former students were using in their middle and secondary school content area classrooms.

Similar in nature to the survey used in the current study, Barry used a survey as her instrument for measuring teachers' content area strategy use. Barry sent surveys out to 550 former School of Education graduates asking them to indicate the types of content area reading strategies they had used in their classrooms. She also asked participants to rate the effectiveness of the strategies and to check the strategies they would recommend

others to use. Of the 550 mailings, 286 (52%) were returned with messages such us

"Moved Left No Address Unable to Forward" and "Return to Sender". The Alumni

Center at the university was unable to find contact information for 2% of the researcher's

former students. In the end, information provided in 123 surveys that were completed and

returned provided the data for this study.

The results of the study indicated that social studies and English teachers used the

greatest number of strategies (an average of 13) with foreign language and teachers of

gifted students all averaging 12 (Barry, 2002). The three strategies used most often by

the teachers in the study were Visual Aids (84%), Analogies (77%) and Graphic

Organizers (77%). Comments regarding the use of visual aids were things like, "An

absolute must," "Indispensable," and "Always, Always, Always." Teachers felt that

analogies could be used to help relate content concepts to the students' lives. Graphic

organizers were praised as great organizational tools.

While most of the feedback regarding strategy use was positive, Barry (2002)

indicates that there were some concerns regarding the amount of time required to

implement reading strategies, the time to plan and prepare for the use of reading

strategies, and the confidence needed to teach the strategies.

Finally, Barry (2002) stresses the fact that reading strategies "are not meant to be

disjointed activities separate from the larger comprehension process in which students

and teachers read, write, analyze, monitor, and discuss. They are vehicles for helping

students use the kinds of cognitive strategies implemented by excellent teachers" (pp.

134-135).

In a project (which is similar to the current study) conducted by Coley, DePinto, Craig, and Gardner (1993), three teachers implemented reading strategies in their classrooms and then shared their perceptions of these strategies with the principal researcher, Coley. The teachers (DePinto, Craig, and Gardner) implemented the reciprocal teaching strategy in their classrooms using the question-response cues strategy and elements of cooperative learning in their teaching. Two of the teachers who participated in the project (DePinto and Craig) were elementary school teachers and one was a middle/secondary school teacher (Gardner).

Coley, a university professor, taught the reciprocal teaching and the question-response cues strategies in a graduate course entitled *New Directions in Reading*, and all three teachers participating in the project took this course. The reciprocal teaching strategy consists of four strategies (predicting, clarifying, questioning, and summarizing) being used together in a routine (Coley et al., 1993). The question-response cues strategy consists of a set of visuals that helps students create their own questions. The visuals, based loosely on Bloom's taxonomy, represent the following types of questions: Recall, Compare, Contrast, Cause/Effect, Idea to Example, Example to Idea, and Evaluation.

Each teacher implemented the reciprocal teaching strategy in his or her class and also used the question-response cues strategy to help teach the questioning portion of the reciprocal teaching strategy. Elements of cooperative teaching were also incorporated by all of the teachers. Teachers provided feedback on both the positive and negative aspects of the implementation of the strategies and of the strategies themselves. The article does

not indicate in what form (i.e., journals, interviews, anecdotal records) teachers were required to provide their feedback regarding the strategies.

All of the teachers involved in the project noticed striking differences in student engagement after they introduced both the reciprocal teaching strategy and the question-response cues strategy (Coley et al., 1993). Furthermore, visitors to the classrooms involved in the project noted how "intensely engaged students were in learning" (p. 263). In the end, all three teachers were convinced that their modified versions of reciprocal teaching were beneficial in helping students develop better comprehension.

Bean (1997) conducted a study that examined preservice teachers' selection of specific vocabulary and comprehension teaching strategies for use in a microteaching session and a 5-day teaching practicum. Preservice teachers involved in the study were enrolled in a required content area reading course in the secondary certification program at the University of Hawaii-Hilo. In the first phase of the study, Bean looked at the strategies used by 27 preservice teachers in a microteaching session. In the second phase of the study, Bean charted the degree to which 10 of these preservice teachers used strategies in subsequent practicum assignments.

The 27 participants in the first phase of the study represented the following subject areas: science (n=10), mathematics (n=3), English (n=3), art (n=2), music (n=1), and social studies (n=8). The 10 preservice teachers who were interviewed in the second phase of the study following a 5-day practicum represented the content areas of science (n=3), social studies (n=2), mathematics (n=2), English (n=1), art (n=1), and music (n=1).

The following questions were asked during the interview:

    a) Tell me about your 5-day practicum experience or student teaching experience.

    b) Are there any teaching strategies you used from your methods course?

    c) If so, what aspects of the practicum support the use of these teaching strategies?

    d) If not, what aspects of the practicum interfere with using these teaching strategies? (Bean, 1997, p. 4)

The results of the study indicated that the 27 preservice teachers involved in the first phase of the study chose a wide variety of strategies for their initial microteaching sessions (Bean, 1997). Overall, 14 strategies were selected for use in the microteaching sessions. Graphic organizers and Anticipation-reaction guides were the most common strategies used in the microteaching sessions with six and five preservice teachers using them respectively.

The results of the second phase of the study showed that the strategies chosen for use in the 5-day practicum were "more narrowly focused on perceived constraints of the discipline and the reality of the secondary classroom and students" (Bean, 1997, p. 11). During the 5-day practicum experience, 8 out of 10 preservice teachers used one of the strategies that had been introduced in their university course. However, only 2 out of 10 preservice teachers continued to use the strategy they had chosen for their microteaching session. Two participants reported using no strategies at all in their practicum experience.

The study indicated the cooperating teacher was the most influential factor in strategy selection and use (Bean, 1997). Preservice teachers tried to choose strategies that would fit with the climate they felt the cooperating teacher wanted to maintain in the classroom. Finally, the study showed that if the cooperating teachers used more of a traditional style of teaching such as assigned text reading, lecture, whole class recitations, and worksheets, then the preservice teachers might do this as well, instead of using strategies.

Although the current study does not examine preservice teachers, the Bean (1997) research done with preservice teachers is still relevant. Training which the participants in the current study might have received in the use of reading strategies could have occurred while they were attending a preservice education program at university.

A study by Maaka and Ward (2000) was prompted by finding ways to help students overcome their problems comprehending new ideas from content area texts. One survey for students and one survey for teachers were used to gather information on student motivation and comprehension, and instructional methods. Relevant to the present study were the results regarding the instructional methods used by the 12 instructors in the study. Instructors were asked, *How do the students bring meaning to the assigned readings and what methods of instruction best support this process?* The instructors' responses indicated doubts about the students' abilities to think critically. In order to encourage critical thinking, "all twelve instructors said that they used whole and small group question/discussion sessions; nine said they assigned question-response

writing exercises, although only four said they used journals for students to brainstorm ideas; nine instructors said they lectured; and six said they used tests and quizzes" (p. 7).

One of the implications for practice that arose from this study was that since 11 of the 12 instructors had limited training in language arts and literacy learning and teaching, participation in workshops, conferences, and research projects regarding new trends in the field of literacy education might be beneficial. "Areas of interest might include related theories of literacy development to content area instruction including reading and writing for a variety of purposes; integrating learning and teaching across the content areas; and catering to a range of students' needs by developing classroom programs that include a variety of instructional methods, resources, activities, and assessment procedures…" (Maaka & Ward, 2000, p. 9).

Studies examining teachers' perceptions of content area reading strategies seemed to indicate that teachers found the use of reading strategies to be an effective way in which to help students improve their comprehension of content area text. The studies also indicated, however, that reading strategies were not necessarily being implemented by teachers on a consistent basis. It was also evident that teachers had concerns about the amount of time required for both the preparation and implementation of reading strategies. Teachers need training and ongoing support in the field of content area reading strategies, so they can teach their students how to use these reading strategies and offer them ongoing support, as well.

Models of Comprehension Instruction

In the existing literature, there are a number of models of comprehension instruction that are recommended for teaching reading strategies. Beers (2002), Duke and Pearson (2002), Lipson and Wixson (2003), and Vacca (2002) all describe models of comprehension instruction that are very similar in nature. These models of comprehension instruction are variations of a framework called Explicit Teaching which is "a generic plan for developing a wide range of strategies. It seems to be an appropriate framework for teaching students of all ages" (Tierney et al., 1990, p. 73). The six steps of Explicit Teaching, outlined in Pearson and Leys (1984, as cited in Tierney et al.), are summarized in the following:

Step 1: Introduction of the skill or strategy through examples or review. Refer or expose the students to examples of the skill in the *real world.* Include the purpose of the strategy. Discuss how, when, where, and why the strategy or skills are used.

Step 2 (optional): Have the students volunteer additional examples and discuss them.

Step 3: Label, define, model, and explain the skill or strategy. The skill or strategy is given a specific label and its application demonstrated with teacher modeling.

Step 4: Guided practice. Examples are done together in order to prepare students for independent practice.

Step 5: Independent practice. The students work through the same type of

exercises, but do so independently.

Step 6: Application. Students are given a variety of situations in which

they are encouraged to apply the skill and discuss its application.

As one can see, the Explicit Teaching framework shifts gradually from being teacher-directed at the beginning of the process to being student-directed by the end of the process.

In the current study, the Duke and Pearson (2002) model of comprehension instruction (which shares many elements of Explicit Teaching) was used to teach teachers how to implement reading strategies in their classrooms. Those teachers then used the same model of comprehension instruction to teach their students how to use reading strategies.

Duke and Pearson's model of comprehension instruction not only provides instruction in specific comprehension strategies and opportunities to read, write, and discuss texts, it also connects and integrates these different learning opportunities (Duke & Pearson, 2002). The model of comprehension instruction posited by Duke and Pearson includes the following five components:

1. An explicit description of the strategy and when and how it should be used.

2. Teacher and/or student modeling of the strategy in action.

3. Collaborative use of the strategy in action.

4. Guided practice using the strategy with gradual release of
   responsibility.

5. Independent use of the strategy. (pp. 208-209)

Throughout these five phases, it is important for teachers and students to realize that there is a need to coordinate comprehension strategies. Reading strategies are not to be used one at a time. Good readers use multiple strategies. While the above model of comprehension instruction shows one strategy being taught, other strategies should be reinforced, modeled, and encouraged throughout the teaching and learning process (Duke & Pearson, 2002).

Finally, Duke and Pearson (2002) stress the fact that implementing reading strategies in and of itself is not necessarily sufficient for teaching comprehension. They indicate that choosing well-suited texts, keeping students motivated, and ongoing assessment are also key elements that affect how students will use comprehension strategies.

Professional Development: Teachers Learning From Teachers

In the present study, the researcher (also a teacher) taught teachers how to use reading strategies in their content area classrooms. For countless years, teachers have collaborated in both formal and informal settings to share teaching strategies, classroom management techniques, favourite lesson plans, success stories, and challenges. It is from these teacher-teacher encounters that teachers learn some of their most practical information—information they can use to plan interesting and relevant activities that facilitate student learning.

Research conducted by Allan and Bruton (1997) examined secondary school reading in four schools. Thirty-four teachers were studied, and in that study, they all thought that "reading is important and should be taught and developed in the secondary school" (p. 1). The majority of these teachers, however, did not feel confident in teaching reading and often apologized for their lack of training in this area.

In regard to teacher training, one teacher in the study extolled the virtues of teachers learning from other teachers by saying:

> When you sit down together and say, "Well, what's the problem here? How can we do this better?" That's super. Somebody comes up with a bit of an idea and somebody else comes up with something else, and you put it together. I think that kind of working together with somebody else who is perhaps more professionally aware than you about issues such as reading is ideal. (Allan & Bruton, 1997, p. 2)

In their book, *Systems for Change in Literacy Education: A Guide to Professional Development,* Lyons and Pinnell (2001) discuss the concept of using literacy coaches to train literacy teachers. Although Lyons and Pinnell apply the concept of literacy coach directly to a reading technique called *Guided Reading*, a number of the points they make are relevant to the teachers-learning-from-teachers method of professional development.

First of all, in order to learn how to implement the Guided Reading technique, Lyons and Pinnell (2001) suggest that literacy coaches be assigned to teachers to observe their classes and give them feedback. The literary coaches must have had a lot of experience using the Guided Reading technique themselves and observing how other

teachers use them. They are then able to observe other teachers and offer them specific support. Lyons and Pinnell stress the importance of social interaction in professional development, "because shared activity and shared meaning help learners make sense of new information" (p. 138).

According to Joyce and Showers (1980, 1982, as cited in Lyons & Pinnell, 2001), professional development is most strongly supported when "a teacher reflects on his craft with the support of another teacher who has more experience and training in assisting or 'coaching' colleagues" (p. 138). The idea of an experienced teacher observing and working with a less-experienced teacher is a concept that would work well in the area of content area reading instruction. A teacher who has considerable training and experience in the use of reading strategies would be able to observe other content area teachers and offer them practical advice on how they could improve their content area reading instruction.

Allan and Bruton (1997) support the idea of teachers working together to become better teachers. They believe that "the key to making ourselves more competent as readers and as teachers of reading lies in collaborative reflection and exploring in order to make our implicit understanding of the processes of reading and of successful classroom strategies utterly explicit" (p. 2).

According to Vacca et al. (2005), teacher collaboration is an important element of professional development, and "the activity of teachers sharing ideas and insights with one another is a powerful one. The rapport and trust that grow between individuals break down the walls of isolation that can exist when teachers work alone in their individual

classrooms" (p. 349). Vacca et al. posit that when teachers learn to make connections, they form a community, and this sense of community counteracts the isolation that is so prevalent in the teaching profession.

In a three-year professional development project conducted in Seattle, Washington, a group of high school teachers met once a month to read, discuss, and plan for an interdisciplinary humanities curriculum (Vacca & Vacca, 2002). One of the challenges emerging from this teacher study group was that teachers had to interact with colleagues they might have chosen not to associate with in the past. They were also forced to confront new and different ideas about subject matter and teaching. "The process is not easy or comfortable, but… [it is] painfully necessary" (Wineburg & Grossman, 1998, as cited in Vacca & Vacca, p. 400).

One of the key issues with the teachers-learning-from-teachers method of professional development is that teachers need to be willing to be observed and want assistance in improving their techniques for teaching reading. It takes skill and finesse on the part of the teacher trainer to give other teachers constructive criticism and advice on instruction without offending them. It is also of utmost importance that a school develops a peer coaching environment in which teachers feel comfortable sharing ideas with one another.

Teachers interested in working with other teachers might want to consider forming teacher study groups which are a form of collaborative professional development for teachers. According to Cramer, Hurst, and Wilson (1996):

A teacher study group is a collaborative group organized and sustained by teachers to help them strengthen their professional development in areas of common interests. In these groups, teachers remain in charge of their own independent learning but seek to reach personal goals through interaction with others. Groups focus on collaborative inquiries, such as researching a particular topic or issue, reading and discussing a specific book, investigating a theory, looking into a potential change in curriculum, or other commonly agreed purposes. (p. 7)

In order to learn more about teacher study groups, Cramer et al. (1996) formed their own teacher study group to research the concept of teacher study groups. Thus, the information they provide on teacher study groups is based on both research and first-hand experience. Cramer and her colleagues determined that the application and advantage of study groups are unlimited, and that they can enable independent and cooperative learning for teachers. They also found that study groups were successful in increasing teacher motivation and providing opportunities for teachers to pursue personal and professional goals while receiving support from others. Teachers also learned more when they worked together than if they had studied alone.

Cramer et al. (1996) point out that there are, however, a few considerations that need to be kept in mind when looking at forming teacher study groups. Group members need to have control over their own learning, group membership should be voluntary, group members must treat each other as equals, group members must make a

commitment to the study group process, and study groups need to set goals that are reaffirmed or adjusted at each meeting.

     In Michigan, a group of teachers and teacher educators got together to form a teacher study group that specifically addressed the literacy needs of students. The Teachers Learning Collaborative (TLC) is a network of three teacher study groups (Literacy Circle, Book Club Plus Study Group, and the Literacy Circle Study Group). The groups consist of over 30 teachers who are "actively engaged in teacher research in various stages, from defining questions to collecting data, to analyzing and publicizing what we have learned" (Raphael, Florio-Ruane, Kehus, George, Hasty, & Highfield, 2001, p.1). Raphael et al. explain that the concept of collaborative learning has its research base in Vygotsky's theory of learning. "Vygotksy's basic tenet is that learning is a social phenomenon. Individuals learn, but that learning begins, and is based in, social activity or the social plane. This social plane is reflected in the public and shared discourse of the teacher study group as ideas are appropriated and transformed" (p. 9).

     The teachers in the TLC met on Saturdays and in the evenings to discuss best practice for teaching literacy and particularly how to re-engage struggling readers through authentic interaction with literature (Raphael et al., 2001). Raphael and her colleagues believe that working together allowed the teachers in the TLC to construct knowledge that might have otherwise eluded them if they had been working alone.

     Finally, teacher collaboration can occur in many forms. It might consist of informal discussions in the staff room, teacher presentations at staff meetings, one colleague observing another in the classroom then offering feedback, or the formation of

teacher study groups. Regardless of the form, teacher collaboration is a highly effective method of teacher professional development. Vacca et al. (2005) explain that, "Just as we try to realize the potential of our students by maximizing their strengths, so can we, as teachers, grow as professionals by learning from each other. This can and should be an ongoing process—across experience levels and subjects taught" (p. 349).

Conclusion

Adolescents entering the adult world in the 21st century will read and write more than at any other time in human history. They will need advanced levels of literacy to perform their jobs, run their households, act as citizens and conduct their personal lives….In a complex and sometimes dangerous world, their ability to read will be crucial. Continual instruction beyond the early grades is needed. (Moore et al., 1999, p. 3)

Due to the fact that reading is such an integral part of our lives, it only seems logical that it should also be an integral part of our education system. Although reading is emphasized in the elementary years, this emphasis seems to decline sharply in the middle and secondary years where it is presumed that students already have sufficient reading skills. It is hoped that this Review of Literature was able to shed some light on the importance of reading programs in the middle and secondary years, and how teachers and administrators can go about implementing reading strategies that will help their students become more proficient readers.

CHAPTER 3: METHODOLOGY

Purpose of the Study

The purpose of this study was to examine five content area teachers' perceptions of the effectiveness of implementing reading strategies in their secondary school classrooms. Journals and interviews were used to measure the teachers' perceptions of the effectiveness of the reading strategies and also to measure the effectiveness of the Duke and Pearson (2002) model of comprehension instruction that was used to teach the teachers how to use the reading strategies. Teachers were also asked to comment on the teachers-learning-from-teachers method of professional development employed in the study. The teachers' background knowledge of reading strategies, classroom use of reading strategies, and the amount and type of professional development received in the field of content area reading instruction were additional areas of interest and were measured at the beginning of the study using a survey. The following four questions directed this study:

Statement of Research Questions

1. What content area reading strategies are secondary school teachers currently using in their classrooms, and with what frequency do secondary school teachers use content area reading strategies in their classrooms? What type of professional development have secondary school teachers received on the topic of content area reading instruction?

2.   Do secondary school teachers perceive the Duke and Pearson (2002)

model of comprehension instruction to be an effective method of teaching

teachers how to implement content area reading strategies? Do secondary

school teachers perceive the Duke and Pearson (2002) model of

comprehension instruction to be an effective method of implementing

content area reading strategies in their classrooms?

3.   How do secondary school teachers perceive the effectiveness of using

content area reading strategies in their classrooms? What concerns do

secondary school teachers have about implementing reading strategies in

their content area classes?

4.   Do secondary school teachers think that teachers teaching teachers about

reading strategies is an effective form of professional development for

learning about reading strategies?

Subjects

The subjects in this study were five voluntary content area teachers from a

secondary school (Senior I-Senior IV, Grades 9-12) located in the City of Winnipeg. The

subjects chosen represented a homogeneous sampling in that they were purposefully

selected based on their membership in a subgroup (Creswell, 2005). All of the subjects

were content area teachers. The subjects also represented a theory or concept sampling

due to the fact that they were purposefully chosen to help the researcher understand a

concept or theory. These subjects were chosen because it was thought they could help the

researcher understand the teachers' perceptions of the effectiveness of content area

reading strategies to improve student comprehension, the usefulness of the Duke and

Pearson (2002) model of comprehension instruction to teach both teachers and students

how to use reading strategies, and the effectiveness of the teachers-teaching-teachers

method as a form of professional development to learn about content area reading

strategies.

The teachers taught a variety of subjects including history, English language arts,

journalism, social studies, Native studies, and mathematics. In order to protect the

anonymity of the subjects, the five specific content areas represented in the study cannot

be named. Subjects chose in which class they would like to implement the strategies, and

the same class was used throughout the study. There might have been some crossover of

classes in that some students were in more than one class in which the content area

reading strategies were being implemented as part of the study.

Mixed Methodology Design

A mixed methodology approach, using both quantitative and qualitative data, was

used for this study, because it was thought this design could offer the best understanding

of the research topic. According to Miles and Huberman (2004), when qualitative and

quantitative data are combined, "we have a very powerful mix" (as cited in Creswell,

2005, p. 510).

An exploratory mixed method design was employed for the current study.

Creswell (2005) explains that in one form of exploratory design, quantitative data is first

collected to obtain statistical results, then qualitative data is collected to expand on the

initial quantitative research results. This study used a survey (a quantitative measure) to

first collect data, and then used response journals and interviews (qualitative measures) to

explain the initial quantitative results in more detail. The data collected in the response

journals and interviews, however, went beyond just further explaining the survey. For

this reason, more emphasis was put on the qualitative data than the quantitative data.

Instrumentation

Quantitative Measure—Survey

One of the research questions in the current study sought to determine which

content area reading strategies were being used by teachers in their content area

classrooms and with what frequency they were being used. This research question also

sought to determine how much and what type of professional development teachers had

received in the field of content area reading strategies. A survey (adapted from Forget,

2004) was used to collect the data that was used to address these questions. Surveys are a

versatile and effective method to obtain data that describes the "incidence, frequency, and

distribution of characteristics of the population" (McMillan, 2004, p. 195).

On the survey, there was a list of content area reading strategies, and teachers

were asked to indicate which strategies they had used in their content area classrooms.

They were also requested to indicate which subjects they taught, how many years they

had been teaching, how long they had been using content area reading strategies in their

classrooms, and the amount and type of professional development they had received in

the field of content area reading instruction over the last three years. Teachers were also asked to describe their use of content area reading strategies by choosing one of four statements that ranged in degree from using a wide variety of content area reading strategies in their classrooms to not having tried any content area reading strategies at all.

Qualitative Measures—Response Journals and Interviews

Response Journals

Response journals were chosen as a means for data collection, because they provided the subjects with a venue in which they could freely record their ideas. Two of the fundamentals of qualitative research are direct data collection from the source and a focus on the participants' perspectives (McMillan, 2004). Response journals allowed for both of these elements to be in place.

In addition to being given the opportunity to free write in their journals, the subjects were also given questions to guide their journal entries. The subjects were asked to write a grand total of six journal entries. One journal entry was written following the teacher training session for each strategy for a total of three journal entries. One journal entry was also written during or following the two-week period of classroom implementation for each strategy for a total of three journal entries. The requirements for each journal entry are outlined below:

Response Journal A--Journal Entry Following the Teacher Training Session

for each Strategy

The subjects had to write a journal entry immediately following the training session for each reading strategy (for a total of three entries). Subjects were asked to comment on the following:

1. Have you used this specific reading strategy before? If so, explain how often you have used it and under what conditions.

2. Did you find the explanation and demonstration of the strategy clear? Explain why or why not?

3. Would you make any changes in the presentation format used (i.e., the Duke and Pearson (2002) model of comprehension instruction)?

4. How do you feel about implementing this strategy in your classroom?

5. Free Write--Any other comments about the presentation or the strategy.

The subjects were asked to submit each of these journal entries when they were completed.

Response Journal B--Following the Implementation of the Reading Strategies

in the Classroom

Subjects were asked to write their journal entries throughout the two-week implementation period for each of the strategies. Teachers were asked to consider the following questions when completing these journal entries:

1. Free Write--Reactions to the Implementation of the Strategy

2. Do you perceive this to be an effective strategy for enhancing

    comprehension? Explain why or why not.

3. Was the Duke and Pearson (2002) model of comprehension instruction

    an effective framework for implementing this strategy in your

    classroom? Explain why or why not.

4. Do you have any questions or concerns regarding this strategy?

5. Do you think that you will use this reading strategy again in the

    future? Explain why or why not.

The subjects were asked to submit their journal entries following the two-week

implementation period for each strategy.

Interviews

Following the implementation of all three reading strategies, subjects were

requested to participate in an interview. The interview was chosen as a form of data

collection because it allows "for greater depth and richness of information" as the

interviewer can obtain more accurate responses by clarifying questions for the subjects

and probing for more information (McMillan, 2004, p. 167). The purpose of the

interview in this study was to give subjects the opportunity to expand on information they

had provided in their response journals and to give the researcher an opportunity to ask

the subjects more in-depth questions about their experiences.

Prior to the interview, the subjects were given the following list of questions to consider:

1. Overall, do you perceive these reading strategies to be an effective means of enhancing comprehension? Explain why or why not.

2. Which strategy do you think would be most effective, second most effective, and third most effective for improving comprehension?

3. Why do you think the strategy would be most effective, second most effective, or third most effective for improving comprehension?

4. Will you continue to use these strategies in your classroom? Explain why or why not?

5. Did you think that the teachers-learning-from-teachers method employed in this study was an effective form of training? Explain.

6. Would you be interested in receiving professional development in the area of content area reading strategies? If yes, what form would you like to see this professional development take?

7. Do you have any other comments or concerns about content area reading strategies?

Order of the Study/Procedures

The director/principal was first provided with an information letter and consent form. He was then asked to post a notice (which included a brief description of the study and its design) asking for content area teachers to volunteer their participation in the

study. A consent form was provided for each content area teacher who agreed to participate in the study.

<u>Week 1</u>

The study took place over the course of nine weeks. The first procedure was to have the teachers fill in the survey regarding previous use of content area reading strategies. Teachers were also asked to comment on the amount and type of professional development they had received on the topic of content area reading instruction.

The second step was to teach the teachers how to use the reading strategies. Each reading strategy was taught to all of the subjects in an 80-minute training session led by the researcher on a Thursday or Friday before or after school. Two training sessions were offered on the same day (one before school and one after school), and teachers could choose which training session they wanted to attend.

Teachers were given handouts during the training sessions clearly explaining each step of the implementation process (See Appendix A). They were able to keep these handouts over the course of the next two weeks and could refer to them for guidance at any point in time. When implementing the strategies in their classrooms, teachers were asked to follow the same steps that were used to present the strategies in the training sessions, but the classroom implementation process was not scripted. The first 65 minutes (that being the average length of time of a class period) of the training session was spent teaching the strategy. The last 15 minutes of the training session was used for journal writing.

The first training session (to be done toward the end of Week 1) focused on a before reading strategy called K-W-L, and the strategy was taught to the subjects using the Duke and Pearson (2002) model of comprehension instruction. This model of comprehension instruction is one that is fairly common, and variations of it can be found in a number of sources (Beckman, 2002; Beers, 2002; Duke & Pearson, 2002; Lipson & Wixson, 2003). The Duke and Pearson model of comprehension instruction starts with an explicit description of the strategy and an explanation of when and how it should be used. Next, the teacher and the students work together to use the strategy. Students are then given an opportunity to practice the strategy with the teacher giving guidance. Finally, the students are required to use the strategy independently. This model of comprehension instruction starts with direct instruction of the strategy and allows for a gradual release of control until the learner is able to use the strategy on his or her own.

Actual texts used in the subjects' classrooms were used in the training sessions. The training sessions were structured in the same way that the teachers were expected to implement the strategy in their classrooms (i.e., using the Duke and Pearson [2002] model of comprehension instruction). Following the training sessions, teachers were given an opportunity to write in their journals using the questions outlined earlier as a guideline.

Weeks 2 and 3

During the following two weeks, subjects were asked to implement the K-W-L strategy two times in their classrooms. During the two-week implementation period of

the strategy in their classrooms, subjects were asked to write in their journals using the questions outlined previously.

<u>End of Week 3, Weeks 4 and 5</u>

The next step was to train the subjects how to use a during reading Strategy called Student-Generated Questions. This training session took place at the end of Week 3. From this point, the procedure was the same as that outlined for the training and implementation of the K-W-L strategy. Teachers were asked to implement the Student-Generated Questions strategy two times during Weeks 4 and 5.

<u>End of Week 5, Weeks 6 and 7</u>

The subjects were then trained how to use an after reading strategy called Learning Logs. This training session took place at the end of Week 5. From this point, the procedure was the same as that outlined for the training and implementation of the K-W-L Strategy, and the Student-Generated Questions Strategy. Teachers were asked to implement the Learning Logs strategy two times during Weeks 6 and 7.

<u>Week 8</u>

The subjects were given an extra week to finish implementing the strategies in their classrooms, if necessary

<u>Week 9</u>

The subjects were asked to participate in an interview using the questions outlined earlier as a guideline.

Data Analysis

Survey

The surveys were used to determine which reading strategies were being used in teachers' classrooms, how often the subjects used reading strategies in their content area classrooms, and how much professional development they had received on the topic of content area reading strategies. Two graphs and one chart were created based on the information obtained from the surveys, and a brief analysis was given of each. (See Figures 4.2, 4.3, & 4.4).

Response Journals and Interviews

All of the interviews were recorded and transcribed by the researcher. The response journals were also transcribed by the researcher. The data were read line-by-line and analyzed by the researcher and a second rater who works in the field of education. The researcher and her second rater first read and analyzed the data independently looking for common threads that recurred throughout the data. These common ideas were then categorized. The two then met to compare and discuss their findings. Finally, the data were grouped and organized into themes. These themes formed the basis of the data analysis.

The answers given in the Response Journal A (following the teacher training sessions on how to implement the reading strategies) were used to determine how much, if any, experience the subjects had had with the reading strategy in question. Then, the subjects' responses were analyzed to determine if the subjects perceived the Duke and

Pearson (2002) model of comprehension instruction to be an effective method for teaching teachers how to use content area reading strategies.

The answers given in Response Journal B (following the implementation of the strategies in the classroom) were used to determine if the teachers perceived the reading strategies to be effective methods of improving reading comprehension. Response Journal B responses were also used to determine if teachers found the Duke and Pearson (2002) model of comprehension instruction to be an effective framework for strategy implementation in the classroom. Any questions or concerns the subjects had about the strategies were also examined.

The answers given in the interview were used to determine if the subjects' overall perceptions of content area reading strategies were generally positive, generally negative, or somewhere in between. Also, the subjects' opinions of the most effective, second most effective, and third most effective strategies were examined. The data analysis of the interview sought to determine what type of professional development the subjects perceived would be most effective in the field of content area reading instruction. The data in the interview were also analyzed to determine if teachers felt that the teachers-learning-from-teachers method of training was effective for teaching content area reading strategies.

CHAPTER 4: RESULTS AND ANALYSIS

Restatement of Purpose

The overall goal of this study was to investigate the process through which teachers can be supported in implementing research-based reading strategies in their content area classrooms and to examine their perceptions of these reading strategies. The study looked specifically at the Duke and Pearson (2002) model of comprehension instruction as a framework for training both teachers and students how to use a before reading strategy (K-W-L), a during reading strategy (Student-Generated Questions), and an after reading strategy (Learning Logs). This study also sought to determine the teachers' prior use of content area reading strategies, as well as the type of professional development they had received in the field of content area reading instruction. An additional purpose of the research was to determine the teachers' perceptions of the effectiveness of the teachers-teaching-teachers method of instruction employed in the study.

Restatement of Research Questions

1. What content area reading strategies are secondary school teachers currently using in their classrooms, and with what frequency do secondary school teachers use content area reading strategies in their classrooms? What type of professional development have secondary school teachers received on the topic of content area reading instruction?

2. Do secondary school teachers perceive the Duke and Pearson (2002) model of

    comprehension instruction to be an effective method of teaching teachers how to

    implement content area reading strategies? Do secondary school teachers

    perceive the Duke and Pearson (2002) model of comprehension instruction to be

    an effective method of implementing content area reading strategies in their

    classrooms?

3. How do secondary school teachers perceive the effectiveness of using

    content area reading strategies in their classrooms? What concerns do secondary

    school teachers have about implementing reading strategies in their content area

    classes?

 4. Do secondary school teachers think that teachers teaching teachers about reading

    strategies is an effective form of professional development for learning about

    reading strategies?

Format of Data Analysis

The data were analyzed research question by research question. A number of
themes emerged from the data. With the exception of research question one, which
was analyzed using themes *and* the results of the survey teachers completed at the
beginning of the study, data analysis will be presented based on the themes that have
emerged from the data.   Themes to be considered in the analysis of the data are
outlined in Figure 4.1.

Figure 4.1 Themes that Emerged from the Data

<div style="border: 1px solid black; padding: 1em;">

Themes that Emerged from the Data

Based on Research Questions 1-4 and
Observations Made Beyond the Research Questions

1. Teachers are Sometimes Unaware of Strategy Use

2. Modeling is a Key Factor of Strategy Instruction

3. Reading Strategies are Effective for Enhancing Comprehension

4. Reading Strategies Encourage Student Engagement

5. Reading Strategies Support Cooperative Learning

6. Visuals can be Used to Enhance Reading Strategies

7. Sufficient Time is Necessary for Strategy Instruction

8. Individual Teachers have Concerns about Reading Strategies

9. Teachers Teaching Teachers is an Effective Form of Content Area Reading Strategy Training

10. Content Area Reading Strategies should be Implemented Across the Curriculum

11. Teachers would like to have a Repertoire of Reading Strategies

12. Teachers Perceive Content Area Reading Strategies to be Beneficial for Different Levels of Learners.

</div>

(Please note that pseudonyms have been used to protect the identity of the teachers and students involved in the study.)

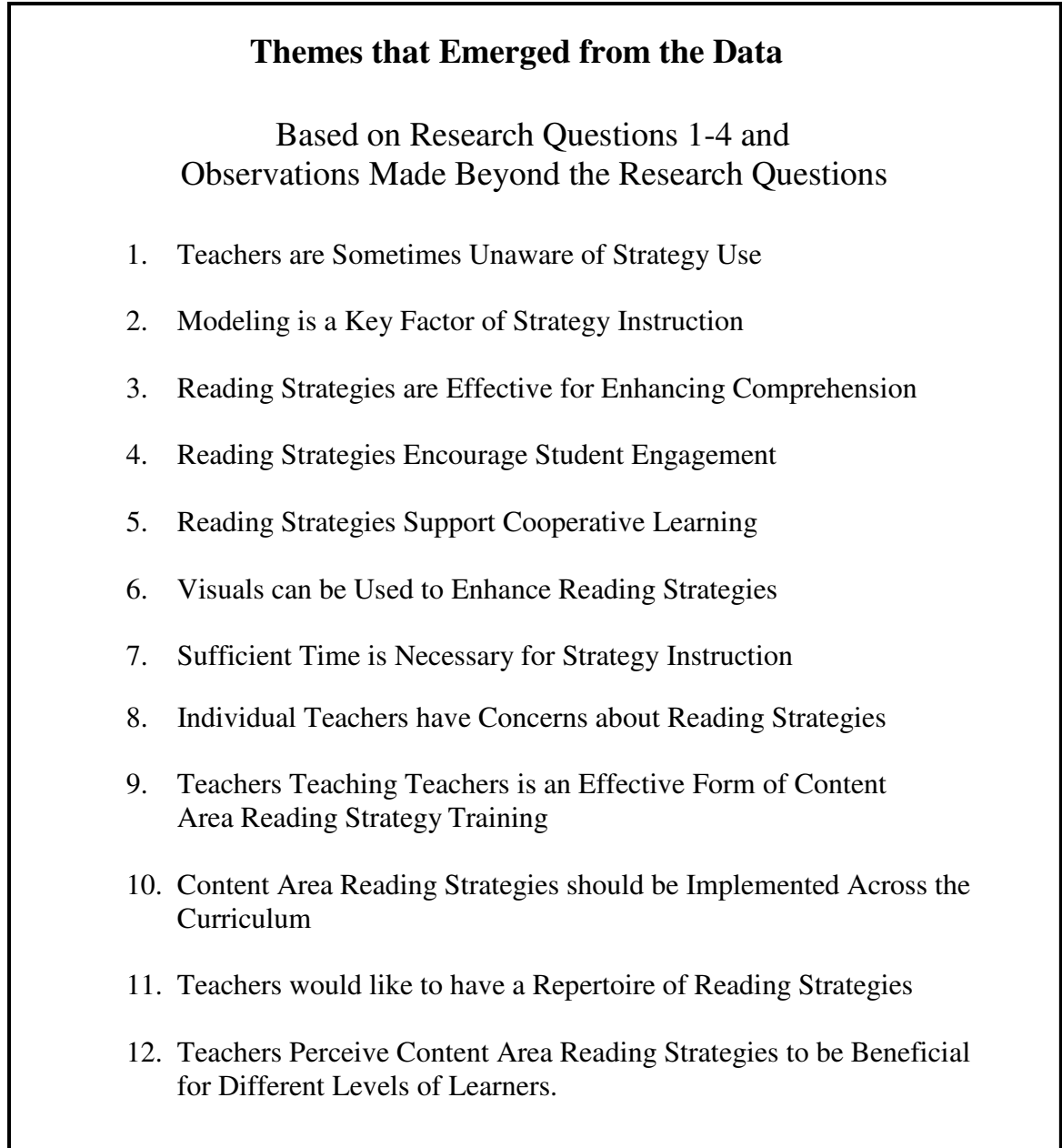Analysis of Results by Research Question

Research Question 1

What content area reading strategies are secondary school teachers currently using in their classrooms, and with what frequency do secondary school teachers use content area reading strategies in their classrooms? What type of professional development have secondary school teachers received on the topic of content area reading instruction?

Analysis of Research Question 1

Content Area Reading Strategy Use

At the beginning of the study, teachers were asked to complete a survey about content area reading strategy use. Research question one was analyzed by examining the answers given on the survey. Teachers were first asked to indicate which content area reading strategies they used in their classrooms. Responses to this question are outlined in Figure 4.2. According to the results of the survey, teachers used a variety of content area reading strategies in their classrooms. The most popular strategies were Brainstorming, which was used by all five teachers, and Venn Diagrams, which were used by four out of five teachers. None of the teachers had used Anticipation Guides or GIST.

Figure 4.2   Reading Strategies Used in Content Area Classrooms
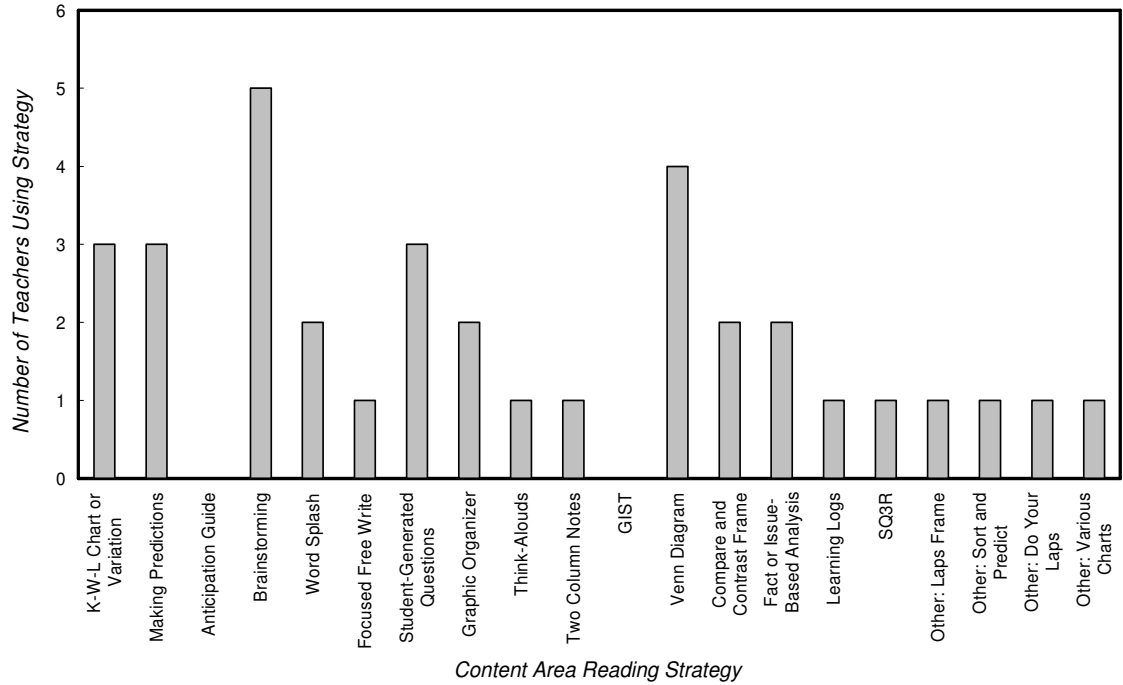
Theme: Teachers are Sometimes Unaware of Strategy Use

Research question one also asked with what frequency teachers use content area reading strategies. On the survey, teachers were asked to circle which of the following statements best describes their use of content area reading strategies:

I use a wide variety of content area reading strategies in my classroom.

I use some content area reading strategies in my classroom.

I have tried content area reading strategies in my classroom before but did not continue to use them.

I have not tried content area reading strategies in my classroom.

Although the survey question is not directly related to the research question in regard to frequency of use of content area reading strategies, it does help to determine to what degree teachers use content area reading strategies in their classrooms. The results of this survey question are outlined in Figure 4.3.

Figure 4.3 Use of Content Area Reading Strategies in the Classroom

I use a wide variety of content area reading strategies in my classroom.	
I use some content area reading strategies in my classroom.	Fran Gabby Nicole Tina
I have tried content area reading strategies in my classroom before but did not continue to use them.	
I have not tried any content area reading strategies in my classroom.	Jamie
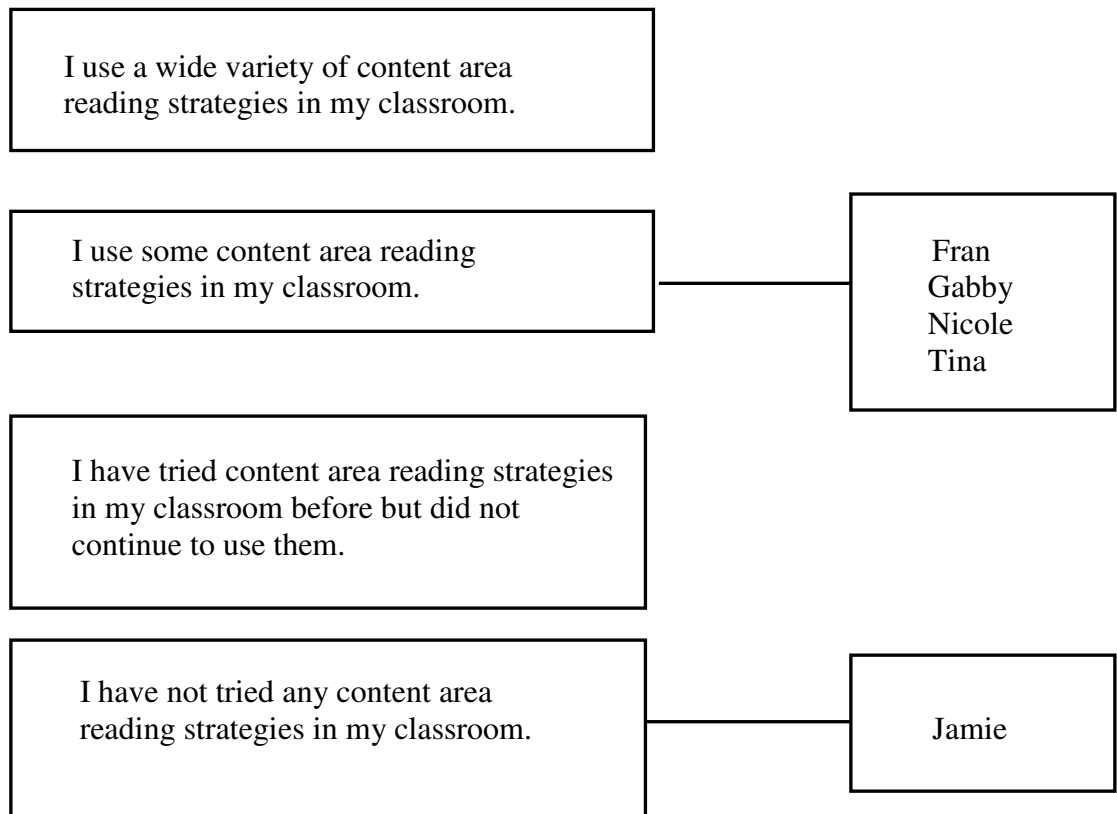
It should be noted, however, that some teachers might be using reading strategies more frequently than they think. It is possible that some teachers instinctively use reading strategies or elements of reading strategies in their instruction even though they

may not be cognizant of this fact. In his survey, Jamie indicated that he had not tried any

content area reading strategies in his classroom. At the first training session, however,

when teachers were being shown how to use the K-W-L strategy, it became apparent that

Jamie had, in fact, been using reading strategies in his classroom but was unaware of

their use. Jamie explained that he told students to pay attention to highlighted words and

definitions in the margin of the text. This is, in fact, a strategy for reading expository

text. Another teacher also mentioned that she had used parts of reading strategies in her

teaching but was not necessarily aware that she was using reading strategies.

In regard to his prior use of the K-W-L strategy, Jamie stated, "I have not used

this strategy in this form. I do seem to have used parts of it during every lesson I

teach…It was interesting to find out that I had been employing several parts of the

strategy and presentation model all along" (Response Journal, K-W-L, Following

Training Session). Nicole had a similar experience with the Student-Generated Questions

strategy. She explained, "Yes, I have used a portion of this strategy, but I was unaware

of the type of reading strategy.…I guess as educators some of us are not even aware that

we are implementing a reading strategy (Response Journal, Student-Generated Questions,

Following Training Session).

Now that these teachers are aware of their own strategy use, perhaps they will be

able to use this knowledge to enhance their understanding of content area reading

strategies and implement these reading strategies in their classrooms on a more regular

basis.

Type of Professional Development Teachers have Received on the Topic of

Content Area Reading Strategies

Research question one also sought to determine how many hours of professional

development teachers had received on the topic of content area reading strategies over the

last three years. Responses to the question regarding professional development time spent

on content area reading strategies are outlined in Figure 4.4. One teacher (Fran) did not

respond to the question. Two teachers indicated that they had received 1-3 hours of

professional development on the topic of content area reading strategies over the last

three years. One teacher received 7-9 hours, and one teacher received 10 hours or more

of professional development on the topic of reading strategies during the last three years.

These results seem to indicate that professional development in the field of content area

reading strategies was either not offered to three of the teachers or was offered but not

deemed important enough to attend by those teachers.

The first research question also asked what type of professional development

teachers had received on the topic of content area reading strategies. The answers to this

question varied.   Responses are outlined below:

Fran— No Response

Gabby—I had [content area subject] in-service sessions with reading
strategies.

Jamie—At SAG conferences

Nicole—English Assessment Workshop/Literacy

Tina—The nature of the professional development was school-based
SAG, Faculty of Education, and conference based.

Figure 4.4 Hours of Professional Development on Reading Strategies
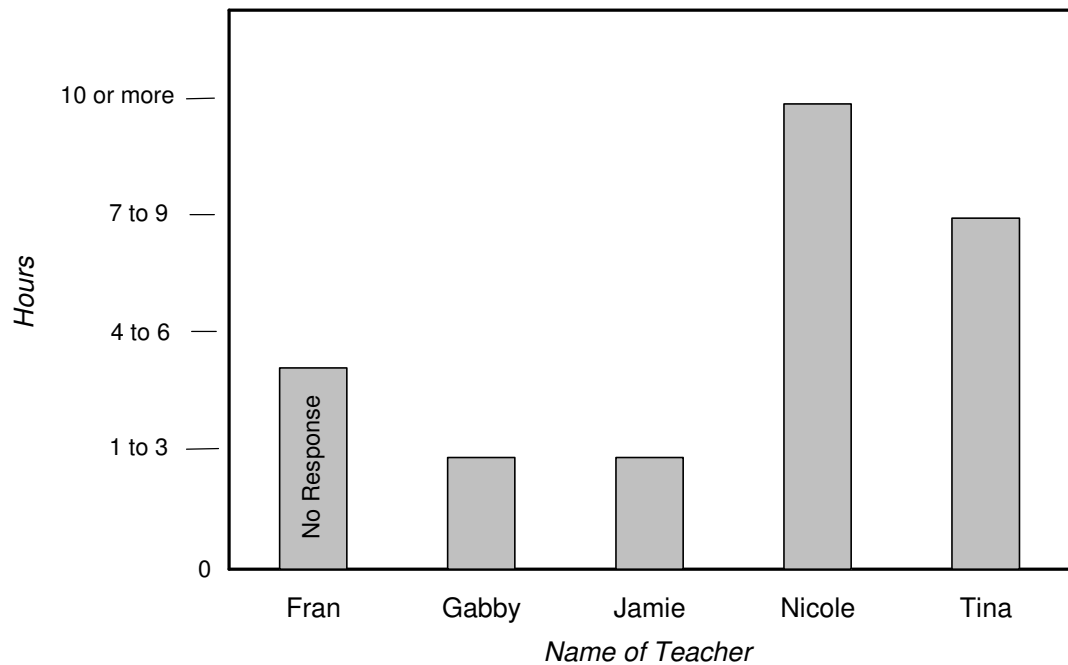
Two of the teachers received professional development in the field of content area

reading strategies at SAG conferences. SAG refers to a province-wide in-service held

yearly in Manitoba which offers professional development from a variety of Special Area

Groups (i.e., English language arts, science, mathematics, resource, physical education,

social studies, etc.). It would be interesting to examine what type of sessions on the topic

of reading strategies are offered at SAG, and if they are offered in the content-based

subject areas like science and social studies, or if they are limited to the subject most

associated with reading instruction, English language arts.

It is interesting to note that, although the teachers had varying amounts and types of professional development in the field of content area reading strategies, this seemed to have little impact on their success with the reading strategies used in the study. Overall, all five teachers had positive perceptions about the effectiveness of reading strategies for improving students' comprehension.

To conclude, although there were some similarities in the types of reading strategies used by teachers, their use of these strategies, and the amount and type of professional development they had received on the topic of reading strategies, each teacher has had varying amounts of experience and training in the field of content area reading strategies.

Research Question 2

Do secondary school teachers perceive the Duke and Pearson (2002) model of comprehension instruction to be an effective method of teaching teachers how to implement content area reading strategies? Do secondary school teachers perceive the Duke and Pearson (2002) model of comprehension instruction to be an effective method of implementing content area reading strategies in their classrooms?

Analysis of Research Question   2

Research question two sought to determine whether teachers perceived the Duke and Pearson (2002) model of comprehension instruction to be an effective method of

teaching teachers how to use content area reading strategies, and also whether they perceived it to be an effective method of implementing reading strategies in their classrooms.

It is important to clarify that there was not enough time to progress through all five steps of the Duke and Pearson (2002) model of comprehension instruction in both the training sessions and the classroom implementation of the strategies. We were only able to progress through Steps 1-3 of the Duke and Pearson (2002) model of comprehension instruction (i.e., Step 1: An explicit description of the strategy, Step 2: Teacher and/or student modeling of the strategy in action, and Step 3: Collaborative use of the strategy in action).

Theme: Modeling is a Key Factor of Strategy Instruction

All five participants in the study agreed that the Duke and Pearson (2002) model of comprehension instruction was an effective method of training teachers how to use content area strategies and also of implementing content area reading strategies in their classrooms. However, it was also evident that all five teachers found Step 2 of the Duke and Pearson (2002) model (teacher and/or student modeling of the strategy in action) to be a particularly effective method for both the teacher training and the classroom implementation of content area reading strategies.

Using the Duke and Pearson (2002) Model of

Comprehension Instruction to Train Teachers

Results of the study showed that the teachers did, in fact, find the Duke and

Pearson (2002) model of comprehension instruction to be an effective framework to

utilize when training teachers how to use reading strategies. Teachers were asked to

respond to the following question in their response journals immediately after the

teacher-led training session for each of the three strategies: *Did you find the explanation*

and demonstration of the strategy clear? Explain why or why not. A few of the teachers

made direct or indirect reference to the steps of the Duke and Pearson model of

comprehension in their answers to this question.

Gabby responded to the aforementioned question by stating, "Yes, the explanation

and demonstration was clear and informative. The way in which the implementation of

the strategy is expected facilitates the involvement of the students" (Response Journal, K-

W-L, Following Training Session). Nicole responded, "Yes, the strategy is clear to me

because it was broken down in chunks rather than left to try and comprehend on own"

(Response Journal, K-W-L, Following Training Session).

Fran answered the question regarding the explanation and demonstration of the

Student-Generated Questions strategy by saying, "I found the explanation clear and easy

to follow. Going through the first few steps was easy enough. Modeling this activity and

actually participating made it easy to follow through" (Response Journal, Student-

Generated Questions, Following Training Session). Tina's response was somewhat

similar to Fran's. She said, "I found the explanation and demonstration of the strategy to

be remarkably clear. Why? Because I found that it was very easy to understand and the strategy was modeled rather effectively" (Response Journal, Student-Generated Questions, Following Training Session).

Fran and Gabby also commented on the presentation format following the third teacher training session involving Learning Logs. Fran said, "Yes, the explanation and strategies were easy to follow. The step-by-step process is not too difficult to follow" (Response Journal, Learning Logs, Following Training Session). Gabby responded, "The explanation and description of the strategy and when and how it should be used was clear and informative. The fact of modeling first and providing questions will be more concrete example for their use. I certainly benefited by the explanation of implementation for this strategy" (Response Journal, Learning Logs, Following Training Session).

Teacher responses to question two in Response Journal A indicate that the teachers found the Duke and Pearson (2002) model of comprehension instruction to be an effective method of training teachers how to use reading strategies. Breaking the process down into steps and modeling the strategy emerged as important factors for the teachers in regard to teacher training.

Following the first training session for K-W-L, it became apparent that during the teacher training sessions (and the classroom implementation of the strategy) there would not be time to progress through all five steps of the Duke and Pearson (2002) model of comprehension instruction. Question three in the response journals (completed immediately following the training sessions) originally read, *Would you make any*

changes in the presentation format used (i.e., the Duke and Pearson (2002) model of

comprehension instruction)? Since we were unable to progress through the complete

model, this question was modified in the response journals for the second and third

strategies. Teachers were asked to comment more specifically on the modeling aspect of

the training, because the majority of time in the training sessions was spent on modeling

the strategies. Teacher responses to the modified question further support the earlier

finding that teachers found the modeling of the strategies to be a particularly effective

method of training teachers how to use content area reading strategies.

     After the teacher training session for the Student-Generated Questions, Gabby

stated, "I certainly benefited by the modeling process. It was clear and useful for

implementation" (Response Journal, Student-Generated Questions, Following Training

Session). Jamie explained, "At this time, I don't believe that I would make changes to the

presentation format used. I do believe that having the opportunity to actually see the

strategy in use has helped me to fully understand it" (Response Journal, Student-

Generated Questions, Following Training Session). Tina shared the ideas expressed by

Gabby and Jamie when she said, "No, I would not make any changes to the Duke and

Pearson model of comprehension instruction for 'teaching teachers' how to use the

strategy. It is quite foolproof. Actively participating 'through the eyes of the student'

made me feel very open to the strategy and further, made me feel much more confident

about implementing the strategy, as well"(Response Journal, Student-Generated

Questions, Following Training Session).

Fran also commented on the use of the modeling to teach teachers how to use the reading strategies. She stated, "The modeling of the presentation was good. Seeing the activity on the board gave me a good idea of how the actual activity will look. I also think that modeling any activity is excellent, especially for visual learners" (Response Journal, Learning Logs, Following Training Session).

Finally, the teachers in the study all seemed to agree that the Duke and Pearson (2002) model of comprehension instruction was an effective framework for training teachers how to use content area reading strategies. The teachers found having the actual content area reading strategies modeled for them step-by step, working through the strategies themselves, and seeing how they would be able to teach these strategies to their students to be extremely beneficial aspects of the training.

Using the Duke and Pearson (2002) Model of

Comprehension Instruction to Teach Students

The second part of research question two sought to determine whether teachers perceived the Duke and Pearson (2002) model of comprehension instruction to be an effective method of implementing content area reading strategies in the classroom. As previously mentioned, during the classroom implementation of the strategies, teachers were only able to progress through the first three steps of the Duke and Pearson model of comprehension (i.e., Step1: An explicit description of the strategy, Step 2: Teacher and/or student modeling of the strategy in action, and Step 3: Collaborative use of the strategy in action).

Teachers were asked to implement each strategy in their classrooms a total of two times during a two-week period. Following the classroom implementation of the strategies, teachers were requested to respond to a series of questions in their response journals. Question three in Response Journal B asked, *Was the Duke and Pearson (2002) model of comprehension instruction an effective framework for implementing this strategy in your classroom? Explain why or why not.* It is important to note that three of the teachers did not respond to this question directly and did not discuss the effectiveness of the Duke and Pearson (2002) model of comprehension instruction for classroom implementation of strategies at all in their response journals. Some teachers, did, however, discuss this issue in the interview portion of the data collection, and their responses will be examined in the next section.

Jamie and Tina, the two teachers who did respond directly to the question, found the Duke and Pearson (2002) model of comprehension instruction to be a successful way in which to teach students how to use content area reading strategies.

After implementing the K-W-L strategy in his class, Jamie remarked, "The Duke and Pearson model of comprehension proved more effective when we completed the chart as a class" (Response Journal, K-W-L, After Implementation). Tina stated, "The Duke and Pearson model of comprehension was very effective as a framework for implementing the KWL strategy in my classroom" (Response Journal, K-W-L, After Implementation).

Jamie and Tina also made similar comments about the effectiveness of the Duke and Pearson (2002) model of comprehension instruction as a framework for

implementing reading strategies in their classrooms following the classroom

implementation of the Student-Generated Questions. Jamie explained, "I believe that the

Duke and Pearson (2002) model of comprehension instruction was effective in delivering

this strategy. We used it twice during our study period, so unfortunately we were unable

to progress the model fully. During our second session, I led with one question and the

students seemed to take over from there" (Response Journal, Student-Generated

Questions, After Implementation). Tina stated, "Yes, the Duke and Pearson model of

comprehension was effective in terms of implementing the strategy in my classroom. I

find the students are better able to grasp how a strategy is to be used when it is modelled

for them by the teacher" (Response Journal, Student-Generated Questions, After

Implementation).

   It is evident in examining Jamie and Tina's responses that they found the Duke

and Pearson (2002) model of comprehension instruction to be a valuable tool for

implementing content area reading strategies in their classrooms. Tina also stressed that

the modeling portion of the Duke and Pearson model of comprehension instruction was

particularly effective in teaching students how to use content area reading strategies.

   The effectiveness of the Duke and Pearson (2002) model of comprehension as a

framework for teaching students how to use content area reading strategies was also

addressed by two of the teachers during their interviews. Their comments regarding this

issue are outlined below:

Fran

Barb: And did you find that using that method in your classroom where you

modeled with the students first, and they worked in pairs, and then they

eventually would work independently, um, did you find that to be a good

strategy to use with the students, to model with them, to work with them

together?

Fran: Um, hum. Yeah. They enjoyed that although we didn't get to the

independent part on any, any of them.

Barb: Right.

Fran: But, I'm sure if we modeled them enough… (Interview with Fran, Lines

106-114)

Nicole

Barb: …did you find the modeling, um, we didn't get through all the series of

the, all the steps of the Duke and Pearson model, so basically the first

three, introducing the topic, explaining the strategy to them [the students],

modeling the strategy for and with them, and then getting them to use it in

small groups and then eventually independently. Did you find that to be

effective, um, an effective way to teach the strategy?

Nicole: Yes, I did. Modeling it first, and then, I thought on the second strategy

when you did it the second time, you were supposed to do some sort of

group thing, right?

Barb: Right.

Nicole: Okay, so that's what's I did. I paired some of them up and some of them

worked in groups, and they seemed to understand it a lot better and felt a

lot more comfortable when they were with another person with them and

they were doing sort of the same thing and it doesn't all rely on them.

(Interview with Nicole, Lines 50-63)

In their interviews, Fran and Nicole both agreed that the Duke and Pearson (2002)

model of comprehension instruction (and particularly the modeling of the strategy) was

an effective way to teach students how to use content area reading strategies. Nicole also

raised the point that the Duke and Pearson model of comprehension instruction facilitated

having the students work in groups. The idea of cooperative learning was another theme

to emerge in the study and will be discussed later in the chapter.

To sum up, the majority of the teachers found the Duke and Pearson (2002) model

of comprehension instruction to be an effective process through which to teach both

teachers and students about content area reading strategies. They also found that

modeling the strategies was a valuable tool for the teacher training sessions and the

classroom implementation of the content area reading strategies.

Research Question 3

How do secondary school teachers perceive the effectiveness of using content area

reading strategies in their classrooms? What concerns do secondary school teachers have

about implementing reading strategies in their content area classes?

Analysis of Research Question 3

Secondary School Teachers' Perceptions of the Effectiveness of Using Content Area

Reading Strategies in the Classroom

The first part of research question three sought to determine secondary school

teachers' perceptions of the effectiveness of content area reading strategies. The five teachers

involved in the study were unanimous in the opinion that using reading strategies was an

effective means of enhancing students' comprehension. It is important to note that the

teachers' previous experience with using content area reading strategies in the classroom (as

reported in Figure 4.3) seemed to have no effect on their perceptions of the effectiveness of

the strategies. The one teacher who indicated that he had not used any reading strategies in

his classroom had the same overall positive perception of the effectiveness of the content

area reading strategies as the four teachers who indicated that they used some content area

reading strategies in their classrooms.

In the interviews, teachers were asked to state which content area reading strategies

they thought were the first, second, and third most effective. Teachers were also asked, in

their response journals, to explain their previous use of each strategy. The results of these

questions will be examined following the discussion of the teachers' overall perceptions of

the effectiveness of reading strategies for improving comprehension.

In both the response journals and the interviews, there were a number of common

ideas shared by the teachers regarding the overall effectiveness of the content area

reading strategies. It is these common ideas that formed the basis for the themes that

emerged regarding the effectiveness of reading strategies for helping students better

understand text.

Theme: Reading Strategies are Effective for Enhancing Comprehension

One of the themes to emerge in this study was that using content area reading

strategies is an effective means of enhancing student comprehension. All five teachers

agreed that students were better able to understand the text if reading strategies were used

as part of the learning process. In the interview portion of the study, teachers made

several comments stating that the overall use of reading strategies helped students

comprehend the text. A number of these teacher comments are outlined below:

Fran

Barb: Okay, and um, will you continue to use these strategies in your classroom?

Fran: I like the first two, yeah, the K-W-L and the, uh, Student-Generated

Questions. I really like that one, 'cause it makes them think, you know,

deeply, I'll say, about the article or the topic whatever they're working on.

Yuh, so I would use that. (Interview with Fran, Lines 88-93)

Gabby

Barb: All right. Overall, Gabby, um, did you perceive these reading strategies

to be an effective means of enhancing comprehension?

Gabby: Oh, yes, yes, especially for the most limited students, yeah. (Interview

with Gabby, Lines 118-120)

Jamie

Barb: All right. Overall, do you perceive these strategies to be an effective

means of enhancing comprehension, and why or why not?

Jamie: First, yes. For in a couple of ways, I mean, especially with me starting,

hopefully starting a new program this fall.

Barb: Right.

Jamie: I'll have some kids in my class that aren't the greatest academically, so I

think using these gives them a different way of thinking, a different way

of comprehending, and attaching to the [topic] that we're studying…

(Interview with Jamie, Lines 12-19)

Nicole

Barb: Generally, did you perceive these reading strategies to be an effective

means of enhancing comprehension?

Nicole: *Very* effective. In my case, um, I don't know why the students seemed to

have a better retention when I quizzed them and asked them questions

about it in class. (Interview with Nicole, Lines 13-17)

Tina

Barb: Overall, do you perceive these reading strategies to be an effective means

of enhancing comprehension?

Tina: I'd say that, Yes, I overall do believe that these strategies are effective for

enhancing comprehension. (Interview with Tina, Lines 26-29)

In addition to commenting on the overall effectiveness of the content area reading

strategies, teachers were also asked, in their response journals, to comment on the

effectiveness of the individual strategies. Teachers found the individual strategies to be

successful for different reasons.

In response to the K-W-L strategy, Fran said, "I think this is an effective strategy

to enhance comprehension, the students worked well in pairs and as a group. I was

pleased with the outcome" (Response Journal, K-W-L, After Implementation). Tina

explained, "Yes, I do feel this strategy is an effective strategy for enhancing

comprehension. The K-W-L strategy is effective because it dictates that students are

required to draw upon their prior knowledge, in order to assist them in acquiring pre-

existing knowledge and acquiring new knowledge, which they may later apply"

(Response Journal, K-W-L, After Implementation).

Jamie and Nicole found the Student-Generated Questions strategy to be

particularly effective. Jamie explained, "As we wrote our unit test, the students who

participated in this study scored some of the highest marks. None of the students who

wrote today failed….I do perceive this strategy to be effective for enhancing

comprehension. As the students were coming up with questions you could tell that they

were breaking down what we had read into sentences or phrases they could understand.

When they offered questions, you could tell that they already knew how to answer and

they were telling me what type of question each was" (Response Journal, Student-

Generated Questions, After Implementation). Nicole commented, "Overall, I can tell that the students are retaining the content that they were assigned. I will be using this strategy in the future" (Response Journal, Student-Generated Questions, After Implementation).

Fran and Gabby both found the Learning Logs to be a valuable strategy. Fran stated, "I enjoyed this activity and the input from the students. I think it will help in their comprehension and from the responses I got they enjoyed this activity too" (Response Journal, Learning Logs, After Implementation). Gabby remarked, "I believe that this strategy is effective in all the reading and writing levels. The students have a chance to internalize the concept and express their understanding in words. In addition, the student is able to identify and express their concerns in a private manner" (Response Journal, Learning Logs, After Implementation).

Generally speaking, the teachers' comments about the effectiveness of each of the reading strategies to enhance student comprehension were positive. Most of the teachers commented that they would be using these strategies in their classrooms again. Some teachers, however, did have concerns or questions about the strategies. These concerns will be examined later in this chapter when the second part of research question three (What concerns do teachers have about implementing reading strategies in their content area classes?) is addressed.

Theme: Reading Strategies Encourage Student Engagement

In Response Journal B (for all three strategies) and in the interviews, teachers were asked to explain why they thought the reading strategies were effective. One idea

that surfaced continually in the teachers' responses was that student engagement in

learning is very important and that reading strategies are an effective way to get students

engaged in reading. The teachers believed that the reading strategies were successful in

getting students involved in the learning process thus better helping them relate to and

understand the text.

Fran seemed to find the K-W-L strategy to be particularly effective in helping to

engage her students in the task at hand. She explained, "Yes, I would say this strategy

was effective in helping students understand what they were reading.…If I were to assign

the reading without K-W-L students would probably skip though the reading and go

straight to the questions without examining the article closely. With the K-W-L exercise

it allowed the students to interact & discuss & add their input" (Response Journal, K-W-

L, After Implementation). Jamie also found the K-W-L strategy worked well in engaging

his students. He said, "I was impressed; the majority of the students were receptive to the

new learning strategy. They actually got involved in the learning process….I believe this

strategy can be effective for enhancing comprehension" (Response Journal, K-W-L, After

Implementation).

The Student-Generated Questions strategy was also effective in engaging

students. Gabby found "that the average students went along with the activity with no

difficulty; they were even saying it was an easy and fun way to read" (Response Journal,

Student-Generated Questions, After Implementation). Jamie explained that he thought

the Student-Generated Questions strategy was "effective for enhancing comprehension.

As the students were coming up with questions you could tell that they were breaking

down what they had read into sentences and phrases they could understand. They offered

questions you could tell that they already knew how to answer and they were telling me

what type of question each was" (Response Journal, Student-Generated Questions, After

Implementation).

Teachers also found that the Learning Logs strategy was helpful in getting

students involved in the learning process. Gabby explained, "I had total class

participation. The students were trying to answer quickly demonstrating a good

understanding of the material they read and the nature of the questions" (Response

Journal, Learning Logs, After Implementation). Tina stated, "Yes, I found this strategy to

be an effective after-reading strategy as it really encouraged reflection on the students'

parts" (Response Journal, Learning Logs, After Implementation).

The idea that content area reading strategies are an effective way to engage

students in learning was also discussed by a few of the teachers in their interviews:

Fran

> Fran: And then this way [using content area reading strategies with students], too,
>
> like they're not just bored, like, uh, just like reading and then doing a little
>
> bit of discussion, this way they're more involved I'll say, because you're
>
> assigning work for them to do…
>
> Barb: Right.
>
> Fran: …so they're not just sitting back and listening, they're actually
>
> participating. (Interview with Fran, Lines 168-173)

Jamie

> Jamie: The most effective one [reading strategy] for me worked out to be the one
>
> where, uh, the second one, where they actually wrote their own questions,
>
> because it was funny how the kids were, you know, we were reading it
>
> together then they were reading parts of it, and how I could actually see
>
> the kids following along because they knew they'd be called on to go back
>
> and pull a question…(Interview with Jamie, Lines 23-28)

Finally, teachers found that using the strategies enabled them to get their students more involved in their own learning. It seemed that the content area reading strategies were an effective means of engaging students in the reading and writing assignments. It is, however, possible that the way in which the content area reading strategies were taught to the students had an impact on the effectiveness of these strategies and the level of student engagement experienced with the strategies. If the students had just been given a handout and told to do the reading strategy, it is highly unlikely that the content area reading strategies would have received such positive feedback regarding student engagement.

All of the content area reading strategies were taught to the students using the Duke and Pearson (2002) model of comprehension instruction. The first three steps of this model (i.e., an explanation of the strategy, teacher and/or student modeling of the strategy, and collaborative use of the strategy in action) were used by the teachers when implementing the reading strategies in their classrooms. One of the previous findings in this study was that the teachers found the framework, and especially the modeling portion

of the framework, to be an effective way to implement the strategies. It is possible that

the use of this framework might also have contributed to the level of student engagement

teachers experienced when using the content area reading strategies in their classes.

Theme: Reading Strategies Support Cooperative Learning

Steps 2 and 3 of the Duke and Pearson (2002) model of comprehension

instruction (Step 2: Teacher and/or student modeling of the strategy in action and Step 3:

Collaborative use of the strategy in action) lend themselves well to large group work and

small group or partner work. In the teacher training sessions, teachers were required to

work through the strategies using cooperative learning techniques. Most of the training

was done with the teachers working together as a group. Teachers were asked to use this

large group format to model the strategy for the students (Step 2 of the Duke and Pearson

model of comprehension instruction) and were then asked to have the students work in

small groups or pairs when the students were using the strategy collaboratively (Step 3 of

the Duke and Pearson model of comprehension instruction). There were many positive

comments made in the response journals about the benefits of having the students work in

both large and small groups.

Following the classroom implementation of the K-W-L strategy, Fran stated, "I

think it [K-W-L] is an effective strategy to enhance comprehension, the students worked

well in pairs and as a group. I was pleased with the outcome. As I mentioned before, the

activity brought out the usually quiet students (they worked in pairs) and had to work

with partners and as a group they had to add their input. So this was great to see"

(Response Journal, K-W-L, After Implementation). Jamie had both a positive and

negative experience with the K-W-L strategy and cooperative learning. He explained,

"The Duke and Pearson model of comprehension instruction proved more effective when

we completed the chart as a class. When the students were working in pairs they seemed

to get somewhat confused with what column to put each thought in" (Response Journal,

K-W-L, After Implementation). In this case, the large group cooperative learning

experience was positive while the partner work was not. This teacher did, however,

indicate that with more time using the K-W-L chart he felt the students would feel more

comfortable with it.

Fran also found that cooperative learning worked well with the Student-Generated

Questions Strategy. She stated, "Yes, I would say this was an effective strategy to

implement comprehension. Again, the student is given ownership for their work, they

also get a chance to answer their partner's questions. I would not assign this strategy to

one student but rather in pairs (luckily everyone had a partner), as a means of getting

everyone involved, and they could share with each other what they know" (Response

Journal, Student-Generated Questions, After Implementation). Nicole found students

worked together in a positive way on this strategy, as well. She explained, "Some of the

young ladies helped each other by working together. They were discussing the questions

and answers…they seemed intent on finishing" (Response Journal, Student-Generated

Questions, After Implementation).

Nicole and Tina both found the cooperative aspect of the teacher/student

modeling step of the Duke and Pearson (2002) model of comprehension worked well

with the Learning Logs strategy. Nicole even made a special effort to set up her classroom so that it was conducive to cooperative learning. She explained, "Classroom set up was in a diamond shape where the thirteen students sat around the diamond shape.…I joined the students in the diamond shape set up where I explained what exactly the learning log reading strategy was....During the entire class we all sat around the diamond shape tables. I found that this setting seemed very even because we were all able to see each other at eye level. I also gave an answer for each question and I noticed when I did that students then answered more freely (Response Journal, Learning Logs, After Implementation). Tina found that "the modelling of the strategy was successful and the students seemed to enjoy the cooperative learning aspect of having the strategy modelled in class" (Response Journal, Learning Logs, After Implementation).

The teachers also made valuable comments about the use of content area reading strategies and cooperative learning during their interviews:

Fran

> Barb: And why did you like those [the K-W-L and Student Generated Questions] in particular?
>
> Fran: Um, the K-W-L pretty much it's easy…And the articles I gave them didn't involve too much reading, but it did involve some reading. And it also helps, you know, if we work as group, they learn from the group.
>
> (Interview with Fran, Lines 14-18)

Nicole

> Nicole: I paired some of them up and some of them worked in groups, and they
>
> seemed to understand it a lot better and they felt a lot more comfortable
>
> when they were with another person with them and they were doing sort
>
> of the same thing and it doesn't all rely on them. (Interview with Nicole,
>
> Lines 60-63)

Tina

> Tina: I really enjoyed using it [K-W-L], um, when I did the modeling of the
>
> Duke and Pearson model when we did it as a class using the overhead or
>
> the whiteboard, because I really am a firm believer in cooperative learning.
>
> And uh, what I found was, let's say, even if there's one student who has a
>
> great deal of knowledge about a given subject…
>
> Barb: Right.
>
> Tina: …well, another student might be cued, um, to their own knowledge based
>
> on something that's been shared by a colleague, and then they seem to feel
>
> more comfortable in offering that and not hesitating or worrying about
>
> what people are going to think about it. I like that aspect of the
>
> cooperative. (Interview with Tina, Lines 159-168)

Overall, the teachers found that the cooperative learning aspect of the Duke and

Pearson (2202) model of comprehension instruction helped to increased the students'

comfort levels in learning to use content area reading strategies and also helped them to

become more involved in their own learning.

Theme: Visuals can be Used to Enhance Reading Strategies

A number of the teachers in the study thought that using visuals in conjunction with the content area reading strategies could improve the effectiveness of the strategies. Following the training sessions for two of the strategies (K-W-L and Student-Generated Questions), a few comments were made in the response journals about adding the use of visuals to the reading strategies.

Following the training session for the K-W-L strategy, both Fran and Gabby commented about the use of visuals with this strategy. Fran stated, "Maybe as I become more familiar with the strategy, I would use something like pictures" (Response Journal, K-W-L, Following Training Session). Gabby said, "I may include the use of drawing as part of the 'I have learned' Column" (Response Journal, K-W-L, Following Training Session).

Gabby also thought that she might add visuals to the Student-Generated Questions strategy, as well. She explained, "I may modify this strategy including visual strategic material to promote interest and activate questions formation" (Response Journal, Student-Generated Questions, Following Training Session).

After implementing the strategies in their classrooms, teachers commented that the use of visuals (text illustrations, charts on the overhead, and pictures of the topic) was an effective way to have students become more involved in the learning of the content area reading strategies.

Generally speaking, the teachers found that using visuals in conjunction with the K-W-L strategy helped increase the students' interest level and also assisted the visual

learners. Gabby commented, "Their [the students] interest and confidence level grew when I used an overhead transparency and requested some input on the K and W columns. It made a huge difference on their responses….We read together at first followed by a silent reading. They worked in pairs again and presented the results within the time frame. The text used was also rich in illustrations which facilitated the visual learners" (Response Journal, K-W-L, After Implementation). Nicole also used visuals to get her students interested in the topic they were studying that day. She explained, "Students were a bit slow to start, but once they saw the topic and looked at the pictures they began to tell me what they know. This geared them up for what they want to find out….Classroom Set up—I had pictures on the walls (ALL 4) about the topic with bold text of issues related to the topic. This seemed to draw out their long term memory of [the topic]" (Response Journal, K-W-L, After Implementation).

Gabby and Nicole also had positive results using visuals with the Student-Generated Questions strategy. Gabby explained, "The fact that the text was filled with illustrations and questions gave these students some level of comfort" (Response Journal, Student-Generated Question, After Implementation). Nicole outlined her use of the visuals, "Strategy set up--I prepared posters of the three questioning areas, so students are able to usually make a connection. Posters were taped to the wall" (Response Journal, Student-Generated Question, After Implementation).

Although the overall teacher response to the use of visuals was positive, it should be noted that one of the teachers (Nicole) used visuals at one point in the study and found that they were not effective in getting students involved in the topic. She explained the

situation in her Response Journal, "Set up classroom with all 4 walls covered with posters of pictures and bold letter words to jog their memory to get them thinking. They seemed very uninterested and were slow to start. The students that are high end students were the ones talking and asking questions. Students that came to class late seemed lost and didn't want to participate" (Response Journal, K-W-L, After Implementation).

It is hard to say why the visuals were not successful in engaging the students and encouraging them to participate, especially when the use of visuals in the same class two days earlier was so effective. It is possible that some of the students were not familiar enough with the topic to feel that they could contribute to a discussion (even with the use of pictures to prompt them). It is also possible that some of the students were just not in the mood to share ideas and chose to remain quiet during the discussion.

With the exception of this one incident, the teachers found that using visuals in conjunction with the content area reading strategies was an effective means of enhancing the strategies. Visuals were used to activate background knowledge, facilitate visual learners, and encourage student participation.

Overall, the teachers' perceptions of content area reading strategies were positive. Teachers found that reading strategies were an effective means of enhancing student comprehension and engaging students in the learning process. Teachers also posited that reading strategies support cooperative learning in the classroom. Finally, teachers believed that the use of visuals could enhance the effectiveness of content area reading strategies.

Teacher Rankings of First, Second, and Third Most Effective

Content Area Reading Strategies

In the interviews, teachers were asked which of the three reading strategies implemented as part of study (K-W-L, Student-Generated Questions, or Learning Logs) they found to be the most effective. Teachers were also asked, in their response journals, if they had used the specific reading strategy before, and if so, to explain how often they had used it and under what conditions. The answers to these questions are outlined in Figure 4.5.

Four out of the five teachers ranked the Student-Generated Questions strategy as most effective, while the fifth teacher ranked the K-W-L strategy as most effective. The teachers who ranked the Student-Generated Questions strategy as the most effective strategy found that it helped students retain content and got them involved in the learning activity. One of the teachers said, "I have that feeling that the students really like it [Student-Generated Questions] to take part, it empowered them, empowers them to, you know, to participate and give their ideas" (Interview with Gabby, Lines 124-126).   The teacher who ranked the K-W-L strategy as most effective found that the three parts of the K-W-L chart gave students an opportunity to draw on "what they know, what they want to know, because then they have a reason for reading and a purpose for reading, and then what they've learned, and you get that reflective aspect" (Interview with Tina, Lines 80-83).

Figure 4.5 Teacher Ranking and Previous Use of Strategy

FRAN

Most Effective Strategy	Student-Generated Questions
Previous Use	Used Similar Strategy Previously (Jeopardy Review--Students Created Questions)
Second Most Effective	K-W-L
Previous Use	Used Once Previously
Third Most Effective	Learning Logs
Previous Use	Not Used Previously

GABBY

Most Effective Strategy	Student-Generated Questions
Previous Use	Used Similar Strategy Previously (Jeopardy Review)
Second Most Effective	Learning Logs
Previous Use	Used Previously, But Unsuccessfully
Third Most Effective	K-W-L
Previous Use	Used Often When Introducing a New Topic

JAMIE

Most Effective Strategy	Student-Generated Questions
Previous Use	Not Used Previously as a Whole (Has Asked Students to Create Questions Based on Text)
Second Most Effective	Learning Logs
Previous Use	Used Similar Strategy (Required Students to Write in Logbooks)
Third Most Effective	K-W-L
Previous Use	Not Used Previously in this Form (Uses Parts of this Strategy in Most Lessons)

NICOLE

Most Effective Strategy	Student-Generated Questions
Previous Use	Used a Portion of this Strategy (Has Students Generate Questions Three to Four Times a Month)
Second Most Effective	Learning Logs
Previous Use	Not Used Previously
Third Most Effective	K-W-L
Previous Use	Used Previously When Introducing a New Topic to Students

TINA

Most Effective Strategy	K-W-L
Previous Use	Used Several Times Previously as a Teacher Candidate and a Certified Teacher
Second Most Effective	Student-Generated Questions
Previous Use	Had Students Generate Questions (Jeopardy Review, Practice Tests, and Exams)
Third Most Effective	Learning Logs
Previous Use	Used Similar Strategies Previously (Read and Response Journals and Exit Slips)

In regard to the ranking of second and third most effective strategies, there does not appear to be any significant pattern in the way in which the strategies were ranked by the teachers.

It is difficult to determine if the teachers' previous use of the strategies had any impact on their perceptions of the effectiveness of the strategies, because almost all of the teachers had previously used the strategies or used elements of the strategies in their teaching. Only two teachers indicated that they had not used a strategy at all previously, and one teacher stated that she had used a strategy previously but did not have much success with it.

Fran stated that she had not used the Learning Logs strategy before, and this was also the strategy that she ranked as third most effective. Fran, however, also indicated that she was unsure if she had implemented the strategy correctly. She further said that she had waited for a few days after the training session to implement the strategy (while she had implemented the others right away) and felt that might have affected her success with the strategy. It is, more than likely, a combination of factors, rather than just lack of prior use of the strategy, that affected Fran's perception of the effectiveness of the Learning Logs strategy.

Similar to Fran, Nicole stated that she had not used Learning Logs previously. She did, however, rank Learning Logs second in terms of effectiveness, and K-W-L (which she *had* used previously) was ranked as third. Gabby indicated that she had used Learning Logs before, but they did not work very well as, "students were not interested in writing or no time was left at the end of the class" (Response Journal, Learning Logs, Following Training Session). Gabby, however, placed Learning Logs as second most effective *above* K-W-L (which she had used previously, presumably successfully). It does not appear that lack of use of the strategy or a prior negative experience with the strategy affected Nicole and Gabby's perceptions of Learning Logs as the second most effective strategy.

Teacher Concerns about Implementing Content Area Reading Strategies

The second part of research question three asked what concerns teachers had regarding the implementation of content area reading strategies in their classrooms. The

issue of spending a sufficient amount time on the teaching of content area reading

strategies was raised by three of the teachers, and there were also individual teachers who

had concerns about reading strategies.

Theme: Sufficient Time is Necessary for Strategy Implementation

One of the concerns that teachers brought to the forefront was that of time. Two

of the teachers expressed the fact that they needed more time than was given in the study

(two weeks per strategy) in order to teach the strategies and have the students feel

comfortable using the strategies. At the beginning of the study, teachers were told that it

was unlikely they would reach a level where students were able to use the strategies

independently within the timeframe of the study, so it is not that surprising teachers felt

they needed more time to work on the strategies with their students. The issue of

sufficient time being needed for strategy instruction was discussed by the teachers in both

their response journals and their interviews.

Gabby and Jamie both expressed the need for more time regarding the use of the

K-W-L strategy in their classrooms. Gabby stated, "I believe that time is a factor for low

level readers. With more time and frequent use of this strategy they will improve

gradually to become independent readers" (Response Journal, K-W-L, After

Implementation). Jamie explained, "We only introduced the strategy since Monday of

this week and have employed it twice. I feel that given more time using the KWL chart

the students will feel more comfortable" (Response Journal, K-W-L, After

Implementation).

Jamie also mentioned the issue of time when discussing the Learning Logs strategy. "I do believe that implementing this strategy over a period of time would prove effective in increasing a student's comprehension of material read….Due to the limited time frame of this study we were unable to employ all the steps of the model. I believe that over an extended period of time the Duke and Pearson model would be very effective in employing this strategy" (Response Journal, Learning Logs, After Implementation).

In his interview, Jamie expanded on why he would have liked more time to work with each of the strategies:

> I mean I would have liked to have had more time with each of the strategies and then I could see, you know, if I was to have to choose a strategy, I could maybe say then, "Okay, this one would be the most effective for the kids". (Interview with Jamie, Lines 178-181)

Generally speaking, the teachers seemed to feel that if they had been given more time to implement the strategies, the students would have eventually become more confident and comfortable employing the strategies.

Theme: Individual Teachers have Concerns about Content Area Reading Strategies

To begin, one of the teachers (Gabby) discussed the issue of higher level learners moving ahead too quickly and not waiting for the rest of the group to complete tasks while they were working through Steps 2 and 3 (Teacher and/or student modeling of the strategy in action and Collaborative use of the strategy in action respectively) of the Duke and Pearson (2002) model of comprehension instruction. Gabby first discussed the issue

of higher level learners moving ahead in her response journal. "The higher level students were going ahead reading completing the form faster than the class average. They also complained it was, 'Too slow', 'Boring'. The low level reading students were mainly copying answers off the board, but giving answers time to time….Once again, the high level reading students were going ahead refusing to work with their partners. The average student read and completed the last column on time. Most of the struggling students did not complete their work. They needed more time and less pressure from the rest of the class" (Response Journal, K-W-L, After Implementation).

Gabby also discussed the issue of higher level learners moving ahead of the rest of the class in her interview:

> It [the process of teaching the Student-Generated questions using the Duke and Pearson (2002) model of comprehension instruction] was too slow and then they [advanced students] didn't want to wait for the other ones. They had to sit there and wait for everybody to finish. (Interview with Gabby, Lines 54-55)

As the interview with Gabby progressed, the issue of higher level learners working ahead surfaced again. In this instance, Gabby also offered a way to address this issue.

(At this point in the interview, I was looking over Gabby's Response Journal B for the Learning Logs and asking her for clarification of some of the points she had written.)

Barb: Um, okay, so the first day was reading, demonstration, and then they did

the Learning Logs?

Gabby: Yeah. Uh hum. But still the, you know, the higher level students went

ahead, they don't want to wait for everybody else.

Barb: Do you think that if this were something to be, um, something you

continued doing, once the lower level students caught on, it might run

more smoothly?

Gabby: Yes, yes. And actually, I would try to partner them, you know, with uh,

the higher level reading students, that uh, might speed the process or

help them to understand. (Interview with Gabby, Lines 79-87)

It is also interesting to note that the idea of pairing stronger and weaker students

when working on content area reading strategies was also put forward by another teacher

(Nicole) in her interview:

…I tried to pair one of the students up with a higher level, like Barry with

Susan, because she is a meticulous writer, very good. But, I'll put

them together, and that really helped him, because she said, "I'll be the

recorder, and you just tell me what kind of questions", because I was

walking around, eh? So, I said, you can do one of the persons, one

person can write, one person can openly discuss the questions….Yeah,

but I noticed that just pairing him with someone who's stronger, he

understood better. And he came up with questions, too, because I asked

them, "Put your initial beside your question". (Interview with Nicole,

Lines 244-249 and Lines 274-276)

One might assume that the issue of higher level learners working more quickly

than lower level learners does not only occur during content area reading instruction, but

would more than likely occur during most types of lessons and activities.   It is, however,

very encouraging that the teachers involved in the study came up with an effective way in

which to deal with the issue.

For the most part, the teachers' reactions to the all three of the content area

reading strategies were positive. One of the teachers (Fran) did, however, have some

specific concerns about the Learning Logs strategy. Following the first implementation

of the Learning Logs strategy, Fran's reaction to the strategy was fairly positive although

she did express some concerns that she was not using the strategy correctly. She said, "I

don't know if I included everything that was expected of me. I think I might have

skipped a few steps but overall the students didn't complain. They liked the article and

the interaction….I also did not use the Learning Logs questions during the class. I

thought it was too much of a distraction and I didn't know where in the lesson I would

introduce them. So, I saved them for the end to add to their notes….I will probably use

this strategy again the same way that I used it in class" (Response Journal, Learning

Logs, After Implementation).

Following the second classroom implementation of the Learning Logs strategy,

Fran expressed some concerns about the way in which she implemented the strategy and

also about the effectiveness of the strategy itself. "I don't think I implemented this

activity correctly.…Honestly, I don't think this was an effective strategy. Basically what

we were doing was summarizing in our own words and making notes. I would say it was

good for making notes, but as for comprehension, not very effective.…For me, I thought

this strategy was complicated and I didn't want to overload the students with too much

paper in front of them" (Response Journal, Learning Logs, After Implementation)

During her interview, Fran gave her own explanation as to why she might not

have had a positive experience with the Learning Logs strategy:

Fran: I didn't apply it right away after…,

Barb: Right.

Fran: Like usually I would try the activity the day before or the day after we did

the session, but for some reason, I held off for a while, and I couldn't do it

right away, so maybe that's where I kind of got lost…

Barb: Right.

Fran: …because I waited a few days after the session. (Interview with Fran,

Lines, 99-105)

Fran was unsure of her method of implementing the Learning Logs strategy and

the effectiveness of the strategy, but she might have a more positive experience in the

future if she tries the strategy again following a discussion with another teacher about

how the strategy should be implemented or perhaps after observing another teacher using

the Learning Logs strategy with a class.

Although it is true that the teachers did have some concerns about content area

reading strategies, on the whole, they were pleased with the effectiveness of the strategies

and the ease with which the strategies were implemented in the classroom using the Duke

and Pearson (2002) model of comprehension instruction.

<u>Research Question 4</u>

Do secondary school teachers think that teachers teaching teachers about reading

strategies is an effective form of professional development for learning about reading

strategies?

<u>Analysis of Research Question 4</u>

Theme: Teachers Teaching Teachers is an Effective Form

of Content Area Reading Strategy Training

　　　　All five of the teachers involved in the study felt that the teachers-learning-from-

teachers method of training employed in the study was an effective way to teach teachers

how to use content area reading strategies. In the interviews, teachers were asked about

the effectiveness of this training method. Some of their comments are outlined below:

Nicole

　　　　Barb:　　And do you think that the, um, teachers-learning-from-teachers method

　　　　　　　　that we used in the study with me being a teacher teaching other teachers,

　　　　　　　　you guys, how to use the strategies, did you find that to be effective?

　　　　Nicole:　Very. I know I've heard of learning logs and that, and journals, stuff like

　　　　　　　　that, but if you don't know how to present the strategy, how else are you

going to know about it? (Interview with Nicole, Lines 162-167)

Jamie

> Barb: And in the study, um, we used sort of a teachers-learning-from-teachers
>
> method, in that I'm a teacher and I was teaching you how to use these
>
> strategies. Um, that combined with the modeling of the strategies, was
>
> that an effective way for you to learn about the strategies?
>
> Jamie: For me it was…
>
> Barb: Yeah.
>
> Jamie: …because to be honest, if you'd just handed me this stuff, I probably
>
> would have found it fairly difficult to integrate it because I was just kind
>
> of starting, you know, I was just getting my feet wet as it was in class.
>
> (Interview with Jamie, Lines 69-74 and Lines 77-79)

Tina

> Barb: And do you think that the teachers-learning-from-teachers method
>
> employed in this study was an effective form of training, with *me* as a
>
> teacher training *you* how to use the strategies is what I mean by that.
>
> Tina: Definitely. I think, um, especially since we know you, we're familiar with
>
> you… and we know that you have, like you know, a pretty rich
>
> background in comprehension strategies, and in reading, and uh, it was a
>
> good opportunity, especially for myself. I've only taught for six years and
>
> it's good to have that mentorship, and I think because we felt comfortable
>
> it's not like we were sitting in SAG [province-wide teacher conference

held annually in Manitoba] with someone we don't know who's just going

on and on, like we were active participants and willing participants.

(Interview with Tina, Lines 205-217)

It seems that the teachers-teaching-teachers method combined with the modeling

of the strategies was a particularly effective method for teaching these teachers how to

use content area reading strategies. The positive responses from the teachers regarding

the teachers-learning-from-teachers method of training indicate that perhaps schools need

to look at utilizing teachers and their experience and expertise when planning

professional development sessions.

Observations Made Beyond the Research Questions

A number of significant issues (not addressed in the analysis of the research

questions) also emerged from the data. The importance of using reading strategies across

the curriculum, teachers' perceptions that content area reading strategies are beneficial

for different levels of learners, and the importance of teachers having a repertoire of

reading strategies were three noteworthy observations made outside of the research

questions.

Theme: Content Area Reading Strategies should be Implemented Across the Curriculum

One of the key issues that came up in the interviews was that reading strategies

should be implemented across the curriculum. Teachers appeared to feel that using these

reading strategies in classrooms across the curriculum would be beneficial in helping

students improve their reading skills. The issue of strategy use across the curriculum was

raised in

the interviews:

Jamie

Barb: If strategies were to be taught to your staff and you know you could do,

maybe do, one strategy a month and implement that strategy or introduce

a number of different strategies to staff and let them pick and choose

strategies they want to use, is that something that you would see as being

beneficial for this school or for any school? I shouldn't say just

specifically this school, but for any school?

[Note: The wording of this question was changed slightly in transcription

to protect the anonymity of the school.]

Jamie: I think it would be, and reason being because then the kids are going to be

used to it. Like I said before, if the students were in one of the other four

classes where the strategies were being tested then they knew what to

expect. But if they weren't, then they were little bit hesitant and a little bit

reluctant….But if everyone was doing it, I think it would, it would tie in.

And it would also tap in.

Barb: Right.

Jamie: I think it would bring along some of the slower learners, because it would

help them adapt their thought process or maybe something would click

with them saying, "Well, I don't understand it this way, but using this

strategy, maybe I do understand it". I mean I can't see how anything like

that would be harmful. (Interview with Jamie, Lines 224-234 and

238- 245)

Nicole

> Barb: Um, do you think that in a school it would be helpful for students and
>
> staff to have strategies being implemented in all of the classes? Like to
>
> have you do a strategy with your class and then have reading strategies
>
> being done in social studies and then have reading strategies being used
>
> in science? Across the curriculum.
>
> Nicole: I think it would be beneficial, yeah. Doing those three [content area
>
> reading strategies in the study] I noticed the kids retained a lot more,
>
> because I tested them more on this last unit we covered. (Interview with
>
> Nicole, Lines 202-208)

Tina

> Tina: …I'm beginning to see that reading strategies need to be used across the
>
> curriculum, even though a lot of people are not really in that mindset.
>
> Barb: Right.
>
> Tina: A lot of people just think reading and writing is important for English.
>
> (Interview with Tina, Lines 229-233)

By and large, the teachers felt that using content area reading strategies across the

curriculum would be helpful for their students.

Theme: Teachers would like to have a Repertoire of Reading Strategies

Most of the teachers agreed that they would like to have a repertoire of reading strategies from which they could pick and choose strategies to use with their classes. Teachers felt that if they had more reading strategies from which to choose they would be able to find the best strategies to meet the needs of their students. The idea of learning how to use different reading strategies in conjunction with one another was also mentioned. Teacher comments regarding the desire for a repertoire of reading strategies were made during the interviews:

Gabby

> Barb: Just to wrap up, do you have any other comments or concerns about, um, content area reading strategies, or comments or questions about the study itself?
>
> Gabby: Um, not really, I would like to see different ones, okay? You know, more variety. And um, and uh, also, you now have the opportunity to apply whenever I felt that it was applicable…(Interview with Gabby, Lines 203-208)

Tina

> Barb: And do you have any other comments or concerns about content area reading strategies, um, or any strategies sort of in general?
>
> Tina: I don't really have any comments or concerns, but one thing that I would like to know more about is how to use different strategies together, and a few times I did do this, like um, I'm trying to remember, it was either with

K-W-L or with um, the different levels of questions. I decided to use the

Reading Around the Text strategy with one, or it might have been with

both, and I'd like to know more about how we can use certain strategies

that work well together, to, I guess to better enhance the reading

comprehension for the students. (Interview with Tina, Lines 240-249)

The idea of having a repertoire of reading strategies from which to choose really

resonated with the teachers, as this would help them to find the most appropriate reading

strategies to help their students learn.

Theme: Teachers Perceive Content Area Reading Strategies

to be Beneficial for Different Levels of Learners

A number of teachers commented on the effectiveness of content area reading

strategies for all levels of learners. The overall consensus seemed to be that reading

strategies were beneficial for high, average, and low level learners. Most of the comments

regarding the effectiveness of reading strategies for all levels of learners were made in the

interview portion of the data:

Jamie

Barb: And did you find that they [the reading strategies] worked better with

lower level, medium level, higher level learners, or that, like you said,

that some seemed to like a strategy better than others? Did you notice

anything like that?

Jamie: You know it's funny, because the class I took, I talked to you saying that

overall they had the higher average, but I mean I did have some weaker

students in the class I mean, you, know. I don't know if you want their

names or not, but you know Frank was in that class, Jana, when she was

still there was in that class. And Jana didn't want to be involved too

much at all, but Frank seemed to pick it up, and he actually seemed to

care at least a little bit…

Barb: Right.

Jamie: …so I know he got mad when someone else wouldn't read. When I asked

them to read, and they said, "No", well I wasn't going to force them, and

then he just said, "You know what then, I'll read the damn thing!" And,

he read it, and you know, he had just read a passage before, so I mean

just in that it's just like, "Oh, okay, that clicked", and he's you know

overall for his marks, he's considered to be a lower level learner.

Barb: Right. Yeah.

Jamie: Yet with Brad, who's a higher level, he seemed to relish in it, the fact that

they got to write their own questions… (Interview with Jamie, Lines 130-

149)

Jamie also commented on the effectiveness of the Student-Generated Questions

strategy for all levels of learners later on in the interview:

I don't think it [the Student-Generated Questions strategy] was lower, too

much toward the lower end that the higher end students got bored and it

wasn't too high that the lower end students were lost. (Interview with

Jamie, Lines 159-161)

Nicole

Barb: And did you find, um, were your lower level learners overwhelmed with

this [the Student-Generated Questions strategy] or were they able to sort

of keep up with your prompting?

Nicole: No, they looked relaxed and were copying, because everyone was taking

a turn, and they knew where the beginning and the end of everything

was, our article…(Interview with Nicole, Lines 252-256)

Overall, the teachers seemed to agree that the content area reading strategies were

effective in helping students of all learning levels. Content area reading strategies seemed

to provide all levels of learners with systematic ways to approach text and process

information.

It is, however, possible that the way in which the reading strategies were

implemented in the classroom, using the Duke and Pearson (2002) model of

comprehension instruction, also contributed to the success of the reading strategies for

helping the different levels of learners. The Duke and Pearson model of comprehension

instruction allows students to work in large and small groups before they have to work

independently. The collaborative nature of this model might have helped the lower level

learners increase their understanding by working with average and higher level learners.

Furthermore, working with lower level students might have increased the average and

higher level learners' understanding of the text, as they might have had to clarify ideas for the lower level learners.

Conclusion

In the final analysis, the teachers involved in the study (who all had varying experience with content area reading strategies) had generally positive responses to the training methods used to teach both the teachers and students how to use content area reading strategies and also to the reading strategies themselves. The Duke and Pearson (2002) model of comprehension was found be an effective framework for training teachers how to use content area reading strategies and also for implementing the reading strategies in the classroom. The modeling portion of the Duke and Pearson model of comprehension instruction was highlighted as being a particularly effective step for training the teachers how to use reading strategies and also for teaching the students about reading strategies. Although there were some individual concerns about the reading strategies, generally speaking, the teachers found the three content area reading strategies used in the study (K-W-L, Student-Generated Questions, and Learning Logs) to be effective for enhancing student comprehension. Finally, all of the teachers in the study expressed interest in receiving further professional development in the area of content area reading strategies using the teachers-teaching-teachers method employed in the study.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Restatement of Purpose

The overall purpose of this study was to find an effective way to teach secondary school teachers how to use content area reading strategies and to examine teachers' perceptions of the effectiveness of these reading strategies in improving student comprehension. The teachers' prior use of content area reading strategies and their professional development in the field of content area reading strategies was also explored. Specifically, this study aimed to examine the value of the Duke and Pearson (2002) model of comprehension instruction as a framework for teaching both teachers and students how to use three content area reading strategies (K-W-L, Student-Generated Questions, and Learning Logs). Finally, the study sought to determine whether teachers found the teachers-teaching-teachers method of training to be an effective way of learning about content area reading strategies.

Restatement of Research Questions

1. What content area reading strategies are secondary school teachers currently using in their classrooms, and with what frequency do secondary school teachers use content area reading strategies in their classrooms? What type of professional development have secondary school teachers received on the topic of content area reading instruction?

2. Do secondary school teachers perceive the Duke and Pearson (2002) model of comprehension instruction to be an effective method of teaching teachers how to implement content area reading strategies? Do secondary school teachers perceive the Duke and Pearson (2002) model of comprehension instruction to be an effective method of implementing content area reading strategies in their classrooms?

3. How do secondary school teachers perceive the effectiveness of content area reading strategies in their classrooms? What concerns do secondary school teachers have about implementing reading strategies in their content area classes?

4. Do secondary school teachers think that teachers teaching teachers about reading strategies is an effective form of professional development for learning about reading strategies?

Summary of Key Findings

One of the most important factors to emerge from this study was that it seemed to make content area teachers aware of the fact that they can help students become better readers and that it is not only up to English language arts teachers to address the issue of reading. The content area teachers involved in this study were very open to learning reading strategies and implementing these strategies with their students. Throughout the study, teachers reported the success of the content area reading strategies in improving student comprehension and engagement for students of all learning levels.

In addition, when the issue of literacy across the curriculum was brought up in the interviews, the teacher response was overwhelmingly positive. Teachers seemed genuinely interested in learning more reading strategies. They wanted to have a repertoire of strategies from which to choose, so they would be able to find the reading strategy that would best meet both their instructional and student needs.

Another key issue to emerge from this study was that the Duke and Pearson (2002) model of comprehension instruction was an effective framework for both teaching teachers and students how to use content area reading strategies. Teachers found the step-by-step format of the Duke and Pearson model of comprehension instruction easy to follow. Furthermore, the teachers found Step 2 of the Duke and Pearson model of comprehension (Teacher and/or student modeling of the strategy in action) to be a very powerful method of teaching both teachers and students how to use content area reading strategies. In their response journals and interviews, teachers commented on many aspects of the teacher training and the classroom implementation of the strategies. What seemed to resonate most strongly with the teachers, however, was the effectiveness of modeling as a tool to learn about reading strategies and also as a tool to teach these strategies to their students.

The issue of time did arise in the study, and teachers pointed out that sufficient time is needed to teach students how to use content area reading strategies. The study only allowed two weeks for the implementation of each strategy.   It was suggested that more time would be needed to allow the students to progress fully through all five steps of the Duke and Pearson (2002) model of comprehension, which would take students

from the initial teacher-led use of the strategy to the students' independent use of the

strategy. Teachers felt that with more time both they and the students would become

more comfortable and more adept at using the reading strategies.

It is also important to note that teaching teachers how to use content area reading

strategies by modeling how each of the strategies would be used in the classroom is

somewhat time consuming. Working through each of the content area reading strategies

with a group of teachers means that one might only get through three reading strategies in

a half-day workshop. The benefit, however, would be that the teachers would feel

confident enough to implement these three reading strategies in their classrooms, whereas

if they had just been given a booklet explaining a larger number of strategies, they might

not have even bothered to try those strategies with their students.

Finally, the teachers were all in agreement that the teachers-teaching-teachers

method employed in the study was an effective method to learn about content area

reading strategies. Teachers felt comfortable participating in the training and asking

questions during the sessions, and they were not hesitant to contact the researcher outside

of the training sessions if they had any further questions or concerns.

Limitations of the Study

Limitations such as the small sample of content area teachers involved in the

study (five) and the relatively short time given to implement the strategies (two weeks to

implement each strategy twice) must be taken into consideration when examining the

findings. More teachers involved in the study and more time to implement the strategies

might have given a broader perspective of the effectiveness of the training and also of the reading strategies themselves.

The fact that there was some crossover of students in the study, meaning that some students might have been exposed to the content area reading strategies employed as part of the study in more than one of their classes, might have had an impact on the results. If students had been exposed to the content area reading strategies more than one time, their reaction to the reading strategies might have been different in subsequent exposures to the reading strategies. If students really liked a strategy they were exposed to by one teacher the first time in the study, they might have been enthusiastic and willing to participate in subsequent exposures to the strategy, because they were happy to be using it again. However, if students did not like the strategy when they were exposed to it the first time, they might have been less enthusiastic and willing to participate in subsequent exposures to the strategy, because they were not pleased to be using it again. Although it is true that students' perceptions of the strategies were not included as part of this study, it is possible that the students' positive or negative reactions to the reading strategies could have impacted the teachers' perceptions of the strategies.

This study also involved a researcher who was known to the participants in the study. The atmosphere in the teacher training sessions was comfortable, and teachers were very willing to participate in the modeling portion of the training. It is possible that teachers were somewhat biased in their journal responses and their answers to the interview questions due to the fact that they were trying to please the researcher. They

might have been intentionally or unintentionally less critical and more positive in their responses than they might have been if the researcher had been unknown to them.

Despite the limitations, this study has important implications for teacher training and classroom practice. The positive feedback received about the teachers-teaching-teachers method employed in the study, and the strategies themselves, gives insight into valuable teacher training methods, as well as the effectiveness of content area reading strategies in improving student comprehension.

Implications for Teacher Training

The results of this study suggest that using teachers to train other teachers could be an effective method of training. In many schools, there are teachers who are experts in specific areas (i.e., reading strategies, assessment, at-risk students, etc.). For this reason, teachers could develop workshops in their areas of expertise and deliver them within their own divisions on in-service days.

Furthermore, in regard to the form the training should take, the results of this study clearly indicate that the teachers found the Duke and Pearson (2002) model of comprehension instruction to be an effective framework to train teachers about reading strategies. Due to time constraints, we were not able to progress fully through the Duke and Pearson (2002) model of comprehension instruction in the training sessions, and it seems that it is not really necessary to do so. We worked through the first thee steps of the Duke and Pearson model of comprehension instruction in the teacher training sessions and this seemed to be enough to show the teachers how the implementation of the

strategy would look in their classrooms. Teachers were made aware of Steps 4 and 5 of the Duke and Pearson model of comprehension instruction and given suggestions as to what they could do when they reached these steps.

Teachers involved in this study found the modeling to be a very powerful part of the teacher training, as it allowed them to actually see how the implementation of strategies would look when they had to implement the strategies themselves. If teachers are receiving training on something that is to be used in the classroom, such as a learning strategy or behavior management strategy, it might be helpful to have the trainer do a run through or role play of how the activity would look if it were actually being implemented in the classroom.

Finally, professional development sessions on the topic of reading need to be offered to content area teachers and not only to English language arts teachers. It is possible that some content area teachers are not addressing the issue of reading because they are unaware that they should be, or perhaps they do not know how they can help their students become better readers. Some content area teachers might be concerned that the use of reading strategies in their classrooms might take away from their teaching of the content material. Content area teachers need to be shown that content can be amalgamated with reading strategies without the content suffering. The teachers in this study all felt that reading should be taught across the curriculum and showed interest in learning more about reading strategies.

Implications for Classroom Practice

The findings of this study support the use of content area reading strategies in the secondary school classroom as an effective means to increase students' comprehension. Teachers in this study perceived the use of reading strategies with their students (before, during, and after reading) to be valuable in helping students comprehend text. They also found that content area reading strategies encourage student engagement and can be used with all levels of learners. Furthermore, the results of this study suggest that the use of cooperative learning in conjunction with the reading strategies seems to encourage student participation. Finally, teachers should be aware that incorporating visuals into the reading strategies appeals to visual learners, helps capture the students' interest, and can also encourage student participation in class discussions.

The results of this study further indicate that the Duke and Pearson (2002) model of comprehension instruction is an effective framework for teaching secondary school students how to use reading strategies. Generally speaking, the teachers found that Step 2 of the Duke and Pearson model (Teacher and/or student modeling of the strategy in action) was particularly effective in teaching their students how to use the content area reading strategies. The teacher and/or student modeling shows students exactly how the strategy works and also encourages students to participate in the modeling of the strategy. Teachers also found the Duke and Pearson model of comprehension instruction to be an easy step-by-step format to follow when implementing the content area reading strategies in their classrooms.

Teachers implementing content area reading strategies in their classrooms should use a framework, such as the Duke and Pearson (2002) model of comprehension instruction, which explicitly teaches the students how to use the reading strategies and then allows a gradual release of responsibility for strategy use from the teacher to the student.

Recommendations for Further Research

A similar study to the present one, but extended over a longer period of time, would be an interesting direction for further research. Teachers could be trained in a similar manner, but the study would then follow the use of the strategies in the classroom over a longer time period. Teachers would have the opportunity to progress fully through the five steps of the Duke and Pearson (2002) model of comprehension instruction when implementing the reading strategies in their classrooms, and the study could gauge the effectiveness of this model of comprehension instruction in its entirety. Additionally, the teachers' perceptions of the reading strategies would be examined over the extended time period. Teachers could also be trained how to use different content area reading strategies, and they could then implement these reading strategies in their classrooms. Finally, an additional element could be added to the study that examines the students' reading comprehension level both before and after the implementation of the content area reading strategies.

It would be interesting to examine how much time is sufficient for strategy instruction. A few of the teachers involved in this study found that two weeks was not

enough time to teach students how to use a reading strategy so the students would feel

comfortable using it on their own. It might be beneficial to do a study exploring how

much instruction time is needed to reach a level where students are able to use reading

strategies effectively and independently.

Research could also be done in the area of training teachers how to use content

area reading strategies in conjunction with one another. Reading strategies are not meant

to be used independently. Duke and Pearson (2002) indicate that there is a need to

coordinate comprehension strategies and that good readers use multiple strategies. One of

the participants in the present study even pointed out that she would, "like to know more

about how we can use certain strategies that work well together, to, I guess to better

enhance the reading comprehension for the students" (Interview with Tina, Lines 247-

249).

Another area of research would be to examine the type of professional

development that is offered to teachers on the topic of content area reading instruction. It

would be interesting to see to what extent teachers are being offered training in the field

of content area reading. The type of training being offered could also be examined. Are

teachers being given a bunch of handouts about reading strategies or are they actually

being shown how to use these reading strategies with their students?

A final area of related research would be a study of the type of university

education that teachers in training are receiving in the fields of content area reading

strategies and literacy across the curriculum. Further to this, it would be interesting to

follow up this line of research and examine what content area reading strategies new

teachers are actually using, and to try to determine how much transfer has occurred from the university classroom to the school classroom.

Conclusion

As some students continue to struggle with the demands of content area reading placed on them at the secondary school level, it becomes the responsibility of teachers of all subject areas to find ways to assist them. One of the ways in which teachers can help their students tackle these texts and improve their comprehension, is by teaching them how to use content area reading strategies. Content area teachers should be seeking out professional development opportunities that would teach them how to implement content area reading strategies in their classrooms, and if these types of sessions are not being offered, they should make requests to have them offered.

Reading is not only an integral part of school; it is an integral part of life. Helping students become better readers will not only benefit them greatly in school but also in their lives beyond school.

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APPENDIX A

Teacher Training Sessions—Information Sheets and Instructions for Implementation

<u>Before Reading Strategy—K-W-L</u>

Definitions

The Reading Process--refers to the idea that reading is a process, and that activities done before reading, during reading, and after reading can enhance comprehension.

K-W-L Strategy--a strategy (developed by Ogle, 1986) which is used for activating prior knowledge, establishing a purpose for reading, and reflecting on what has been learned. The basic K-W-L strategy uses three columns to write down information that we **K**now (background knowledge), **W**ant to know (asking questions), and have **L**earned (key points) (Zwiers, 2004). The K-W-L strategy also gives students the opportunity to practice writing questions and determining main ideas from the text.

Activating Prior Knowledge--activating prior knowledge increases the chance that students will understand what they read. Prior knowledge enhances comprehension by allowing the reader to relate new knowledge to existing knowledge.

References

Ogle, D. (1986). K-W-L: A teaching model that develops active reading of
    expository text. *The Reading Teacher, 39,* 564-570.

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        A toolkit of classroom activities. Newark, DE: International Reading Association.

Duke and Pearson (2002) Model of Comprehension Instruction

The model of comprehension instruction posited by Duke and Pearson (2002)

includes the following five components:

1. An explicit description of the strategy and when and how it should be used.

2. Teacher and/or student modeling of the strategy in action.

3. Collaborative use of the strategy in action.

4. Guided practice using the strategy with gradual release of responsibility.

5. Independent use of the strategy. (pp. 208-209)

Duke, N.K. & Pearson, P.D. (2002). Effective practices for developing reading

comprehension. In A.E. Farstrup & S.J. Samuels (Eds.), *What research has to*

say about reading instruction (3rd ed., pp. 205-242). Newark, DE: International

Reading Association.

Steps for Implementing K-W-L (To be used in conjunction with the Duke and Pearson [2002] Model of Comprehension Instruction)

Zwiers (2004) outlines the procedure for the K-W-L strategy in the following:

1. Create three columns on the board and head them with "What we know," "What we want to know," and "What we learned."

2. Ask students what they know about the subject or text you are about to study. Prompt the students with pictures, titles or subjects to fill in the first column.

3. Ask students what they want to know, and fill the second column with their questions.

4. Have students read the text or do research on the topic.

5. In the third column, have students answer their questions from the second column and add any extra key information that they learned. (p. 70)

Zwiers, J. (2004). *Building reading comprehension habits in grades 6-12: A toolkit of classroom activities*. Newark, DE: International Reading Association.

K-W-L Chart

Donna Ogle

	(title)	
K	**W**	**L**
(what I already know)	(what I want to find out)	(what I have learned)

From Ogle, D.M. (1989). The know, want to know, learn strategy. In K.D. Muth (Ed.), *Children's Comprehension of Text* (pp. 205–223). Newark, DE: International Reading Association.

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Johns, J.L., & Lenski, S.D. (1997). *Improving reading: A handbook of strategies*. Dubuque, IA: Kendall/Hunt Publishing Company.

K-W-L Chart used by permission of Donna Ogle—Permission granted July 6, 2007

During Reading Strategy—Student-Generated Questions

Student-Generated Questions—Information Sheet

Zwiers (2004) believes that students are tired of answering questions and thinks that, "we need to let the students generate their own questions to drive their learning. This gives students more personal investment into what they will think about and what they will look for as they read" (p. 97). There have been a number of studies that have shown the effectiveness of student-generated questions in enhancing reading comprehension. Creating questions gives students a purpose for reading and gets them actively involved in the learning process.

It is important to remember that reading comprehension is a three stage process, and good questions need to be asked at all stages of the reading process: before reading, during reading, and after reading. Before reading, we ask questions to activate background knowledge and establish a purpose for reading. During reading, we ask questions to clarify and determine key points. After reading, we ask questions to re-organize information and make connections (Zwiers, 2004).

Reference

Zwiers, J. (2004). *Building reading comprehension habits in grades 6-12:*

A toolkit of classroom activities. Newark, DE: International Reading

Association.

Student-Generated Questions

Implementing the Strategy Using the Duke and Pearson (2002)

Model of Comprehension Instruction

Step 1: An explicit description of the strategy and when and how it should be used

Please share the following information about the Student-Generated Questions Strategy with your students, so they understand a little bit about why they will be doing the strategy.

Student-Generated Questions is a strategy that gives you, the students, the opportunity to create your own questions about the text. For many years, you have answered questions created by teachers and textbooks, but now you will have the opportunity to create your own questions and to answer these questions (or those of a classmate). Creating and answering your own questions about the text helps you to focus on the most important parts of the text, and also helps you to find the key information.
As part of this activity, we will be discussing what makes good questions, and we will be practicing how to write questions. You will also be given the opportunity to answer your own questions and those of your classmates.
You can create questions before reading, during reading, and after reading. Today, we will be focusing on creating questions while we are reading or during reading.

Step 2: Teacher and/or student modeling of the strategy in action

(Note: For this activity, you can use a full unit broken down into sections and base this strategy on one of the sections. Prior to doing this activity, you will need to preview the text you are going to use to find examples of the types of questions. You should also have examples of each type of question prepared prior to the lesson, so you can prompt the students and give them sample questions, if necessary.)

a) Give students the handouts—*Different Levels of Questions and Question Tree.* Briefly explain that there are three different levels of questions: On-the-Surface Questions, Under-the- Surface Questions, and Life Application Questions.

b) Go over the *Different Levels* handout with the class. You can ask for student volunteers to read aloud if you wish. It would be very beneficial to point out examples of the three types of questions in their text. If the text does not have

samples, you can create your own. Then inform the students that you are going to read a section in the text, and then practice writing the three types of questions.

c) Give the students the reading for the day and briefly introduce the topic. Your introductions will vary depending on where you are in the text and how much you have covered on the topic thus far. You might want to review relevant information covered previously or ask students what they already know about the topic.

d) Prior to the lesson, you will have to determine where you are to going to stop the reading for this section. For this activity, I recommend reading approximately 1 page at a time then stopping to create questions. (Most texts will have charts, photos, etc. to break up the reading.)

e) Tell students that after you have finished reading the first page or so, you will stop, and then work together as a group to write different types of questions based on the designated section of the text (you can read it orally, student volunteers can read it orally, or students can read it independently).

f) When the reading is finished, ask students to give an example of an On-the Surface question. Direct them to look at the *Different Levels of Questions* sheet or the *Question Tree* for examples of words they can use to start their questions. Write the On-the-Surface question on the board under the title "On the Surface Questions". Next, work together to create an Under-the Surface question, and write it on the board under the title, "Under-the Surface Questions". Finally, work together to create a "Life Application" question and write it on the board under the heading "Life Application Questions". Be prepared to give your own examples in case students have trouble. Also, be prepared to re-explain the different types of questions and probe the students with appropriate question words for each type of question (See examples on the handouts). (Note: Based on what you want the students to learn from the text, you might want to vary the number of each type of question you want the students to create.)

g) Continue reading the next page of the text, then stop and repeat Step f. Continue with this process until you have finished the section of the text that you wanted to cover. Repeating this step three times in total (so you have three examples of each type of questions) is sufficient.

h) You can now work together as a class to answer the questions. While answering the questions, you can point out how this answer was found directly in the text (On-the-Surface) or how this answer needed us to combine information we already knew with information in the text (Under-the-Surface) or how this question connects to our lives (Life Application).

Step 3: Collaborative use of the strategy

a) If you feel that students are struggling with this strategy a bit, you can work as a large class to read the text and generate On-the-Surface, Under-the Surface, and Life Application questions in a similar fashion to Step 2. Questions can be answered as a group, in pairs, or individually.

b) When you feel that students are somewhat comfortable with the strategy, students can work in pairs or small groups to generate the three types of questions with you "floating" from group to group offering assistance and guidance when necessary. Students can answer their questions in pairs, small groups, or individually. You can have groups switch questions and answer each other's questions. Students can also correct each other's questions.

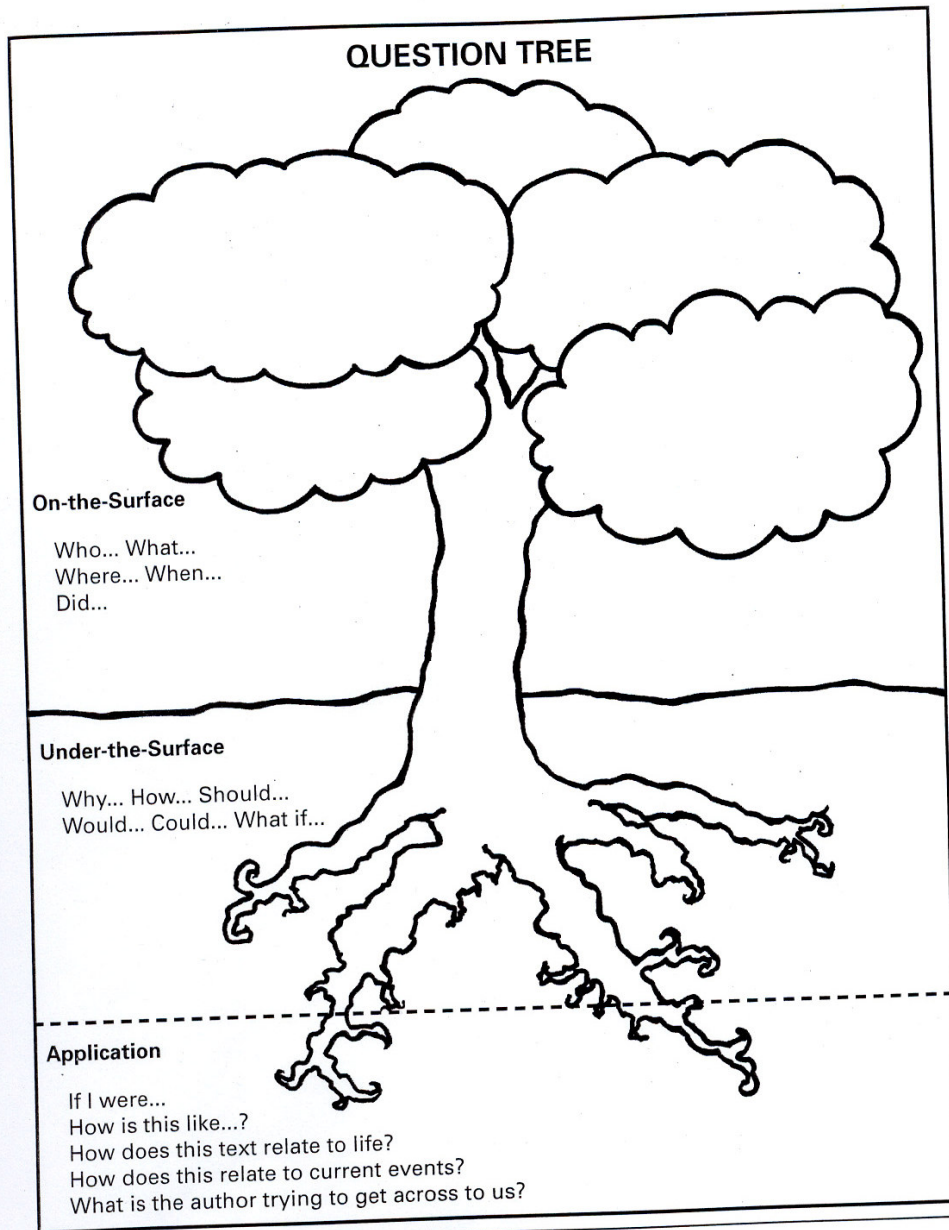Step 4: Guided practice using the strategy with gradual release of responsibility

a) Students continue to use the strategy in small groups, partners, and individually with your guidance and assistance as necessary. You will be giving less direction as the students become comfortable with creating the three different types of questions.

Step 5:   Independent use of the strategy

a) Students understand the three types of questions and are able to generate their own questions based on the text.

Note: Text can refer to print text *and* visual texts (i.e., pictures, diagrams, movies, etc).

Note: Remember, most strategies are not used in isolation. The Student-Generated Questions Strategy might also include making predictions about the text, activating background knowledge, finding main ideas, etc.

QUESTION TREE

On-the-Surface

Who... What...
Where... When...
Did...

Under-the-Surface

Why... How... Should...
Would... Could... What if...

Application

If I were...
How is this like...?
How does this text relate to life?
How does this relate to current events?
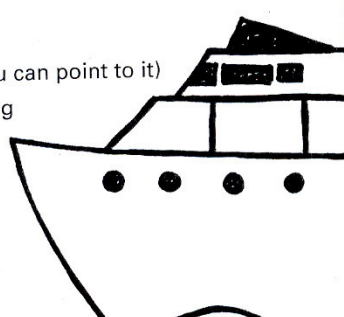What is the author trying to get across to us?

Zwiers, J. (2004). *Building reading comprehension habits in grades 6-12: A toolkit of classroom activities*. Newark, DE: International Reading Association.

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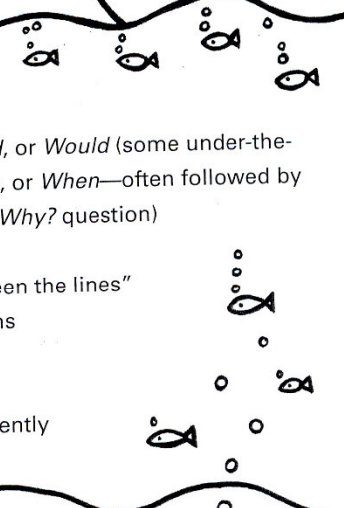## DIFFERENT LEVELS OF QUESTIONS

On-the-Surface Questions
- Usually have one correct answer found in the text (you can point to it)
- Involve summarizing, paraphrasing, and literal retelling
- Inquire about facts, details, and events
- Often begin with *Who, What, Where,* or *When* (some on-the-surface questions may begin with *Why, How, Should, Could,* or *Would*)
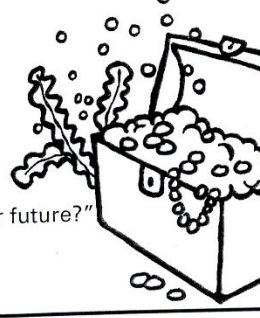
Under-the-Surface Questions
- Can have more than one correct answer
- Are not explicitly stated in the text
- Often begin with the words *Why, How, Should, Could,* or *Would* (some under-the-surface questions may begin with *Who, What, Where,* or *When*—often followed by "do you think..." and then often followed by another *Why?* question)
- Usually require one or more of the following:
  - Filling in gaps, making inferences, "reading between the lines"
  - Predicting, speculating, asking what the text means
  - Hypothesizing and evaluating
  - Challenging the text
  - Experimenting, solving problems, thinking divergently
  - Reflecting, expressing major understanding

Life Application Questions
- Connect the text to self or knowledge of the world
- Ask about author's purpose, message, moral, or symbolism
- Explore cultural or psychological ideas
- Extend beyond the text into the reader's own experience
- Include opinions
- May include "How does this part relate to my past, present, or future?" "What is my opinion about what the text says?" or "How does this text help me learn what I need to learn?"

Zwiers, J. (2004). *Building reading comprehension habits in grades 6-12: A toolkit of classroom activities*. Newark, DE: International Reading Association.

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After Reading Strategy—Learning Logs
Information Sheet

Section 1

According to the Saskatoon Public School Division's Instructional Strategies Online index (2004):

> Learning Logs are a simple and straightforward way to help students integrate content, process, and personal feelings. Learning logs operate from a stance that students learn from writing rather than writing what they have learned. The common application is to have students make entries during the last five minutes of class or after a completed week of class. The message here is that short, frequent bursts of writing are more productive over time than are infrequent, longer assignments. (p. 1)

Learning Logs give students the opportunity to reflect on what they have learned and to increase their awareness of how they learn and remember. They also give students a place to keep an ongoing record of challenges the students are facing during learning. Learning Logs also provide a vehicle for writing about thinking as a way of learning and provide a place for recalling previous learning and summarizing present learning (Manitoba Education and Training, 1998).

Section 2

In order to have students use Learning Logs properly, teachers need to engage students in regular discussions about what they are learning and why they are learning it. Teachers need to encourage students to voice the problems they are experiencing and

how they are attempting to solve these problems (Manitoba Education and Training, 1998). These discussions are necessary "to provide students with the language they require to talk or write effectively about their learning and problem-solving processes" (p. 110).

In order to encourage students to reflect on their learning in their Learning Logs, teachers might want to present their students with a list of questions to guide their writing. Manitoba Education and Training (1998) suggests the following questions might be helpful for students:

● What did I understand about the work today?

● What was difficult?

● When was I confused? What is still confusing to me?

● What do I know now that I did not know yesterday?

● What questions do I still have?

● What do I hope to learn tomorrow?

● How could I try to find answers? (p. 110)

Finally, it is recommended that students share these Learning Logs with teachers, peers, and parents so that all parties become involved in the learning process and can learn from one another (Manitoba Education and Training, 1998).

Section 3

The theoretical basis for Learning Logs is rooted in the theory that the processes of reading and writing are connected. According to Graves, Juel, and Graves (2001), reading and writing are "parallel and reciprocal processes" (p. 41). Reading and writing

both involve "purpose, commitment, schema activation, planning, working with ideas,

revision and rethinking, and monitoring" (Vacca & Vacca, 2002, p. 250).   Students'

comprehension of content area material is enhanced when students are asked to use both

reading and writing tasks as learning tools.

To sum up, writing can be used to help students make connections with the text,

reflect on their learning, ask questions about the text, highlight main ideas, celebrate

successes, and express opinions. According to Vacca and Vacca (2002):

> From a content area perspective, writing about ideas and concepts
>
> encountered in texts will improve students' acquisition of content more
>
> simply than reading without writing. When reading and writing are taught
>
> in concert, the union fosters communication, enhances problem solving,
>
> and makes learning more powerful than if reading or writing is engaged in
>
> separately. (p. 251)

References

Graves, M.F., Juel, C., & Graves, B.B. (2001). *Teaching reading in the 21st century* (2nd

ed.). Needham Height, MA: Allyn & Bacon.

Manitoba Education and Training (1998). *Grades 5-8 English language arts: A

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Vacca, R.T., & Vacca, J.L. (2002). *Content area reading: Literacy and learning across

the curriculum* (7th ed.). Boston, MA: Allyn & Bacon.

Learning Logs—After Reading Strategy

Implementing Learning Logs Using the

Duke and Pearson (2002) Model of Comprehension Instruction

Step 1: An explicit description of the strategy and when and how it should be used

(Use this as a script to explain the strategy to your students at the

beginning of the class.)

Today we are going to be using a reading strategy called Learning Logs.

Learning Logs are a simple and straightforward way to help you reflect on what you

have learned, how you have learned it, and your personal feelings about what you have

learned. Through writing, Learning Logs give you the opportunity to reflect on what you

have learned and to increase your awareness of how you learn and remember. They also

give you a place to keep an ongoing record of questions that you might have about the

material. You will write in your Learning Logs during the last fives minutes of a class,

and you will be given questions to help guide your writing.

Step 2: Teacher and student modeling of the strategy in action

a) You should plan to do this strategy for the last half of the class in which you

have taught a lesson or done an assignment that involves some sort of activity that

includes reading. It can be any type of activity. Please briefly explain (in your

Response Journals) the format of the activity done during the first half of the

class. The first 30 minutes of your class should be spent doing the activity

involving reading, and then the last 30 minutes of your class should be spent doing the Learning Logs strategy. Your activity would probably be something you normally do in your class (i.e.,) class discussion of a newspaper article that was read, creating or answering questions based on a reading assignment, reviewing for a test, etc.

b) Following the activity, explain to students that you are now going to take some time to reflect on what they have read and learned during the class. Put a copy of *Learning Logs* (See attached sheet) up on the overhead and give a copy to each of the students.

c) Ask for a student volunteer to read out the first question.

d) Ask for students to give answers. Write some of their answers on the board using complete sentences. Have one student copy down the answers off the board for you so you can make copies to give to the students so they know what sample responses look like. You could get all students to copy down the information off the board, but then you might have people focusing on copying rather than giving ideas. Use positive reinforcement to praise student contributions. If students are not giving answers, you can model what an answer might look like. *i.e., One thing that I really understood about the work today was how important it is to preview the textbook chapter before I begin reading. Looking at the headings,*

subheadings, bold words, and pictures gave me a really good idea of what the

chapter was going to be about before I even started reading!

e) Carry out c and d for the remaining questions.

Note: At this stage, it is okay if the Learning Logs look like a set of questions that have been answered. As students become more proficient at writing Learning Logs, you will encourage them to write more freely, as if they are writing a paragraph rather than just answering questions. More than likely, you will not get to this stage during this study.

f) Once you have written down sample answers to all of the questions, read through the answers with the students to review what they have learned about during the class today.

g) The next class, give students a copy of the sample Learning Log (copied off the board by a student). Tell them to keep it in their binders so they have a sample Learning Log.

Step 3: Collaborative use of the strategy

Note: This will take place during your second implementation of the strategy. Complete an activity that involves reading during the first part of the class. Once students understand how to do learning logs, they are usually done during the last five minutes of class. For now, leave about 30 minutes for students to respond in their Learning Logs while they are learning how to do them.

a) Hand out the *Learning Logs* question sheet to students.

b) Read question one orally, and ask for responses. After some sample responses have been given, ask students to write their own responses to the question. It is not necessary to write the responses on the board.

c) Read the next question orally, and ask for sample responses. After a few responses have been given, ask students to write their own responses.

d) Have students continue answering the Learning Logs questions on their own. Be sure to let students know that they can ask you or another student for assistance if they don't understand a question.

e) Circulate through the room and monitor student progress.

f) Once students are finished, you can encourage students to share responses in partners or share responses in a large class discussion.

Note: You will probably not get to steps 4 and 5 in the course of this study.

Step 4: Guided practice using the strategy with gradual release of responsibility

a) Students continue to use the strategy in small groups, partners, and individually with your guidance and assistance as necessary. You will be giving less direction, as the students become comfortable writing in their Learning Logs.

Step 5: Independent use of the strategy

   a) Students understand how to write their Learning Logs and are able to do it on their own.

Evaluation of Learning Logs: Due to the fact that Learning Logs are done in a short period of time and with only one draft, they are generally not marked for things such as grammar and spelling. Students are usually given credit for completing the Learning Logs and responding in sufficient detail.

Learning Logs

- What did I understand about the work today?

- What was difficult?

- When was I confused? What is still confusing to me?

- What do I know now that I did not know yesterday?

- What questions do I still have?

- What do I hope to learn tomorrow?

- How could I try to find answers?

Manitoba Education and Training (1998). *Grades 5-8 English language arts: A foundation for implementation*. Winnipeg, MB: Author.

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APPENDIX B

Ethics Approval Forms

Letter of Information to Principal

Request for Permission to Conduct Study

March 23, 2006

Dear █████████████ ,

My name is Barbara Cahoon, and I am a graduate student enrolled in the Master's of Education program at the University of Manitoba. I am also a teacher at ████████ ███████ . I am currently completing my thesis, and I am conducting a study titled, *Literacy Across the Curriculum: Teachers' Perceptions of Using Content Area Reading Strategies*. I am writing to provide you with information about the study and to request permission to conduct this study at your school. Furthermore, if permission is granted to conduct this study, I would like to post a notice asking for five content area teachers to volunteer their participation in the study. (See attached notice.)

The overall goal of this study is to investigate the process by which I can help teachers implement research-based reading strategies in their content area classrooms and to examine their perceptions of these reading strategies. Participants in the study will be asked to complete a survey which will take approximately 30 minutes, attend three 80-minute training sessions, complete six journal entries which will take about three hours, and take part in one 45-minute interview. The research will take place over the course of eight weeks in April, May, and June of 2006. There are no risks involved for the participants of this study. The perceived benefit of the study is that the participants will learn three content area reading strategies.

The anonymity and confidentiality of both the school and participants will be guaranteed. The name of the school will not be used in any documentation. The interviews will be audiotaped, but the audiotapes will only be heard and transcribed by me, the researcher. Journal entries and transcripts of the interviews might also be made available to my research advisor, but all of the names will be changed in transcriptions and documentation. Any identifying characteristics of the subjects will be omitted from or altered in the final transcripts to protect the identity of the subjects. Information will be stored in a secure area that is only accessible by me. All documentation and tapes will be destroyed one year after the conclusion of the study. Feedback on the study will be made available to the participants on request. You will be asked to indicate your request for

feedback at the end of this form. Participants will receive no compensation for their participation in this study.

If you have any questions or concerns regarding the study or the recruitment process, please feel free to contact to me, the principal researcher, at ▮▮▮▮▮▮ or ▮▮▮▮▮▮▮▮▮▮▮▮. You may also contact my research advisor, Stan Straw, at 474-9074 or stan_straw@umanitoba.ca

This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Please check off one of the following:

_____ **Yes,** I would like to receive a summary of the results of this study.

Address or E-mail Address:

_____

_____ **No,** I would not like to receive a summary of the results of this study..

I, _____, grant Barbara Cahoon permission to conduct this study at the school in question.

Principal's Signature:_____ **Date:**_____

Principal Researcher's Signature: _____ **Date:** _____

Notice of Study

<u>Attention Content Area Teachers</u>

You are invited to participate in a study being conducted by an individual who is working on her Master's of Education Degree at the University of Manitoba.

The overall goal of this study is to investigate the process by which the researcher can help teachers implement research-based reading strategies in their content area classrooms and to examine their perceptions of these reading strategies.

Your participation in this study would require that you complete a survey which would take approximately 30 minutes, take part in three 80-minute training sessions, complete six journal entries which will take approximately three hours, and take part in one 45-minute interview.

Your confidentiality will be guaranteed throughout the course of the study.

If you are interested in participating in this study, or if you have any questions about the study, please contact Barbara Cahoon at ████████ or ██████████████████.

Letter of Consent

March 23, 2006

Dear _____,

My name is Barbara Cahoon, and I am a graduate student enrolled in the Master's of Education program at the University of Manitoba. I am also a teacher at ▓▓▓▓▓▓▓▓▓▓. I am currently in the process of completing my thesis, and I am conducting a research study titled, *Literacy Across the Curriculum: Teachers' Perceptions of Using Content Area Strategies.*

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The overall goal of this study is to investigate the process by which I can help teachers implement research-based reading strategies in their content area classrooms and to examine their perceptions of these reading strategies. Participants in the study will be asked to complete a survey which will take approximately 30 minutes, attend three 80-minute training sessions, complete six journal entries which will take approximately three hours, and take part in one 45-minute interview. The research will take place over the course of eight weeks in April, May, and June of 2006. There are no risks involved for the participants of this study. The perceived benefit for the participants is that they will learn how to use three content area reading strategies.

The anonymity and confidentiality of both the school and the participants are guaranteed. The name of the school will not be used in any of the documentation. The interviews will be audiotaped, but the audiotapes will only be heard and transcribed by me, the researcher. Journal entries and transcripts of the interviews might also be made available to my research advisor, but all of the names will be changed in transcriptions and documentation. Any identifying characteristics of the subjects will be omitted from or altered in the final transcripts to protect the identity of the subjects. Information will be stored in a secure area that is only accessible by me, the researcher. All documentation and tapes will be destroyed one year after the conclusion of the study.

Feedback on the study will be made available to the participants on request. You will be asked to indicate your request for feedback at the end of this form. Participants will receive no compensation for their participation in this study.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the study and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation. If, at any time, you wish to withdraw from participation, please let me know by e-mail at ███████████████ or phone at ████████████.

Principal Researcher: Barbara Cahoon **Ph:** █████████ **e-mail:** ████████████████

Research Advisor: Stan Straw   **Ph:** 474-9074 **e-mail:** stan_straw@umanitoba.ca

This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca A copy of this consent form has been given to you to keep for your records and reference.

Please check one of the following:

_____**Yes,** I would like to receive a summary of the results of this study.

Address or E-mail Address:

_____

_____**No,** I would not like to receive a summary of the results of this study.

Participant's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

Ethics Approval Certificate

[Deleted in electronic version]