SUPPORTING STRUGGLING SECONDARY READERS WITH DIRECT TEACHING OF
READING COMPREHENSION STRATEGIES
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Abstract

As a means to achieve success through school and function in society, students at the secondary level need to be able to rely on their ability to independently understand and to use information acquired from various texts. With a growing population of students at the secondary level struggling with the primary task of reading amidst the rigor and demands of the Michigan Merit Curriculum, an obligation exists for the majority of teachers to change current practices and implement explicit reading strategy instruction within classrooms. The purpose of this document is to explore the impacts of reading and examine strategies to improve secondary students’ reading comprehension. Whether explaining, modeling, or coaching pupils on how and where to utilize reading strategies is embedded throughout content instruction or delivered through instructional reading programs, students deserve the opportunity to learn effective measures to improve their reading.
Chapter I: Introduction

Throughout history, reading has evolved into a multifaceted set of skills with a host of benefits. As an unspoken value of America, reading can fulfill quests for adventure, leisure, business, social learning, and various other advancements. Reading is heavily rooted in the learning process, and is a vital skill in any educational system. The purpose of this document is to explore the impacts of reading and examine strategies to improve reading comprehension of secondary students.

Background

While a significant amount of research has been conducted on promotion of early acquisition of reading skills for young children, comparatively little empirical research has focused on secondary students who struggle with reading comprehension. The curriculum at the secondary level seldom focuses on the development of basic reading skills and strategies for students. Rather, students at the secondary level are expected to be competent readers (Fuchs, 1999). Reading is a complex cognitive activity that provides secondary students with a primary source of knowledge. As a means to achieve success through school and function in society, students at the secondary level need to be able to rely on their ability to independently understand and use information acquired from various texts (Snagorinsky, 2001).

More than 26% of American eighth-grade public school students performed at the below basic level on the National Assessment of Educational Progress reading tests in 2009 (National Center for Education Statistics, 2010). In addition to demonstrating difficulty with reading expectations at the secondary level, students who struggle with reading are more likely to exhibit lower self-esteem and behavioral problems in classrooms. Struggling readers are less likely to graduate high school in comparison to peers more skilled in reading (Juel, 1996). Because many
students continue to struggle with the primary task of reading comprehension, teachers must implement effective instructional reading strategies or programs.

**Statement of Problem**

Many rural high schools in the Upper Peninsula of Michigan are currently facing new challenges in a time of economic strain. The new Michigan Merit Curriculum, which is required for students to earn a high school diploma, places increased time, resources, and academic challenges on school stakeholders. Educators are confronted with the challenge to teach the breadth of rigorous state standards to diverse learners and frequently feel burdened to meet the demands with all students. Diverse learners are forced to participate in a rigid curriculum and earn a full complement of math, English, science, social studies and other credits. However, some students are struggling to meet state standards. While trying to survive the exigencies of curriculum expectations, some students rely more heavily on accommodations for reading requirements rather than applying their own independent academic skills. They lack strategies needed to independently comprehend the demanding secondary-level textbooks and educational materials. However, reading comprehension instruction in secondary classrooms accounted for only 3% of total instruction time (Ness, 2009). Overwhelmed by pressure to teach content covered on state standardized testing, many teachers feel burdened and ill-prepared to integrate literacy and reading comprehension support during class time (Ness, 2007).

A significant amount of research on reading comprehension has been focused on the development of instructional programs to promote reading skills at the elementary level. However, a significant percentage of students at the secondary level continue to struggle with difficulties when seeking comprehension of text. Instructional methods best suited for teaching reading to students who struggle with reading or have learning disabilities associated to reading
are only narrowly established in secondary schools across America (Spencer & Manis, 2010). Further research is needed to develop effective teaching practices that will help secondary students with reading comprehension.

Reading comprehension builds the fundament for the attainment of knowledge in different subject matters throughout elementary and secondary school, and is a primary requirement for lifelong learning in adulthood serving both functional and social purposes (Sporer & Brunsein, 2009). Students are more likely to comprehend and retain related content if they possess the reading tools to understand text (Ness, 2008). The National Reading Panel indicated direct teaching of a combination of reading comprehension strategies is the most effective means to help struggling readers (National Reading Panel, 2000). The major goal of this document is to review and describe specific instructional reading strategies or programs teachers can implement in inclusion classrooms to promote the primary task of reading comprehension for struggling secondary students.

**Research Question**

Amidst the rigor and time constraints of the Michigan Merit Curriculum, what are the characteristics of effective teacher-directed reading comprehension strategies in rural secondary level inclusion classrooms for struggling readers?

**Theoretical Framework**

Based on Vygotsky’s zone of proximal development, a student’s potential for real learning is possible with adult guidance. When teachers directly and explicitly provide scaffold instruction embedded with strategic prompts, a ready learner can learn, progress, and develop. Furthermore, individuals can learn by observing and interacting with others according to Vygotsky’s theory of private speech. Children develop private speech aiding cognitive
development and self-regulation when interacting socially with others (Vygotsky, 1978).

Through strategic teacher instruction and purposeful social interactions, secondary students struggling to read can build upon their own repertoire of reading strategies to improve comprehension. The synthesis of literature related to reading comprehension in secondary students in this document is focused primarily on effective instructional reading strategies and programs teachers can implement in their classrooms to assist and guide students’ overall learning.

**Terms and Definitions**

*Reading comprehension.* Reading comprehension is “the construction of meaning from text” (Sporer & Brunsein, 2009, p. 289).

*Fluency.* Fluency is the speed, accuracy, and proper expression measure of oral reading (National Reading Panel, 2000).

*Reading Program.* A reading program is an explicit, structured, and systematic instructional approach to teach reading (National Reading Panel, 2000).

*Peer-assisted learning.* Peer-assisted learning is “student collaboration in pairs while working on a set of prestructured tasks” (Sporer & Brunsein, 2009, p. 289).

*Reciprocal teaching.* Reciprocal teaching “is an instructional technique in which reading comprehension is viewed as a problem-solving activity where thinking is promoted while reading. The technique is a group-problem activity in which students read a passage of text, paragraph by paragraph. During the reading, they acquire and practice four reading comprehension strategies: generate questions, summarize, attempt clarification of word meanings or confusion text, and predict what might appear in the next paragraph” (Alfassi, 2004, p. 172).
Direct explanation model. The direct explanation model “focuses on the teacher who clearly explains the reasoning and mental processes involved in reading comprehension. During reading, teachers provide detailed explanations of the reading strategies applied as well as contribute mental modeling of their use” (Alfassi, 2004, p. 172).

Direct and Inferential Mediation Model of Reading Comprehension. The direct and inferential mediation model of reading comprehension is a model “based on the mutual effects of five reading variables including background knowledge, strategies, inference, word reading, and reading vocabulary” (Cromely & Azevedo, 2007, p. 312).

Embedded Learning Strategy Routine. Embedded Learning Strategy Routine is an explicit cognitive learning strategy and story structure instructional approach used in general education classrooms. The instructional routine services heterogeneous populations of students in order to improve student use of reading comprehension strategies, knowledge of strategy components and literary terms, and comprehension of stories (Faggella-Luby, Schumaker, & Deshler, 2007).

Michigan Merit Curriculum. The Michigan Merit Curriculum, MMC, is an act that was signed into law on April 20, 2006 to establish a clear set of rigorous statewide graduation requirements for students in Michigan. The new guidelines expect students to earn sixteen credits through subject and integrate classes as well as well as career and technical education programs with the goal to “better prepare students for greater success and to secure the economic future” of Michigan (Michigan Department of Education Office of School Improvement, 2006, p.1).

Peer-Assisted Learning Strategies (PALS) Program. The peer assisted learning strategies program is an instructional approach to promote reading comprehension of students in a peer-
assisted learning environment through the implementation of three reading activities: partner reading, paragraph shrinking, and prediction relay (Sporer & Brunsein, 2009).

Summary

Since the skill for reading is of vital importance for school and societal success, the population of secondary students struggling to read is a crisis. Based on the problem and relevant information provided in the introductory chapter, a synthesis of literature related to exploring teaching secondary students reading comprehension strategies is deemed necessary and beneficial. This document focuses on examining research and synthesizing literature associated with effective instructional reading strategies or programs teachers can implement in secondary level classrooms to promote reading comprehension in students.
Chapter II: Literature Review

Even with a growing population of students at the secondary level struggling with the primary task of reading, only a limited amount of research has been conducted on best practices for reading instruction at the secondary level (Bimmel & Van Schooten, 2004; Cromley & Azevedo, 2007; Faggella-Luby, Schumaker, & Deshler, 2007). Teachers need to be better aware of the growing epidemic of struggling secondary readers, and should be specifically trained with best practices on how to improve the comprehension performance of affected students (Harmon, Keehn, & Kenney, 2004). Increasing reading achievement was the primary focus of all research articles included in this review. Most schools had high proportions of low-achieving students and below grade-level readers. Consequently, the narrow factors might limit the generalizability of results to a broader spectrum of schools because stronger readers appear to be less influenced by explicit comprehension strategy instruction.

Teacher Impact on Literacy

With the pressure to cover the breadth of content demanded by state standards, teacher-led instruction dominates class time. Ness (2007) observed for a total of 2,400 minutes in eight middle and high school social studies and science classrooms. The recorded instructional techniques used by teachers were then coded as either comprehension instruction or non-comprehension instruction. Within those 40 hours, Ness recorded just 83 minutes of explicit teaching, modeling, or helping with reading comprehension strategies. Only four teachers implemented just three of the eight research-based comprehension strategies suggested by the National Reading Panel including answering questions, summarization, and examining text structure. The two most prevalent reading comprehension strategies utilized by all teachers involved asking literal questions and having students write summaries of content (Ness, 2007).
While many secondary teachers might want to help students develop skills in reading for understanding, some have only limited knowledge of how to go about integrating literacy effectively in their classrooms.

Since content area teachers strongly identify with their specific subject, many find incorporating reading instruction into their content lessons challenging. Fritz, Cooner, and Stevenson (2009) studied a group of 84 pre-service teachers who were enrolled in a course called Literacy and the Learner. Information about pre-service teachers’ attitudes and understanding towards literacy as well as intent to incorporate strategies was collected through a 40-item online questionnaire given during the first and last weeks of the course. Pre-service English teachers’ attitudes about content area literacy were significantly more positive than math, science, or social studies pre-service teachers. While the participants’ overall attitudes toward literacy did not change significantly over the course, their self-perception of understanding literacy strategies and intent to incorporate them into their classrooms increased (Fritz, Cooner, & Stevenson, 2009).

By establishing the right environment in their classrooms, teachers can be the key source for motivating students to learn to read. Students benefit from listening to their teachers talk about reading (Graves, 2001).

Through power of influence, teachers can pass on their attitudes about reading to their students. Daisey (2009) researched a group of 124 secondary pre-service teachers through qualitative and quantitative methods at a Midwest university. Specifically, participants completed pre, mid, post, and follow-up surveys that followed both an open-ended and Likert-scale format during the course of a semester. Daisy found many pre-service teachers cited past teachers as their most positive influence for enjoying reading. They liked when previous teachers provided choices, were relevant, and encouraged them to read. Equally powerful, half of the
participants cited a teacher as their most negative influence on them as a reader. Based off responses to prompts on the initial survey, the participants were separated into two different groups for comparison: High Reading Enjoyment Group (HRE) and Low Reading Enjoyment Group (LRE). When asked if the pre-service teachers understood the rationale for a content area literacy course, there was a statistically significant difference between the two groups’ mean of positive responses. Pre-service teachers within the high reading enjoyment group, in comparison to those in the low reading enjoyment group, understood the basis for a content area literacy course during their college preparation (p < .05). Pre-service teachers benefit from discussing how, when, and why to share reading with future students (Daisey, 2009).

**Strategic Reading Activities**

Effective comprehension of text involves more than processing of individual sentences. Instead, readers must consider what the overall text refers to and make constructions of rich representations of various situations found within the passage (Hess, Foss, & Carroll, 1995). The process of making representations and comprehending texts can be a challenging practice. Struggling readers benefit from strategic reading activities to help with the reading task and improve comprehension.

Upon the examination of experienced and successful readers, effective readers demonstrate knowledge and use of a large repertoire of reading strategies while actively reading. Bimmel and Van Schooten (2004) collected data on a non-random sample of 140 15-year old ninth-grade students from 15 different schools in Amsterdam to directly evaluate students’ reading comprehension. Participants in the sample were selected out of 480 student volunteers with a goal to maintain an equal distribution of vocational and lower general students with higher general and academic students as well as equal number of male and female students with low,
average, and good marks for Dutch. Since the sample group was not random, generalizations from the study to the overall population need to be carefully considered. Participants were measured using sections of a national exam, two attitude questionnaires, as well as text intended to assess reading comprehension on their mastery of four strategic reading activities including: skimming, reading the beginning and the end of paragraphs, key fragments, and connecting words. A strong correlational relationship (p < .05) was found between mastery of each one of the four strategic reading activities and reading comprehension. On average, participants’ reading comprehension was better when they exhibited skill in utilizing structure-making elements, making text predictions, recognizing high information text, as well as using titles, headings, and illustrations to make predictions (Bimmel & Van Schooten, 2004).

Students at the secondary level, especially those less competent, could benefit from explicit training of reading strategies in secondary education. Students’ mastery and use of reading strategies strongly correlates with improved reading comprehension. Specifically, students who exhibit the ability to make text predictions, recognize priority information, as well as use structure-making elements in text demonstrate better reading comprehension. Instruction of specific reading strategies to students at the secondary level is strongly suggested to facilitate students’ reading comprehension and overall success with reading (Bimmel & Van Schooten, 2004).

**Suggested Reading Comprehension Strategies**

Improving teachers’ knowledge of effective reading comprehension instruction is of vital importance. Directly teaching reading comprehension strategies across content area courses to students is suggested to improve comprehension ability. By explicitly teaching students reading strategies, instructional time is devoted to explaining, modeling, and coaching students on how
and where to utilize reading strategies until students are able to demonstrate the ability to independently carry them out. Over a two-year period, the National Reading Panel (NRP) analyzed research on reading instruction and conducted open forum meetings across the nation to gather related information published in “The Report of the National Reading Panel: Teaching Children to Read” in 2000. In order to best help teachers develop students’ comprehension abilities, the NRP initially methodologically reviewed 481 studies relevant to text comprehension. In accordance to the general NRP methodological criteria, 205 studies were utilized for formal meta-analyses in which 16 categories of text comprehension instruction were identified. Seven of these 16 specific strategies to improve reading comprehension were found to have a strong scientific basis. The types of strategy instruction described in the NRP report included:

**Comprehension monitoring.** Readers learn how to be aware of their understanding of the material.

**Cooperative learning.** Students learn reading strategies together.

**Use of graphic and semantic organizers (including story maps).** Readers make graphic representations of the material to assist comprehension.

**Question answering.** Readers answer questions posed by the teacher and receive immediate feedback.

**Question generation.** Readers ask themselves questions about various aspects of the story.

**Story structure.** Students are taught to use the structure of the story as a means of helping them recall story content in order to answer questions about what they have read.
**Summarization.** Readers are taught to integrate ideas and generalize from the text information. (p. 15)

Individual strategies can be effective to improve reading comprehension, but multiple strategy instruction is suggested. The ability to apply several reading strategies with flexibility is important, since students encounter a variety of challenges across genres of texts (National Reading Panel, 2000).

The National Reading Panel provided multiple reading strategy suggestions, but the direct and inferential mediation (DIME) model specifically considers secondary learners. The model establishes reading comprehension is based on a set of relations amongst five reading variables including background knowledge, strategies, inference, word reading, and reading vocabulary. While contemplating different variations of the model, Cromley and Azevedo (2007) administered assessments to 117 ninth-grade students to measure background knowledge, reading vocabulary, reading comprehension, inference, and strategy use as well as individually measured on word reading passages. Researchers then analyzed results and compared the fit of the four variations on the DIME model. Each reading variable, except strategy use, had a significant direct effect on the participants’ comprehension of text. Reading vocabulary had the strongest direct effect (.366) and a small but significant effect of .040 mediated by inference on reading comprehension, followed by background knowledge (.234 and .109 respectively). Equally powerful, students who were predetermined to struggle with comprehension based off a percentile score of 30th or below on the Gates-MacGinitie had low scores on average on all five variables.
Reading vocabulary and background knowledge, in particular for ninth grade students, is needed for both literal comprehension of academic texts and for students to draw inferences (Cromley & Azevedo, 2007). The results suggest students may benefit from explicit instruction and classroom discussions, activities, or media to improve and expand upon their personal vocabulary as well as activate prior knowledge about text content throughout content area courses.

**Embedded Strategy Instruction for Secondary Classrooms**

Classroom teachers focus instruction on content and state standards. Expectations are placed on students to utilize information in texts to enhance the learning process at the secondary level (Ness, 2008). However, struggling readers do not always possess the tools or strategies necessary for the composition of meaning from texts. Instruction geared toward teaching strategies to foster, monitor, regulate, and maintain comprehension in addition to content instruction can be beneficial. The infusion of strategy instruction within the context of content instruction may encourage students to learn content while building comprehension as a tool for overall learning (Alfassi, 2004).

**Combined strategy instruction.** The National Reading Panel indicates direct teaching of a combination of reading comprehension strategies is the most effective means to help struggling adolescent readers (National Reading Panel, 2000). Instruction combining the explicit teaching of strategies through direct explanation and the sharing principals of reciprocal teaching promoted 49 secondary students’ reading comprehension in an English languages arts classroom. Alfassi (2004) collected data in two randomly assigned freshman language arts classrooms in a suburban high school during a two-pronged experiment. Both classroom teachers had similar educational backgrounds and experiences as well as provided comparable coursework, reading
materials, and assignments. Students in both groups read material regarding common literary techniques to enhance meaning. However, unlike students in the control group, pupils in the experimental classroom participated in a 20-minute combined strategy intervention which was integrated within content lessons. The combined strategy intervention involved direct teacher-led instruction and role-modeling of reading strategies as well as guided practice sessions in reciprocal teaching groups to provide students with opportunities to gain hands-on experience practicing with specific strategies. All students were assessed using the Gates-MacGinitie Reading Comprehension Test as well as four different reading assessment passages with related comprehension questions both before the experiment as well as after 20 consecutive days of the experimental period. Students receiving explicit strategy instruction and provided with time to practice strategies in a reciprocal teaching format statistically outperformed students who did not (p < .05). However, generalizations from the study to the overall population may be slightly weakened, since the sample group was largely comprised of economically advantage students.

In spite of this, incorporating teacher-led direct instruction, guided practice, and reciprocal teaching in a combined strategy approach during content instruction has the potential to enhance students’ reading comprehension. Teacher-modeling of the reading process was found to guide students to generate questions about connecting ideas within literature to promote awareness of content and flexibility across texts. Students who can question what they read in order to check for personal comprehension demonstrate increased performance on tasks related to high-level learning. Ultimately, students who learn to apply such reading strategies generally do better on comprehension measures both on high-stakes testing and societal functions (Alfassi, 2004).
**Embedded story structure routine.** Similar to combined strategy instruction, embedded story structure (ESS) routine is an instructional method developed to improve students’ reading comprehension while participating within the general curriculum. Story structure is an effective reading strategy to help students comprehend information (National Reading Panel, 2000). Students aware of underlying story structure in literature exhibit improved academic performance and increase in higher-order thinking skills (Gersten, Fuchs, Williams, & Baker, 2001). ESS instruction focuses on three reading strategies including: student self-questioning used during pre-reading, story-structure analysis used during reading, and summarizing used after reading. Individuals also utilize a graphic device, ESS organizer, to facilitate the interactive construction of knowledge between students and teacher as well as the integration of all three strategies.

To investigate the effectiveness of ESS Routine within an inclusive classroom, Faggella-Luby, Schumaker, and Deshler (2007) organized a study that collected data on 79 incoming freshman students attending a summer school program at a private secondary school. Based off results from the EXPLORE standardized test, all students met the school’s status for at-risk in either reading or mathematics. Since the sample comprised of such a narrow student group and was conducted outside the typical school year, generalization of results to the overall population of secondary students should be considered with caution. Participants were randomly divided into either the embedded-story structure group (ESS) or the comprehension skills instruction group (CSI). Students in the ESS group were directly taught and provided with time to implement the three pre, during, and post-test reading strategies. An ESS organizer, a graphic device, was utilized for the integration of the three strategies as well as the summary writing strategy for summarization purposes after reading passages. Similar to the ESS instruction
trilogy, CSI utilized a graphic device called a CSI Organizer and focused on three reading strategies including: LINCS vocabulary strategy, Question-Answer Relationships, and semantic summary mapping. Over a nine-day instructional period students in both groups participated in four phases of instruction including: teacher strategy role-modeling, teacher-guided practice, cooperative peer practice, and independent student practice. Strategy-use tests, knowledge tests, unit comprehension tests, and satisfaction surveys were all used to assess and compare students’ knowledge and retention of information as well as strategies taught during the experimental period. Upon analysis of results, students in the ESS group statistically outperformed students receiving varied comprehension skill instruction on reading assessments (p < .05). Gains in comprehension for students participating in ESS instruction were statistically significant regardless of individual ability level. Students in both the ESS and CSI groups indicated they were more satisfied with their reading abilities after instruction and were pleased overall with the instruction they received. Specifically, students’ self-reported feelings indicated combination instruction on self-questioning, story mapping, and summarizing helped them to understand short stories. The majority of students implied embedded-story structure instruction made learning fun and interesting as well as provided them with an independent means to use strategies again in the future. Overall, a positive relationship exists between student use and knowledge of ESS strategies and reading comprehension growth (Faggella-Luby, Schumaker, & Deshler, 2007).

**Classroom discussions.** Comparable to the principles of sharing through reciprocal teaching and embedded instruction, classroom discussions can play a role in improving student comprehension and learning (Murphy, Wilkinson, Soter, Hennessey, & Alexander, 2009). Most students appear to naturally gravitate towards asking questions about text and making predictions more than any other strategy as they read. Classroom-based discussions covering required
readings have the ability to guide students through more challenging comprehension techniques. Harmon, Keehn, and Kenney (2004) researched 38 students enrolled in summer tutoring programs along with graduate students in the reading specialist program for tutors. Students were required to read self-selected books independently from a pre-approved list for 20-30 minutes each day and write an entry regarding content in a response log. During each tutoring session, tutors used the think-aloud procedure to model explicit comprehension strategies for students. Tutoring lessons followed a six-step procedure. First, tutors led a group discussion by encouraging students to recap their response logs from independent reading sessions. Second, the group reviewed previous readings in order to activate background knowledge and retell major events. Third, tutors directly explained and modeled a select comprehension strategy and students referred to the specific strategy card. Fourth, the group read new text together. Fifth, students examined word structures and discuss words meanings as a group. Sixth, the group reviewed content and a specific comprehension strategy to summarize the session. The Ekwall Informal Reading Inventory, Metacognitive Reading Awareness Inventory, Atwell’s reading survey, and an activity ranking sheet were all measures used to collect data throughout the four-week tutoring program.

During a single reading entry, students used multiple reading strategies in 56% of the total 226 log entries. The two most prevalent strategies used by students while reading included questioning and predicting/inferring. Researchers found that after participants were taught how to control their own reading with the use of comprehension strategies, they were able to think and reflect about their reading behaviors and apply strategies independently when confused. Small and large group discussions of content promote students to learn from each other while
checking for understanding, integrating ideas, and generalizing from texts (Harmon, Keehn, & Kenney, 2004).

Depending on the goal, different discussion approaches such as collaborative reasoning, Philosophy for Children, questioning the author, instructional conversations, literature circles, or book clubs are often utilized in classrooms as a means to promote students’ literal and inferential comprehension of texts. However, while talking about text may have a role in comprehension, not all student-led discussions in classrooms are equal in value. Over a three-year period Murphy, Wilkinson, Soter, Hennessey, and Alexander reviewed literature that focused on utilizing classroom discussions to promote text comprehension. Murphy et al. (2009) used meta-analysis techniques while analyzing 42 pre-filtered studies to examine the effects of classroom discussions on students’ high-leveled comprehension. Researchers found several discussion approaches are effective at promoting students’ literal and inferential comprehension, but relatively few help to increase critical thinking and reasoning skills about text. Discussion approaches that are more efferent in nature, such as questioning the author, engage students. Comprehension increases when students have active responsibilities during classroom discussions. Researchers also found the format of classroom discussion helps to promote and increase student talk, but often decreases the amount of time teachers actually talk. However, increase of student talk does not necessarily have a significant impact of increasing comprehension. Rather, the kind of student talk and teacher input were key factors for improving comprehension. The first three weeks of classroom discussion implementation is considered the key timeframe for having the most powerful impact on students’ general comprehension. Discussions tend to be most effective for students in the below-average range for reading. Specifically, classroom discussions can guide students with a low repertoire of reading strategies
to learn new skills to apply while reading (Murphy, Wilkinson, Soter, Hennessey, & Alexander, 2009).

Discussions in classrooms allow students to learn in a social context and promote the questioning of text and linking of ideas, which help to influence all readers, especially struggling readers. Vygotsky’s theory of private speech suggests children develop private speech out of social interaction with others, and such mental words play a vital role in cognitive development and self-regulation. An individual’s ability to monitor self-thought processes is beneficial when problem-solving (Vygotsky, 1978). When secondary level students hear classmates’ questions about text during classroom discussions, they build upon their own repertoire of self-questioning and comprehension of text. Adolescents through the age of 17 continue to profit from spontaneous self-talk when problem-solving (McCafferty, 2004).

**Metacognition skills.** Although embedded reading instruction focuses on making students knowledgeable of comprehension strategies, awareness of strategies does not guarantee students will apply them during independent reading. Struggling readers exhibit less metacognitive ability to monitor their reading comprehension than stronger readers do (Garner & Reis, 1981; Paris, Lipson, & Wixson, 1994). The monitoring of understanding during the act of reading is an important process to overall comprehension, especially when reading challenging texts.

Lehman, Schraw, McCrudden, and Hartley (2007) conducted a two-pronged experiment to study how seductive details can affect students’ processing of expository text. Generalizations from the study need to be carefully considered and limited, since the sample group consisted of participants who were at the collegiate level and partook in the experiment in partial fulfillment of a class requirement. Seductive details are segments of text considered highly interesting but
unimportant in supporting the main idea. The first prong of the experiment was conducted with 40 undergraduate university students with the purpose to determine interest and importance of sentences from experimental text. Participants read expository text about lightening independently and then completed interest and importance rating scales related to the content. The responses were then used by researchers to identify seductive details in the passage. While 11 seductive detail sentences were identified, the remaining 39 sentences of the passage were combined and analyzed as base text for the second prong of the experiment. For the second experiment, 53 undergraduate university students were randomly assigned to one of two experimental conditions. Participants in both groups were instructed to read text from a computer at their own pace, recall as much information as they could from the passage, and then answer deeper processing essay questions. The control group was only given the 39 base text sentences determined from the first experiment to read, while the experimental group read the base text along with 11 pre-identified seductive detail sentences. Reading time, recall of text ideas, holistic understanding, and total claims were the four factors measured. Participants who read the passage with the presence of seductive detail sentences read the base text sentences faster in general than the control group and remembered less information about the base text. Furthermore, the presence of seductive details decreased readers’ ability to support their explanations and remember as well as integrate important aspects of the content. In result, seductive details frequently interfere with individuals’ comprehension and processing of online scientific text. Seductive details within text can negatively affect a reader’s learning, even at the collegiate level, due to reduced attention, coherence disruption, and inappropriate schema construction. Specifically, seductive details can catch readers’ attention but distract from the main point of the passage. Implementing metacognitive skills while reading allows readers to
monitor for comprehension and then reassess parts of confusion or disruption (Lehman, Schraw, McCrudden, & Hartley, 2007).

Since the ultimate goal of instruction is to promote independent reading mastery, struggling readers need to become self-regulated readers. The development of metacognitive skills is an important element for students to become more aware of personal reading behaviors. Upon being taught how to control their reading, struggling adolescent readers were able to consciously attend to individual reading behaviors and check for areas of confusion (Harmon, Keehn, & Kenney, 2004).

Similarly, metacognitive skillfulness contributes to text comprehension. Veenman and Beishuizen (2004) studied 46 collegiate level students by presenting each participant with two structured texts in individual sessions to study for follow-up exams. Half of the participants had a 30-minute time constraint for the first text only. The remaining participants were untimed for the first session, but had a 30-minute time constraint for the second text. During both text studying sessions, participants were asked, and continually prompted as needed, to read aloud as well as think aloud. Judges then rated each session into four different categories of metacognitive skillfulness: orientation activities; planning activities, evaluation activities, and elaboration. Analysis of the think-aloud protocols and student results on multiple choice post-tests were the measures used to determine overall results. Generalizations from the study need to be carefully considered and limited, since the sample group consisted of participants who were paid volunteers ranging from 18 to 26 years of age without reading problems and primarily female. Nonetheless, metacognitive skillfulness while text studying can be a predictor of novice learning and comprehension. However, reading and studying difficult text under time constraints has a negative impact on overall text comprehension. Students benefit from studying a difficult text
over time for metacognitive skills to be applied effectively. When teaching students about metacognitive skills, teachers should communicate the importance and value of such strategies and encourage students not to procrastinate (Veenman & Beishuizen, 2004).

**Summary of embedded strategy instruction.** In summary, embedded strategy instruction allows teachers to focus education on content curriculum demands while intertwining explicit strategy instruction to improve students’ comprehension. With high expectations placed on secondary students to be able to independently understand and use information gleaned from text, struggling readers need more explicit instruction embedded throughout content instruction to help them (Smagorinsky, 2001). Combined strategy instruction, embedded learning strategy instruction, classroom discussions, and explicit teaching of metacognition skills are all feasible and effective instructional methods that can be infused within the context of content instruction at the secondary level to help struggling readers.

**Program Instructional Approach to Promote Reading Comprehension in Secondary Students**

An alternate approach to embedded reading strategy instruction within the context of classroom content is to provide struggling readers with a direct reading program at the secondary level. Reading comprehension is a highly complex cognitive task that integrates several components needed to act both individually and intertwined (Cromley & Azevedo, 2007). Since reading is more than a single component, the use of a reading program or model can provide students with a structural equation to a varied yet calculated amount of reading, strategy focus, and metacognition practice.

**Peer-assisted learning strategies (PALS) program.** While curriculum demands at the secondary level require reading competence, teachers no longer focus attention on the
development of basic reading skills and strategies. However, students who struggle with reading continue to participate in general curriculum courses. Peer-tutoring within class instruction allows more time for reading aloud, discussion of text, and student collaboration (Fuchs, Fuchs, & Saenz, 2005). Peer-assisted learning can stimulate students to participate in a host of cognitive and metacognitive processes that help develop learning in a socially supportive environment (Fuchs, Fuchs, & Kazdan, 1999). An adapted peer-assisted reading instructional program for secondary students commonly referred to as peer-assisted learning strategies (PALS) is a statistically effective technique to facilitate the acquisition of reading skills and promote individuals’ achievement. The PALS approach is three-fold. First, partner reading aids improvement of reading fluency. Secondly, paragraph shrinking targets skills necessary for summarization and identification of the main idea. Third, prediction relay reading activities promote reading skills in a peer-assisted learning environment (Sporer & Brunsein, 2009).

During a follow-up study of PALS, researchers assessed the programs’ effectiveness to promote secondary students’ declarative and procedural knowledge about reading strategies as well as their general understanding of self-regulated reading. Through results on pretests and posttests, researchers specifically compared effectiveness of the peer-assisted program PALS to traditional reading instruction using a quantitative approach. There was no significant difference (p > .05) between the participants’ characteristics and conditions between each instructional group, and the instruction in each group was provided twice a week over a nine-week period. Confidence in results of study is statistically strong since data throughout the research process were collected from a relatively large, random sample size of 186 students across three comprehensive schools. Three major results from the investigation were determined. First, compared with students who received traditional reading instruction methods, students who
participated in the PALS reading program scored higher on reading comprehension tests following completion of intervention. Second, students in the PALS condition performed significantly better in their declarative and procedural knowledge of summarization skills as well as general understanding of self-regulated reading methods than students in the traditional instruction condition. Third, both teachers and students widely accept implementation of the PALS program. However, the PALS program did not promote students’ predicting skills in comparison to traditional reading instruction (Sporer & Brunsein, 2009).

The PALS secondary level reading program is a promising means for addressing the serious reading problems that many secondary students demonstrate (Fuchs, Fuchs, & Kazdan, 1999). The structured approach is an effective instructional method to promote secondary students’ reading achievement. Higher performing students gained as much benefit as lower performing students following the PALS program intervention. The combination of reading intervention strategies and peer-assisted learning is a successful tool for fostering reading comprehension in secondary-level students (Sporer & Brunsein, 2009).

Summary

The instructional methods best suited for teaching reading to secondary students who struggle are not well-established in many of our nation’s schools (Spencer & Manis, 2010). With a growing population of students at the secondary level struggling with the primary task of reading, an obligation exists for the majority of teachers to change current practices and implement explicit reading strategy instruction within classrooms. Struggling readers frequently miss learning opportunities garnered from texts, which can be of vital importance for not only school but employment and societal success as well. Secondary level students continue to benefit from explicit teaching of reading comprehension strategies. Whether the explaining, modeling,
or coaching of students on how and where to utilize reading strategies is embedded throughout content instruction or delivered through instructional reading programs such as PALS, students deserve the opportunity to learn effective measures to improve their reading.
Chapter III: Results and Analysis Relative to the Problem

Educators are confronted with the challenge to teach the breadth of rigorous state standards to diverse learners and frequently feel burdened to meet the demands with all students. Diverse learners are forced to participate in a rigid curriculum and earn a full complement of core-content courses. However, some students are struggling to meet state standards. They lack strategies needed to independently comprehend demanding secondary-level textbooks and educational materials (Fuchs, Fuchs, & Saenz, 2005; Ness, 2007; 2009). Yet, upon being taught how to control their reading, struggling adolescent readers were able to consciously attend to individual reading behaviors and check for areas of confusion (Harmon, Keehn, & Kenney, 2004). Skillful readers use multiple comprehension strategies to independently monitor the meaning of text being read. Mastery and use of reading strategies strongly correlates with improved reading comprehension, which makes these skills critical for student learning and essential for success in content areas (Cromley & Azevedo, 2007; Veenman & Beishuizen, 2004). With high expectations placed on secondary students to be able to independently understand and use information gleaned from text, struggling readers need more explicit instruction embedded throughout content instruction to help them (Bimmel & Van Schooten, 2004; Smagorinsky, 2001; Veenman & Beishuizen, 2004).

Literacy Integration

As students advance through the educational system, academic demands and reading material often become more complicated. However, overt reading instruction throughout the progression diminishes. Content teachers at the secondary level feel principally responsible for covering their specific subject in classrooms. Instructional time is focused on teaching standards generally on state testing with a goal to build disciplinary knowledge. Overwhelmed to cover the
breadth of material set by rigorous core and state standards, teacher-led instruction dominated class time. In result, literacy integration becomes secondary in priority as teachers rush to cover content material (Ness, 2007; 2009).

Intensive education focusing on teaching literacy is essential for cross-curricular secondary pre-service teachers in order to reform current instructional practices. Many secondary teachers identify very strongly with their discipline, but have limited knowledge in means of knowing how to best help and guide students to develop skills in reading comprehension (Daisey, 2009; Ness, 2007). Since most teachers were competent readers growing up, many do not appreciate the importance of incorporating reading strategies into their own classrooms (Fritz, Cooner, & Stevenson, 2009). However, pre-service teachers are more likely to model, teach, and use reading strategies within their discipline area when they received explicit training on such strategies in college (Berry, 2005). Similar to their students, teachers benefit from direct instruction on literacy as well as hands-on practical sessions to learn how and when to apply specific reading strategies within the context of a secondary classroom (Daisey, 2009; Fritz et al., 2009).

**Strategy Instruction**

By establishing the right environment in classrooms, teachers can be the key source for motivating students to learn to read. Students benefit from listening to their teachers talk about reading (Graves, 2001). However, solely listening to teachers talk is not enough to promote proficient reading skills, especially for struggling readers. The infusion of strategy instruction within the context of content instruction can encourage students to learn content while building comprehension as a tool for overall learning. Instruction geared toward teaching strategies to foster, monitor, regulate, and maintain comprehension in addition to content instruction can be

Since students encounter various genres of texts with different challenges, the ability to apply several reading strategies with flexibility is important. Effective readers demonstrate knowledge and use of a large repertoire of reading strategies while actively reading (Bimmel & Van Schooten, 2004; National Reading Panel, 2000). Students’ mastery and use of reading strategies strongly correlates with improved reading comprehension. Specifically, students who exhibit ability to make text predictions, recognize priority information, as well as use structure-making elements in text demonstrate better reading comprehension. Therefore, multiple strategy instruction is important. Directly teaching reading comprehension strategies across content area courses to students is suggested to improve comprehension ability. By explicitly teaching students reading strategies, instructional time is devoted to explaining, modeling, and coaching students on how and where to utilize reading strategies until students are able to demonstrate the ability to independently carry them out (Bimmel & Van Schooten, 2004).

Advantageously, the National Reading Panel encourages instruction of seven specific research-based strategies including: comprehension monitoring, cooperative learning, use of graphic or semantic organizers, question answering, question generation, story structure, and summarization in order to promote reading comprehension (National Reading Panel, 2000). Many principal concepts from the suggested strategies are the center of different yet interconnected instructional models and formats that have been developed over the years to improve student reading comprehension. Direct and inferential mediation model, combined strategy instruction, embedded learning strategy instruction, classroom discussions, as well as explicit teaching of metacognition skills are all feasible and effective instructional methods that
can be infused within the context of content instruction at the secondary level to help struggling readers (Alfassi, 2004; Cromley & Azevedo, 2007; Faggella-Luby, Schumaker, & Deshler, 2007; Harmon, Keehn, & Kenney, 2004; Lehman, Schraw, McCrudden, & Hartley, 2007; Murphy, Wilkinson, Soter, Hennessey, & Alexander, 2009; Veenman & Beishuizen, 2004).

Specifically, the DIME model establishes reading comprehension is based on a set of relations amongst five reading variables including background knowledge, strategies, inference, word reading, and reading vocabulary. With reading vocabulary and background knowledge needed in particular for both literal comprehension and text inferences, students benefit from explicit strategy instruction. Classroom discussions about text can help to expand students’ personal vocabulary as well as activate prior knowledge about text content (Cromley & Azevedo, 2007). Group discussions in classrooms allow students to learn in a social context and promote questioning of text and linking of ideas, which help to influence all readers, especially struggling readers (Vygotsky, 1978). When secondary level students hear classmates’ questions about text during discussions, they build upon their own repertoire of self-questioning and comprehension of text. Struggling readers in particular benefit from the guidance through more challenging comprehension techniques. However, not all student-talk sessions are created equal. The kind of student talk and teacher input are key factors for improving comprehension. Comprehension increases when students have active responsibilities during classroom discussions (Murphy et al., 2009).

Explicit strategy instruction and cooperative learning techniques are also at the heart of student learning in combined strategy instruction and embedded learning strategy instruction approaches. Cooperative learning can be an ideal tool to address a range of students’ needs in an inclusive classroom. Direct teacher-led instruction and role-modeling of reading strategies as
well as guided practice sessions in reciprocal teaching groups provide students with opportunities to gain hands-on experience practicing with specific strategies. Teacher-modeling of the reading process guides students to generate questions about connecting ideas within literature and promote awareness of content and flexibility across texts. Students who can question what they read in order to check for personal comprehension do better on high-level learning tasks (Alfassi, 2004). Similar to combined strategy instruction, embedded story structure (ESS) routine is an instructional method developed to improve students’ reading comprehension while participating within the general curriculum. ESS instruction focuses on three reading strategies including: student self-questioning used during pre-reading, story-structure analysis used during reading, and summarizing used after reading. The use of a graphic device, ESS organizer, helps to facilitate students’ interactive construction of knowledge with teachers as well as the integration of all three strategies. Explicit instruction of strategies helps make learning fun and interesting as well provides students with an independent means to use strategies (Faggella-Luby, Schumaker, & Deshler, 2007). Ultimately, students who learn to apply such reading strategies generally do better on comprehension measures both on high-stakes testing and societal functions.

Since the ultimate goal of instruction is to promote independent reading mastery, struggling readers need to become self-regulated readers. Not only do students need to be taught reading strategies, they need to learn how to apply them with flexibility across different genres of text. Development of metacognitive skills allows students to become more aware of personal reading behaviors. Applying metacognitive skills is an important process for overall comprehension especially when reading challenging texts. Implementing metacognitive skills allows readers to monitor for comprehension and then reassess parts of confusion or disruption (Harmon, Keehn, & Kenney, 2004; Lehman, Schraw, McCrudden, & Hartley, 2007). Students
benefit from metacognitive instructions embedded throughout curriculum instruction to ensure maintenance and independent application of skills. When teaching students about metacognitive skills, teachers should communicate the importance and value of such strategies and encourage students not to procrastinate (Veenman & Beishuizen, 2004). Metacognitive skills allow readers to take control of their own reading across various educational resources and ultimately become independent learners.

**Programmed to Read**

Since reading is more than a single component, the use of a reading program or model can provide students with a structural equation to a varied yet calculated amount of reading, strategy focus, and metacognition practice. The peer-assisted learning strategies (PALS) program is a system adapted for secondary students to support acquisition of reading skills and promote individuals’ achievement. The program is a promising means for addressing the serious reading problems that many secondary students demonstrate. Structured with a three-pronged approach, PALS incorporates components of reading as well as integrates the National Reading Panel’s (2000) suggested strategies to improve comprehension in a cooperative learning environment. Peer-assisted learning can stimulate students to participate in a host of cognitive and metacognitive processes that help develop learning in a socially supportive environment (Fuchs, Fuchs, & Kazdan, 1999). Following active participation in the PALS program, students demonstrated improved reading comprehension, declarative and procedural knowledge, as well as metacognitive skills. Higher performing students gained as much benefit as lower performing students following the PALS program intervention. The combination of reading intervention strategies and peer-assisted learning is a successful tool for fostering reading comprehension in secondary-level students (Sporer & Brunsein, 2009).
Summary

The population of struggling secondary readers is a serious concern facing many teachers and administrators. In order to better help students learn strategies to promote independent reading and learning, changes in the educational system at the secondary level are needed. First, better awareness of the issue is needed to start an educational transformation. Second, training of professionals, that provides research-based instructional techniques and strategies, is essential to promote best practices in classrooms. Third, with explicit strategy instruction, guided practice, interventions, and cooperative learning, students can learn comprehension strategies. The development of multiple strategies will promote independent application and allow students to utilize them with flexibility across texts to acquire information and achieve success. Students’ mastery and use of reading strategies strongly correlates with improved reading comprehension, so multiple strategy instruction is important. Explicit instruction of strategies helps make learning fun and interesting as well as provides students with an independent means to use strategies (Faggella-Luby, Schumaker, & Deshler, 2007). Ultimately, students who learn to apply such reading strategies generally perform better on comprehension measures both on high-stakes testing and societal functions.
Chapter IV: Recommendations and Conclusion

Posted on chalkboards across the nation, nightly homework assignments direct students to read sections or chapters from their textbooks. Reading is fundamental to learning at the secondary level across all content areas. Not only do students need to be able to read the material independently, but also take information from the passages to build and apply their academic knowledge. Unfortunately, an increasing number of students at the secondary level are being pushed to their limit with independent reading and are struggling to keep up with the learning process. However, strategic reading can help increase students’ reading comprehension. Utilizing research-based comprehension strategies before, during, and after reading can guide students to understand the text, remember what they read, and ultimately apply the information they learned. Bringing reading and strategy instruction into content area classrooms may be a complex challenge, but an effective solution to an educational transformation.

Recommendations

**Recommendations for Teachers.** The majority of secondary-level teachers has considerable knowledge in their content area, but may lack the expertise or knowledge of effective reading comprehension instruction. However, when teachers explain and model comprehension strategies as well as provide structured guided practice sessions for hands-on learning, students are able to improve their overall reading comprehension. College programs for pre-service teachers across all content areas need to include a course on literacy integration to train future teachers. The course needs to be rich in literacy pedagogy, reading strategy instruction, as well as guided hands-on practical sessions with peers or students and feedback. Pre-service teachers need to learn how, when, and why to share reading strategies with future
students. Current teachers also benefit from professional training opportunities directly teaching them how to model and guide students to develop independent comprehension strategies.

In addition to training, teachers benefit from collaboration with colleagues across curriculum areas. Professional development, department and staff meetings, as well as team-planning times provide opportunities for teachers to discuss strategies, techniques, and instructional options for teaching comprehension strategies. Talking about the issue and explicit training on how to guide students can increase teacher awareness and improve instructional techniques.

**Recommendations for Instruction.** Students benefit from learning how to become strategic readers and apply metacognition skills to independently check for understanding as they read. Direct teacher-led strategy instruction, role-modeling of reading strategies, and guided hands-on practice sessions with feedback is important amidst content-area instruction during class time. Students benefit from active learning environments with engaging activities, explicit instruction on reading comprehension strategies, structured group discussions, and cooperative learning opportunities in order to improve reading comprehension. Literacy instruction should be geared to foster, monitor, regulate, and maintain student comprehension (Alfassi, 2004).

When teachers demonstrate and students apply research-based comprehension strategies, comprehension of text improves. Students have a better chance to learn content in all subject areas when strategy instruction is integrated within the context of content instruction. In order to facilitate students’ reading comprehension, individual strategies can be beneficial but multiple strategy instruction is suggested. In accordance with the National Reading Panel’s suggestions to improve comprehension, literacy integration should focus on the following: comprehension monitoring, cooperative learning, utilizing graphic and semantic organizers, question answering,
question generation, story structure, and summarization (National Reading Panel, 2000). Students should be encouraged to make predictions about text, identify and highlight priority information, as well as utilize structure-making elements while reading to improve comprehension.

Specifically, teachers need to develop robust and structured lesson plans that explicitly cover and model reading strategies within the context of content instruction. Teachers should not only talk about reading, but create an active learning environment that is structured for guided practice, discussion, cooperative learning, and peer-tutoring in order to promote reading.

**Recommendations for Programming.** The combination of reading intervention strategies and peer-assisted learning is a successful tool for fostering reading comprehension in secondary-level students (Sporer & Brunsein, 2009). For students struggling to read, a structured program approach can be a beneficial alternative to an embedded literacy integration approach. Schools should consider implementing the PALS secondary-level reading program to address the needs of students with serious reading problems. The program could be utilized as an intervention tool within the school day as well as coordinated as a peer-tutoring afterschool program that focuses on strategy instruction while students complete homework assignments.

At the district level, extending class time to promote inclusion of strategy instruction may be beneficial. A high school following a seven-period day could convert to a six-period day to allow for extended time in each class. A longer period would provide overwhelmed teachers with time to cover the breadth of rigorous state standards as well as integrate literacy instruction within a cooperative learning environment. Co-teaching may also be beneficial. By combining the academic knowledge of the content-area teacher with the strategy expertise of a special education teacher, diverse learners’ needs can be met. Within the flexibility of a co-taught
environment, strategy intervention for struggling readers is achievable. For example, as the general education teacher focuses on extension learning activities, the special education teacher directs strategy instruction and guided practice sessions in a structured setting.

**Areas of Further Research**

A significant amount of reading comprehension research has been focused on the development of instructional programs to promote reading skills at the elementary level. However, a significant percentage of students at the secondary level continue to struggle with difficulties when seeking comprehension of text. Secondary students with low reading abilities are entering general education courses without the reading tools needed for independent learning. Many teachers and administrators question the right placement, style of instruction, and level of intensity needed to best meet students’ needs. The literature review in this document covered instructional techniques and comprehension strategies which may be effective means to improve student comprehension. However, a gap in research exists on explicit strategy instruction within the context of a co-taught environment using a longitudinal study design. A possible research project in the future could collect data on the effects of explicit strategy instruction within a co-taught environment over a three-year period on students in ninth-, tenth-, and eleventh-grade English classes relative to improving student use of reading comprehension strategies and comprehension of text.

**Participants.** Participants at the start of the study include 62 ninth-grade students attending a public class C high school in western Upper Peninsula of Michigan. Data will be collected over a three-year period when the students are enrolled in ninth-, tenth-, and eleventh-grade English courses. The student population reflects heterogeneous characteristics with varying reading abilities based on MEAP, AIMSweb Reading Curriculum-based Measurement,
and EXPLORE standardized testing measures. The population sample size is expected to decline by the end of the study period due to uncontrollable factors such as out-of-district transfers.

Teachers at each grade level need to be at the highly-qualified status in special education and secondary English, have at least six years of teaching experience, and maintain at least 15 days of professional development each year. Prior to the experiment and start of each school year, teachers would need to participate in a one-week training conducted by the researchers.

Prior to the study, researchers should meet with all parents and students of the experiment as well as appropriate school staff to solicit written permission for participation. Upon approval, historical and current standardized testing measures would be utilized to collect student baseline data. Students would then be matched according to three variables: gender, reading comprehension level, and disability diagnosis verses no diagnosis. Then, members of each pair could be randomly assigned to one of two groups. The control group would be comprised of embedded strategy instruction within the context of content area instruction in a typical general education classroom with one content teacher. The sample group targeted embedded strategy instruction and supplemental structured strategy instruction for struggling readers within a co-taught setting with both a general and special education teacher. In order to determine if the two groups were statistically different, independent sample t-tests need to be conducted with regard to reading comprehension level.

**Data Collection.** Historical data would include seventh and eighth grade MEAP results on the English subtest, AIMSweb Reading Curriculum-based Measurement on reading comprehension, as well as EXPLORE reading comprehension national percentile score. In order to collect current data, both the Woodcock-Johnson III Tests of Achievement (WJ-III) and Florida Maze test would be administered. The WJ-III would be conducted prior to the
experiment as well as at the end of each school year within the testing period. Conducted during fall, winter, and spring, the Florida Maze test would be administered three times over the course of an academic school year. To monitor comprehension more frequently throughout the study, a series of 18 grade-appropriate passages or short stories with related comprehension questions would also be utilized each year. Every other week, students would read the passages and get scored according to their responses. Based on results off all these measures, students in the experimental group would be categorized according to their comprehension ability.

**Instructional Procedures.** Instruction for students in both the control and experimental group would be provided in a typical classroom setting. Within the context of content instruction following the Michigan Merit Curriculum standards, teachers embed explicit strategy instruction two days a week for 15-20 minutes using assigned reading material. Using a gradual release of responsibility model, a basic lesson sequence would include: (1) activate prior knowledge through discussion or media clips; (2) review story or passage content in structured group discussion with both teachers and students asking and answering questions; (3) teachers explain and role-model a comprehension strategy; (4) guided reading practice sessions for students with follow-up passages; and (5) think-aloud and summarize content. Students in both groups will be responsible for using a graphic organizer for extended independent reading assignments ascribed as homework. Every two weeks students will independently read a passage and answer 25 comprehension questions. Students will be scored according to their answers, teachers will review answers and model think-aloud procedures of strategy use, and then students will be categorized by results. In the experimental group, students categorized as struggling readers according to bi-monthly comprehension testing and standardized testing measures will participate in additional structured strategy instruction sessions. On the alternate three days of the
week, the special education teacher will provide more intense strategy instruction and additional
guided practice sessions for 15-20 minutes. Small groups of five students will rotate and practice
the skill within a cooperative peer-learning environment. Students will utilize strategy cards,
practice think-aloud mechanisms as they read, log personal reading reflections, and receive
immediate teacher and peer feedback.

To ensure instruction and the intervention are implemented consistently and with fidelity,
classrooms need to be observed consistently by the researcher. Feedback on teacher
implementation would be important to promote consistency with the execution of instruction.

Data Analysis. The study would employ a control-group design with random assignment
of members of matched pairs of participants. A one-way analysis of variance (ANOVA) should
be conducted using two different factors for the reading comprehension passages, Woodcock-
Johnson III Tests of Achievement reading comprehension subtest, and Florida Maze
assessments. For the within-subjects factor, time across the academic year and longitudinal study
with pre-, during-, and post levels should be evaluated. The instructional condition, co-teaching
with intervention verses general setting, and whether or not students had a diagnosed disability
should be the two between-subject factors. Independent-sample t-tests and paired-sample t-tests
need to be completed for each administration of a measure. Means and standard deviations of
results for each condition group and time levels should be computed and compared to determine
any significant differences in results.

Summary and Conclusions

Since the skill for reading is of vital importance for school and societal success, students
at the secondary level need to be able to rely on their ability to independently understand and use
information acquired from a vast array of texts (Bimmel & Van Schooten, 2004; Cromley &
Azevedo, 2007; Faggella-Luby, Schumaker, & Deshler, 2007). However, a growing number of students continue to struggle with the primary task of reading amidst the rigor and demands of the Michigan Merit Curriculum. The population of secondary students struggling to read is a crisis. With cognizance of the crisis at hand, more research and change is needed. Teachers need to be better aware of the growing epidemic of struggling secondary readers as well as specifically trained with best practices on how to improve the comprehension performance of affected students (Harmon, Keehn, & Kenney, 2004). Direct instruction on literacy as well as hands-on practical sessions to learn how and when to apply specific reading strategies within the context of a secondary classroom is essential for teachers (Daisey, 2009; Fritz et al., 2009).

Similar to teachers, students need to learn and apply a large repertoire of research-based strategies to improve comprehension and expand their knowledge. Expectations at the secondary level are rigorous and the accompanying texts are interlaced with various challenges. Struggling readers frequently miss learning opportunities garnered from text, so they need to understand the importance of utilizing comprehension strategies while reading. The mastery and use of reading strategies strongly correlates with improved reading comprehension (Bimmel & Van Schooten, 2004). Whether explaining, modeling, or coaching pupils on how and where to utilize reading strategies is embedded throughout content instruction or delivered through instructional reading programs, students deserve the opportunity to learn effective measures to improve their reading.

Further research is continually needed to collect current data on the principles of reading and best practices to improve the reading comprehension of struggling readers. In comparison to early education, relatively few studies focus on struggling readers at the secondary level. Specific suggestions on practical secondary level interventions and strategies are needed, especially ones that align with curriculum demands many secondary students face.
References


