

Teaching Reading Without “Teaching Reading”:
Content-Area Reading Instruction in the Mainstream Classroom

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Abstract

Research has shown that the implementation of content-area reading strategies is beneficial for secondary students. The purpose of this study was to discover the perceptions and experiences of content-area teachers regarding reading comprehension strategies in mainstream classrooms to help struggling readers. Interviews were conducted with seven secondary teachers of social studies and science classes. The interviews were designed to discover what kind of training teachers have received for implementing reading comprehension strategies within their standard curriculum, what continuing support is available to them, and what specific strategies they are using. Findings in this study suggest that more reading training is becoming available, though many teachers remain unaware of how to appropriately utilize their school's reading resources, and that teachers are using a small number of comprehension strategies.

Key words: reading comprehension, reading strategies, reading education, secondary students

Introduction

Reading comprehension is a skill that is vitally important for the success of all students, particularly those at a secondary level. “Students who are not reading at grade level by third grade begin having difficulty comprehending the written material that is a central part of the educational process in the grades that follow” (Lesnick, George, Smithgall & Gwynne, 2010, p. 1). Beginning in 5th grade, students are expected to read and comprehend 10,000 new words in their classroom texts each year (Gildroy, 2005). Without proper reading comprehension skills, however, students are unable to recall what they have read and struggle to apply new knowledge to classroom assignments and texts. In fact, according to the National Assessment of Educational Progress (NAEP), 40% of high school students cannot read well enough to benefit from their textbooks (Gildroy, 2005). Many of these students do not qualify for special education reading courses and schools have diminishing resources to provide remediation for every struggling reader. Therefore, the question of how best to help these students has been brought to the forefront.

One possible solution has been clear to researchers for quite some time. “For over a century now researchers have agreed that students can benefit by having reading instruction incorporated into their content-area classes” (Hall, 2005, p. 404). Many states have recently begun to require that all pre-service, secondary teachers take a course on content-area reading instruction, yet very few studies exist showing if and how this is actually translating into the secondary classroom. The common idea is that high school teachers do not feel it is their job to teach struggling students how to improve their reading skills (Ness, 2008). Therefore, the intent of this study was to discover the perceptions and experiences of content area teachers regarding reading comprehension strategies in mainstream classrooms to help struggling readers. Data

collection took place primarily through interviews with secondary, content-area teachers. It was then analyzed and synthesized in order to discover emerging trends before comparing them to previous research.

Research Question

What are the perceptions and experiences of content area teachers regarding reading comprehension strategies in mainstream classrooms to help struggling readers?

Background

A great deal of research has been conducted on the importance of effective reading teaching strategies in the elementary grades, but few studies have focused on the need for reading remediation at the secondary level (Alfassi, 2004). This is likely due to the attitude of many secondary content-area teachers that reading should be taught and mastered at the elementary level (Alger, 2007; Hall, 2005; Snow & Moje, 2010). Educational budget cuts and the high expectation that content-area teachers prepare students for state-mandated testing raise the question of how to help struggling secondary readers improve their reading abilities while also preparing them for such demanding tests.

Teaching content-area reading.

One strong suggestion encountered in current secondary reading research is for content-area teachers to integrate reading strategies with their standard curriculum. This concept has been present in research for more than 100 years, showing that a majority of students can benefit from content-area reading instruction (Alfassi, 2004; Fisher & Ivey, 2005; Ness, 2008). As mentioned earlier, however, secondary teachers on the whole do not feel it is their duty to teach general reading skills, nor do they feel they have adequate skills to teach comprehension strategies

effectively (Ness, 2008). Teachers have been shown, however, to provide simple remediation on classroom work in order for students to complete daily assignments (Alger, 2007).

Teacher preparation.

Many states now require that pre-service teachers complete a college course on teaching content-area reading before graduating and gaining licensure. Hall (2005) conducted a review of research on the effectiveness of such college courses and discovered that they may not actually be working to influence new teachers to use the reading strategies once they reach their own classrooms. One group of researchers concluded that it takes about a year to become proficient in teaching reading comprehension, though the required college courses are only three to four months long (Hall, 2005; Ness, 2008). As for teachers currently in the field, many schools do give the option to attend reading intervention in-service training sessions. Such sessions, however, are not a requirement of all school districts.

Participants

The participants in this study were seven content-area teachers of social studies and science. They were all teaching in grades 7-12 in the Midwest and along the East Coast. The researcher conducted each interview in person, over Skype, or through email. These teachers ranged in experience from 4 to 20 years, were employed by public school districts, and had graduated from colleges in the Midwest. They were found through a public search of school staff directories and by sending out a request for teachers through social media.

Assumptions

The researcher originally gained experience and interest in the topic of content-area reading after working as a high school reading remediation teacher with at-risk secondary students. These students were in both the mainstream high school and the alternative learning

center in a medium-sized public school district in the Midwest. It was during that time that the researcher saw a great need for more remediation than the school district could provide.

Therefore, the researcher is able to contribute first-hand experience, knowledge, and compassion in the area of content-area reading.

Limitations

Seven teachers were interviewed for this study, thereby limiting the generalizability of the results. Readers of the study should be aware of these limitations in order to avoid unintentional interpretations of the study results.

Definition of Terms

- **Mainstream classroom:** regular school classroom
- **Secondary teacher:** a teacher of students in grades 7-12
- **Content-area teacher:** a teacher who focuses on a specific subject area; examples include science, social studies, English, math, the arts, world languages
- **Content-area reading:** instructional reading that is specific to a subject area
- **Reading comprehension:** what a reader is able to understand, interpret, or analyze by reading a text
- **Struggling reader:** a student who has difficulty reading and/or comprehending a text
- **Intervention:** an activity or lesson meant to help readers improve comprehension skills
- **Pre-service teacher:** one who has declared he/she will become a teacher but has not yet completed his/her teacher preparation
- **Reading strategy:** methods used to teach reading or comprehension skills
- **In-service teacher:** one who has a teaching license and is teaching in his/her own classroom

Summary

Secondary students must to be able to read and comprehend at grade level in order to successfully complete homework, exams, standardized tests, and real-life tasks (Gildroy, 2005). Rather than attempting to remove every struggling reader from the mainstream classroom for remediation, it has been shown to be beneficial for content-area teachers to integrate reading comprehension strategies into their standard curriculum (Hall, 2005). This study strives to describe what reading means in two secondary subject areas and the reading comprehension strategies content-area teachers are currently using in their classrooms.

Review of Literature

Importance and Rationale of Topic

Having the abilities to read fluently and with understanding are vitally important for the success of all students. Without these skills at a secondary level, students are unable to recall what they have read and struggle to apply new knowledge to classroom assignments and texts. They are also unable to be a part of our literate society, as reading and writing are windows into all other areas of learning (Alfassi, 2004; Fisher & Ivey, 2005). Results from the National Assessment for Educational Progress (NAEP) stated that struggling high school readers constitute 40% of the United States high school population (Hall, 2006). Furthermore, it is clear that struggling readers are at great risk of facing a lifetime of literacy deficiencies (Ness, 2008).

The idea of teaching struggling readers within the content-area classroom is not new. According to Hall, “For over a century now researchers have agreed that students can benefit by having reading instruction incorporated into their content-area classes” (2005, p. 404). By implementing the teaching of such comprehension strategies, nearly all students in a single classroom can benefit, regardless of their reading level, without removing them from the classroom (Hall, 2005; Ness, 2009).

It is not difficult to find studies that focus on reading skills and strategies at an elementary level, but relatively few exist at a high school level (Alfassi, 2004). This is likely a reflection of the general attitude toward teaching reading in high school. It is a common belief among teachers of specialized subject areas that the responsibility of implementing reading strategies belongs solely to the English department (Hall, 2005). Beyond that, many believe that students should have learned to read in elementary grades (Alger, 2007). However, with current budget cuts, increased class sizes, and strong demands on teachers to prepare students for state-

mandated standardized testing, a major question that must be addressed by all teachers is how to improve reading and reading comprehension skills at a secondary level.

This review of literature examines what is being done to teach reading in the classroom, how secondary teachers are being prepared to teach reading with their standard curriculum, and what reading and comprehension strategies are helpful for secondary students. Finally, the review will examine areas for future research in the field of content-area reading instruction.

In the Classroom

Although researchers have agreed for over a century that students can benefit from content-area reading instruction, teachers have not yet been shown to embrace such instructional methods (Alfassi, 2004; Fisher & Ivey, 2005; Ness, 2008). As previously mentioned, secondary content-area teachers think of the task of teaching reading as a relatively low priority (Alfassi, 2004; Fisher & Ivey, 2005). However, in a majority of classes, students are required to read textbooks, articles and handouts, complete in-depth assignments based on that reading, and are then tested on how well they can recall and synthesize the information. This process clearly includes a great deal of reading (Ness, 2007). With students being denied the reading and comprehension help they so desperately need, they will not advance through their secondary education with the abilities they otherwise could have possessed (Ness, 2007).

It is common for teachers to provide some remediation for specific content when students struggle in their classes. However, they are not teaching literacy strategies that would enable students to overcome the larger comprehension problems they will inevitably encounter when confronted by similar challenges in the future (Ness, 2008; Snow & Moje, 2010). State standardized testing has caused science teachers to feel the need to prioritize their content instruction over literacy comprehension skills because of the lack of time they have to cover all

the necessary material for such tests, especially when faced with the challenge of meeting the needs of every student (Alfassi, 2004, Ness 2008). On top of the absence of sufficient time, most teachers do not feel they have adequate skills to teach comprehension strategies appropriately (Ness, 2008). Unfortunately, the lack of attention to the true literacy needs of students shows that content-area teachers may inadvertently be ignoring the real struggles of their students (Hall, 2006).

One way to overcome teachers' in-class time concerns is by teaching literacy comprehension while covering the necessary classroom curriculum (Misulis, 2009; Snow & Moje, 2010). This can be accomplished in a number of ways, though its implementation must be deliberate and well planned. This process requires knowledge and time outside of class. Teachers need to know *what* they are attempting to accomplish through teaching strategies as well as *why* and *under what conditions* such literacy instruction is most effective (Misulis, 2009).

In an attempt to gain an understanding of what was actually being done in content-area classrooms, Ness (2008) completed a study that examined the reading comprehension instructional strategies of middle and high school teachers in two rural Virginia schools. She observed eight content-area teachers for a total of five hours each, broken into 30-minute increments. She also held open-ended interviews with each teacher to gain insight into his/her teaching perspective and instructional choices.

What Ness discovered in her 4,200 minutes of observation was that teachers used two levels of reading instruction: implicit and explicit. Implicit included modified instruction and utilized various instructional tactics. Examples from her observations included presenting material multiple times or in multiple manners, altering texts, and placing students in heterogeneous groups where they were able to work together on assignments. Such implicit

strategies generally act as a quick fix for struggling readers. Explicit literacy instruction includes comprehension strategies such as summarizing, question asking, and predicting, which is meant to enable students to learn methods they can apply in many situations. Overall, it was found that the teachers in the study relied primarily on implicit methods. In all eight of the teachers' combined classroom time, only 3%, or a total of 82 of 4,200 minutes, was used to provide explicit comprehension strategy instruction. Ness found that the teachers did not utilize explicit reading comprehension strategies for a variety of reasons: the pressure to cover content in preparation for state testing, the teachers' lack of confidence and training in being able to teach such skills, and the sense of instructional responsibility to a particular domain of knowledge.

Overall, Ness (2008) concluded that teachers did not use explicit reading strategies to help struggling readers. Not one teacher in her study offered in-depth comprehension coaching to students. Rather, they focused primarily on teaching students what they needed to know in order to complete individual assignments. Ness stated that the findings of her study show that teachers fail "to recognize that by giving students the tools to understand the texts they encounter, students may be more likely to comprehend and to retain content" in the future (p. 91). In doing so, they missed the opportunity to help build lasting reading skills.

Teacher Training

Schools are now slowly coming to recognize the importance of teaching reading strategies within their content-area classrooms. State-mandated testing has largely influenced this recognition. As the importance becomes increasingly evident, more training opportunities are being developed for teachers in all content areas. Classes are being offered as part of reading teaching licensure programs, during in-service workshops for secondary teachers, and as a part of Masters programs. Schools that can afford to do so are hiring literacy coaches and specialists

to help teachers learn how to appropriately implement reading strategies in their own classrooms (Ness, 2007).

In order to address the issue of content-area reading instruction with pre-service teachers, many states now require a one-semester class on teaching reading before completing a secondary teaching licensure program. The purpose of these classes goes beyond training teachers how to implement reading strategies. Teacher training classes also encourage future teachers to consider the importance of literacy in the lives of students (Alger, 2007). Researchers have indicated that it takes about one year to become proficient in teaching reading comprehension (Ness, 2008; Hall, 2005). Additionally, many pre-service teachers believe the struggles students will face in their classes will be due to a lack of pre-requisite knowledge rather than an inability to read the text (Hall, 2005). Another common belief is that specific subjects do not focus on reading and writing, such as science and mathematics (Hall, 2005). This is why it is important to train pre-service teachers how to teach reading at the beginning of their teacher education (Snow & Moje, 2010). Unfortunately, a review of research on the efficacy of such college courses revealed that the courses might not be adequately equipping new teachers to employ these strategies once they enter their classrooms (Hall, 2005).

Alger (2009) studied four new teachers into their first year of teaching following the completion of her college reading course. Each teacher was working in a different school district with slightly varying student populations. Two taught biology and two taught English. Alger collected ten weeks of lesson plans from each teacher in order to analyze their use of reading interventions in the classroom. She then had each teacher complete a survey discussing his or her interventions and observed one class session with each teacher. Finally, she interviewed each participant. Prior to the study, Alger noted that it was common for new teachers to report that

they had taught reading interventions when they may not have actually done so. Of twenty possible interventions, each teacher reported to have used between seven and ten. Alger discovered, though, that the interventions were often used in a simplistic manner or not for the intended purpose. A few were being used as ‘workarounds’ during lessons, or something that could be used in class to avoid or replace independent content area reading. Another intervention used by one teacher was to scaffold the reading assignments through reading groups and questioning. Unfortunately, the teacher never taught the students how to move beyond such scaffolding. Therefore, students would be unable to utilize the strategy on their own in the future. Overall, Alger discovered that some transfer from her college reading course to first year teaching did occur. However, the strategies utilized by the four teachers did not require a lot of engagement between the text, the teacher, and the student. She also verified that first-year teachers are often intimidated by their new workload and quickly set aside many of the strategies they learned during previous training.

Most teachers continue to provide only minimal help to struggling readers. However, reading specialists are working to encourage content-area teachers to implement reading strategies by stressing the fact they are not expected to provide intensive remediation to struggling readers (Ness, 2008). Remediation strategies can be brief, simple, and exist within a standard classroom curriculum.

Reading Comprehension Strategies

There is clear evidence that students improve their reading level when high school teachers are able to explain and model comprehension strategies while providing opportunities for practice and feedback (Ness, 2009). In 2000, the National Reading Panel recommended the following eight strategies as efficacious (Ness, 2008):

- 1) Comprehension monitoring
- 2) Cooperative learning
- 3) Graphic and semantic organizers
- 4) Story structure
- 5) Question answering
- 6) Question generating
- 7) Summarization

Reciprocal teaching is one model of teaching reading within content-area curriculum that utilizes all of the approaches recommended by the National Reading Panel. This model works best in a small group setting of three to eight students and one teacher. The teacher begins by leading the group through problem-solving activities while reading various texts. The four main concepts used with reciprocal teaching are: (a) generating questions, (b) summarizing, (c) clarifying words, phrases, or ideas that are confusing, and (d) predicting what will happen later in the text (Alfassi, 2004). After the teacher models the process of reciprocal teaching, he or she allows students to take on the role of teaching the small group. By giving students this role, they are learning how to apply the strategies to their own reading experiences and should then be able to use the same strategies while reading any text.

A second effective model is the direct explanation model. In this example, teachers clearly explain which reading comprehension strategies they will be modeling and how they will use them. The teacher reads the text, thinking aloud along the way, articulating each comprehension strategy being used. This helps students learn how to effectively think while reading. The example is then followed by guided practice, allowing the students time to try the

strategies on their own. Research demonstrates that students can improve comprehension if given adequate training on how to appropriately create questions while reading (Alfassi, 2004).

Content-area reading strategies have been shown to improve reading comprehension scores on tests, including state-mandated standardized testing (Ness, 2007). The reason for this improvement is clear when examining the anatomy of both standardized and content-area tests. Many questions focus on reading a portion of text, summarizing it, and answering a number of questions related to the reading. Because of this, students' reading and comprehension abilities play a significant role in their ability to perform well on such tests (Hall, 2005).

Alfassi (2004) conducted two studies that focused on the effects of teaching reading comprehensions skills in content-area classes. The main objective of her first study was "to investigate the efficacy of supplementing literacy instruction with a program geared to foster strategic reading" (p. 175). The study took place in two ninth grade English classrooms consisting of a total of 49 mainstream students. The school was in a suburb in the Midwest and was made up primarily of middle class families. Teachers with similar teaching experience were selected for the study. Prior to the study they participated in six hours of reading intervention training provided by their school administration. Alfassi gave standardized pretests to all 49 of the students at the beginning of the study. She then instructed the teacher of the experimental group to provide daily, 20-minute, explicit comprehension interventions that were incorporated into the regular class curriculum. Such interventions included reciprocal teaching and direct explanation. The control group received no reading interventions. At the conclusion of 20 days, all 49 students were given another standardized test similar to their pretest to determine growth.

At the start of the study, the pre-test scores showed only a small margin of difference between the two groups. At the end of the study, the post-test scores showed a greater increase of

improvement in the experimental group. Although both groups improved their reading scores throughout the duration of the study, the experimental group had a significantly greater rate of improvement. Alfassi concluded that “the findings demonstrate the educational benefits of incorporating combined strategy instruction into the English language arts curriculum” (p. 176). There are greater improvements made in comprehension when regular text is supplemented with strategy instruction.

A few questions remained after Alfassi’s first study. It was not known if it would be beneficial to have school-wide reciprocal teaching interventions. Implementation could be challenging for many content-area classes since this strategy is best carried out in small groups of three to eight students. Another question was whether results would demonstrate a similar margin of difference with a larger number of students. Finally, it was not known what effect the ability of the teacher in each group would have on the outcome of the overall study results.

Alfassi’s (2004) second study focused on the ability of students to ask and answer high-level questions while learning. Question asking is a method that enables students to think deeply and comprehend what they have read by formed content-relevant inquiries. The study was performed with 277 sophomore students in a Midwest town. The town was largely made up of middle-class families. Teachers of various content areas including sciences, arts, social studies, and mathematics taught the questioning interventions after participating in a six-hour training session. All students were given a pretest at the beginning of the school year, which included four content-specific reading passages with questions. Next, teachers taught questioning interventions for 20 minutes per class session for a span of 20 class days. Following those 20 days, teachers periodically taught maintenance lessons through the remainder of the school year. The study’s post-test was similar to the pretest.

The main objective for this study “was to examine the differential effects of the intervention program on the ability of students to answer questions that related to information stated within the text (explicit questions) and information integrated and inferred from the text (implicit questions)” (Alfassi, 2004, p. 178, parenthesis mine). It was found that the most improvement from pre- to post-test occurred with the text-implicit questions. The study showed that students were able to learn how to ask and answer questions related to their reading that were not clearly stated in the text. Such questions require a higher level of thinking than explicit questions, demonstrating the students had learned applicable reading comprehension skills through the duration of the study.

Implications for Future Research

There must be more quantitative and qualitative studies done that address reading and reading comprehension in grades 7-12. Researchers need to further examine the role of content-area reading instruction, including implicit and explicit reading instruction, in preparation for state-mandated standardized testing. More time should to be spent examining the effectiveness of the current pre-service teacher training courses. Also, research must be performed to improve the current in-service reading courses.

Summary and Discussion

Although there are few studies on the implementation of content-area reading strategies at a secondary level, it is clear that teaching such comprehension strategies does help improve reading abilities. Content-area teachers can teach comprehension strategies within their standard curriculum, though reading in each content-area looks different from subject to subject.

Therefore, teachers need help learning appropriate and effective strategies in their specific

content-area and require support in implementing these strategies in their classroom on a daily basis.

Methods

This chapter will address the methodology of the research that was conducted in the spring of 2013. The purpose of this study was to discover the perceptions and experiences of content-area teachers regarding reading comprehension strategies in mainstream classrooms to help struggling readers. Here the researcher will describe who the participants were, how interviews were developed, methods of data collection, analysis, and validation, and possible ethical issues.

Participants

Participant selection began through a search of local high school teacher directories located on public school websites. The search then expanded to the social media outlet of Facebook. An invitation email was sent to 24 teachers (Appendix A). Nine teachers agreed to the study and seven were selected through purposeful sampling. The participants were all teachers of social studies and science, graduated from colleges in the Midwest, held state certifications in their content areas, worked in public schools, and were teaching in grades 7-12 in the Midwest and along the East Coast. Their teaching experience ranged from 4 to 20 years. The participating teachers are identified in Table 1.

Table 1.

Identification of Participating Teachers

Teacher	Content Area	Grade	Years Teaching
A	Psychology / History	12	20
B	World history	11	17
C	US history	11	7
D	Geography	7	4
E	Physical science	8	9
F	Earth Science	7 / 8 / 10	4
G	Physics / Chemistry	9 / 10	5

Research Design

This was a phenomenological study as the researcher hoped to discover common themes of effective reading comprehension strategies used when teaching social studies or science in grades 7-12. The study included interviews and data analysis to find similarities and differences between teacher experiences and teaching strategies.

Data Collection and Analysis

Through the months of March and April 2013, the seven teachers were interviewed during 30-45 minute face-to-face interviews or through email discussions using a survey of twelve open-ended questions developed by the researcher (Appendix C). Questions covered the subjects of content-area reading expectations, teacher training opportunities, and specific reading strategies. Interviews were conducted at the participating teacher's school or at a public location such as a library or coffee shop. Each interview began with an icebreaker topic and ended with the opportunity for teachers to share anything further they felt related to the study.

Interviews were recorded two ways to ensure accuracy: a GarageBand recording application on a Macintosh computer and the Voice Memos iPhone recording application. The researcher then transcribed each interview with the help of the Express Scribe software. Once the interviews were transcribed, the researcher visually confirmed the accuracy of transcription. Each interviewee reviewed the transcription of their interview for accuracy. Two interviews were conducted through email. For those interviews, responses were visually checked for accuracy by both the researcher and interviewee.

The researcher adapted Denzin's (2001) six steps of data analysis to analyze the data she collected. The first step was to transcribe the interviews. The second was to carefully read through all the data in order to get a general idea of emerging themes and meanings. Third the

researcher created a coding system and, in step four, used that coding system to establish themes throughout the transcriptions. Step five required the researcher to determine how to describe the themes in writing. Finally, step six was to interpret all data.

Validating Findings

Research findings were validated in three ways. First, the researcher recorded each interview. This allowed her to return to the notes if there were any discrepancies or questions as data analysis took place. Accuracy was also validated through member checking in order to give each participant the opportunity to review the researcher's interview notes. Finally, the entire research process was subjected to peer debriefing, meaning that at least one person outside the study read all of the findings and asked questions of the researcher. This ensured that all steps and results were stated clearly and accurately.

Summary

By following the phenomenological methodology for the study, the researcher gained an understanding of the use of appropriate, effective reading strategies in the high school social studies and science classrooms. The following chapter presents the findings of this study.

Results and Discussion

The following chapter will identify the results of the interviews conducted in March and April 2013. The results will be analyzed and compared to what has been found in previous research. Specific areas of discussion are the importance of reading, identifying struggling readers, reading strategies, and strategy education for teachers.

Importance of reading

Each of the seven teachers acknowledged that reading and reading comprehension are important skills for secondary students. All four of the social studies teachers clearly conveyed that a part of their role as a high school teacher was to help their students become better readers. Teacher C said, “We’re told that we’re all teachers of reading. We know we have to teach different reading strategies.” In fact, one school required that every social studies class district-wide do daily reading. “Reading & comprehension is incredibly important. Students need to read to be successful out in the work world. One way to get better is to do it all the time. We always require reading, no matter their reading level.” This contradicts multiple researchers who stated that students would benefit from reading comprehension instruction in their classes but that content-area teachers were not doing such instruction (Alfassi, 2004; Fisher & Ivey, 2005; Ness, 2008). Previous findings report that these same teachers hold reading instruction as a very low priority when needing to teach their subject material (Alfassi, 2004; Fisher & Ivey, 2005). The social studies teachers in this study stressed the importance of using reading within their standard curriculum.

Just one of the three science teachers believed that reading comprehension was a part of science teaching responsibilities. This lines up with Hall’s (2005) suggestion that many teachers believe specific subjects such as science and mathematics do not need to focus on reading and

writing. Teacher E said the school's principal expected every teacher in the school to use reading in their classroom. However, he said he continues to teach using very little reading because "the kids don't like to read...I'd prefer to do something hands-on...I'm afraid it would turn them off [to science]." Teacher F required reading in her class but said that she didn't intentionally use any interventions due to time constraints. Alfassi (2004) and Ness (2008) have explanations for Teacher F's choices, saying that state standardized testing has caused science teachers to feel a significant lack of time to cover all the necessary material for such tests.

Each of the 18 individual classes represented in this study included multiple sources of texts for classroom reading. Six of the seven teachers used textbooks as a part of their regular curriculum. The use of these books varied greatly between teachers. For three high school social studies classes teachers relied heavily on the textbook, and one AP-level class was expected to cover the entire book. Teacher F shared that her 10th grade textbook was far above what her 10th graders could comprehend, while the 7th grade textbooks were long outdated. New books were rarely purchased due to financial difficulties in the school district. Other commonly cited reading sources were handouts and newspaper or magazine articles, used by four of the teachers. Two social studies teachers used many primary documents and just one of the social studies teachers used a fiction novel in one advanced class.

Identifying Struggling Readers

There are many ways to identify struggling readers in the mainstream classroom. Each of the teachers mentioned that assessments such as quizzes, tests, or daily work assignments have helped them determine which students are struggling with reading or reading comprehension. Teacher A said he utilizes "a series of assessments on different levels [both] formal [and] informal." Teacher D and Teacher F mentioned the practice of regular note checks for such

identification purposes. Teacher B said there are many signals of difficulty that are evident by watching a student's behavior during instruction and work time. "They usually shut down, the students who struggle reading, when they see a whole one-page article in front of them." Four teachers had assistance from other staff within their school to identify who may be having a difficult time. These staff included special education teachers, paraprofessionals, classroom assistants, reading specialists, and reading teachers. According to three teachers, support staff inform them when they have struggling readers within a particular class. Teacher F expressed, "There's not a time where I can really sit down and figure that out with the students. I wish there was! To sit down with individuals and figure that out takes too much time." Identification can be challenging in classes, but it is important to be able to do so in order to provide the help necessary for students.

Reading Strategies

Each teacher identified specific reading strategies they use with the entire class to help teach reading comprehension skills. Such strategies include assigning daily reading, selecting reading at a simplified level, skimming the text before reading, reading aloud as a class, introducing new or challenging vocabulary ahead of reading, and asking questions before, during, and after reading. At least three teachers assigned a daily reading quiz or a question of the day. Both Teachers E and F used science notebooks and hands-on labs while Teacher F also stressed the repetition of material. Multiple teachers taught or lectured using PowerPoint presentations, Cornell notes and graphic organizers and later checked students' notes. Teacher D mentioned the use of Think-Pair-Share and splitting the class into groups so that each group could cover a small part of the material and teach it to the rest of the class.

Many of the strategies mentioned by the teachers are congruent with those recommended by the National Reading Panel (Ness, 2008). Misulis (2009) also identifies vocabulary expansion as a reading strategy. Checking notes can be an example of comprehension monitoring, though in order to qualify as a reading strategy, the notes require some aspect of independent work rather than simply copying from a projector. Think-Pair-Share is cooperative learning as is working in small groups to teach the class new material. Cornell notes and graphic organizers are examples of using graphic and semantic organizers while science notebooks may be a way to create graphic organizers, though it depends on how they are used. A reading quiz or question-of-the-day are examples of question answering, and asking questions before reading falls under question generating. Proactively learning vocabulary is an example of Misulis's idea of vocabulary expansion.

Strategy Education for Teachers

Education on teaching reading is an important part of being able to implement reading strategies in the classroom. Five of the seven teachers reported participating in specialized reading training in their content area while six of the seven participants said they would like to increase the use of reading strategies in their classroom. Teacher D was the only one to have had a specialized course in college, and Teachers A, B, and G said they had taken a reading course since college. Four of the interviewees noted their schools offered in-service trainings focusing on teaching reading while three said their schools did not. This was found to be particularly noteworthy because two of the teachers taught in the same school yet gave different answers to the question. Four teachers learned strategies from a reading expert within their schools such as a reading specialist or reading teacher. Teacher E stated that teachers in his grade participated in weekly literacy meetings with the middle school English coordinator, who was also the 7th grade

reading teacher. After listing other strategies, Teacher A said that many of the strategies utilized in his class were simply “common sense.”

Most strategies require some degree of training prior to classroom implementation. This is why Snow and Moje (2010) stressed that teachers must begin learning how to teach these strategies at the very beginning of their teacher training. Without being asked directly, three teachers stated they would like to have more opportunities for education on how and when to use reading strategies. This is consistent with research that revealed teachers feel they need more education and training to build confidence in implementing reading strategies (Hall, 2005; Ness, 2008). Such training for pre-service and in-service teachers would build this confidence.

This study also suggests that social studies and science teachers in grades 7-12 are aware of the importance of reading in their classrooms. This is in opposition to what was found in previous studies, stating that content-area teachers did not believe it was their role to teach reading (Alfassi, 2004; Fisher & Ivey, 2005; Ness, 2008). Social studies teachers in this study were more likely than science teachers to include reading in their classes and to apply comprehension strategies to classroom activities and assignments. Hall (2005) stated in an article that it is commonly believed that subjects such as science do not focus on reading. This study also found that teachers use a variety of reading materials, which occasionally include a course textbook, but can range widely in type from class to class. Teachers are implementing multiple reading strategies, though teachers may not be utilizing all strategies to their full potential and the strategies may not all be congruent with the National Reading Panel’s eight recommended strategies (Ness, 2008). Finally, similar to previous research, this study supports that teachers would have more confidence in using various comprehension strategies with more reading strategy training (Hall, 2005; Ness, 2008; Snow & Moje, 2010).

Summary

Overall, secondary social studies and science teachers in this study are aware of the need for content-area reading instruction within their classrooms. These teachers desire to learn how to utilize appropriate reading comprehension strategies and they want to be able to do so with confidence. In order for this to happen, content-area teachers need specialized education to learn exactly what reading looks like in their content-area. Those will enable content-area teachers to implement beneficial reading comprehension strategies alongside standard classroom curriculum.

Conclusion

This study was conducted to gain a perspective of the current perceptions of teaching reading comprehension strategies in mainstream classrooms. Interviews were conducted with seven teachers in grades 7-12 who teach either social studies or science. Teachers shared their ideas of teaching reading strategies within standard class curriculum and what their experiences have been learning to teach content-area reading strategies. It is clear that reading education and expectations at a secondary level is changing. This study helps clarify some of the specific ways in which it is changing.

Educational Implications

The findings of this study have the potential to inform secondary teacher reading education and content-area strategy implementation. Such findings can influence how teachers in the field are supported and educated in their teaching position and how undergraduate students are taught during pre-teacher training.

First, only one of the seven teachers in this study took a teaching reading course during his/her undergraduate teaching education. Many states now require such a course before receiving a teaching degree, so the number of teachers with undergraduate training will increase as time progresses. However, the social studies teacher who took the undergraduate course still had many questions about teaching reading and did not have the confidence to expand her comprehension strategies without further training. Only one semester is currently required for new teachers, which according to Hall (2005) and Ness (2008), is inadequate. A change in attitude from all college-level education instructors is necessary. Compartmentalizing the teaching of reading comprehension strategies into a one-semester course does not adequately exemplify what new teachers should be doing in their own secondary classrooms. In order to

change new teachers' perspectives on teaching reading, college instructors should be using reading comprehension teaching strategies from day one in their own courses. That way, content-area reading instruction would begin in the first instruction courses, setting the standard that all teachers are teachers of reading and thereby giving ongoing examples of how to implement reading strategies in the classroom.

Second, in-service teachers need continued education and strong, on-going support of the implementation of newly . This study revealed that some schools offer further education on teaching reading while others do not. Teachers need opportunities to learn how to help students become better readers and, consequently, perform better on nationally required standardized tests (Ness, 2007). Teachers in this study said they had resources such as reading and curriculum specialists but many did not know how to properly utilize them. Ensuring that teachers know who and what their resources are and how they can appropriately use them will be highly advantageous. Even further support can be offered through reading teaching mentorships of new teachers and regular meetings with district reading specialists. Such support and education for in-service teachers has the potential to significantly influence how content-area teachers implement reading comprehension strategies in their classrooms.

Recommendations for Future Research

There are multiple opportunities for research following this study. Teachers must learn how to teach reading comprehension strategies, so it is necessary to study how to best teach such strategies. Learning the best, most efficient practices for pre-service and in-service teachers to learn reading comprehension strategies would benefit most, if not all, school districts. It is also imperative to learn appropriate and effective ways to support these teachers on a daily basis. This study did not focus on what was actually happening specific disciplines beyond science and

social studies. Reading will be implemented differently from subject to subject, increasing the importance of recognizing varying reading styles and comprehension strategies in different subject areas.

Conclusion

The ability to read and comprehend multiple textual sources is a necessary skill for the success of every high school student. Contrary to earlier thought, teaching students how to read does not end at the conclusion of elementary school. Nor is teaching reading and reading comprehension the sole responsibility of the English department or reading remediation teacher. Rather, every content-area teacher can and should be a part of each high school student's reading and reading comprehension development by learning to teach reading through standard curriculum in the mainstream classroom.

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Appendix A

**Content-Area Reading
Recruitment Email**

Hello!

My name is Angela, and I am a graduate student in the education department at the University of Minnesota Duluth. I have great interest in helping struggling readers at a secondary level and am focusing my thesis and research on that topic. I would like to learn more about the different ways teachers help students read and comprehend subject-specific material in a general education classroom. I hope to use the information I learn to guide other content-area teachers in understanding the specific ways they can help struggling readers in their own classrooms.

I am wondering if you would be available to sit down and share your thoughts with me about the reading and comprehension strategies you have found helpful in your own classroom. The interview would last approximately 60 minutes, and the questions will be made available to you ahead of time. Interviews will be held during the month of March, and I am available Tuesday through Friday from 3-6pm. If that time does not work, I can make arrangements to meet at another time during the day, Monday through Friday.

I greatly value your time and thank you for considering this valuable research opportunity. If you would like to be a part of the research or have further questions, please email me at scot0282@d.umn.edu.

Warm regards,
Angela Olsen

Appendix B

**Content-Area Reading
Follow-up Email**

Hello!

Thank you for your interest in being a part of my graduate thesis study! The interview will focus on secondary content-area reading and comprehension strategies and will take approximately one hour to complete. I will be available during the month of March for interviews on Tuesday through Friday from 3-6pm. If those times do not work for you, I can make arrangements to accommodate your schedule. I have attached the interview questions if you would like to look at them ahead of time.

Please email me at scot0282@d.umn.edu with two or three days and times that work with your schedule, and I will get back to you as soon as possible with the final time.

Again, thank you for your interest in participating!

Warm regards,
Angela Olsen

Appendix C

**Content-Area Reading
Teacher Interview Questions**

School: _____ Teacher: _____

Grade: _____ Subject: _____ Date: ____/____/____ Time: _____

What led you to teaching?

How did you choose your content area?

Have you always taught in this area? If not, in what other content areas have you taught?

What kind of reading is generally required in your in your content area? (textbooks, articles, online material, etc)

What are your beliefs about reading and literacy in your classroom?

How do you determine who is a struggling reading in your classroom?

How would you define and explain the reading comprehension strategies you use in your classroom?

Where did you learn these strategies?

Did you take a content-area reading teaching course before receiving your teaching license?

Does your current school district offer training on teaching reading through in-service sessions or specialized training?

What might encourage you to use more content-area reading strategies in your classroom?

Is there anything else you would like to add?