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MIDDLE SCHOOL TEACHERS PERCEPTIONS OF THE FACTORS THAT SUPPORT OR IMPEDE THE INCLUSION OF READING STRATEGIES INTO CLASSROOM INSTRUCTION

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MIDDLE SCHOOL TEACHERS' PERCEPTIONS OF THE FACTORS THAT

SUPPORT OR IMPEDE THE INCLUSION OF READING STRATEGIES

INTO CLASSROOM INSTRUCTION

by

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Abstract

This interpretive case study took place in an urban middle school where content area math and science teachers engaged in content area reading instruction designed to promote students' reading development in their content area classes.

Participants included eight teachers across grade levels six, seven and eight. Teachers participated in a "Background Information Questionnaire" designed to obtain their perceptions, literacy beliefs and literacy practices; focus group interviews created to explore their perceptions related to the key themes in the literature regarding content area reading instruction; structured one-on-one interviews to corroborate researcher interpretations of the initial data analysis and to collect individual teacher data on key themes created in focus group interviews; and finally, member checking sessions designed to verify key findings.

Key findings revealed that these teachers held content area reading instruction within their content area class and felt responsible for students' literacy learning while also being responsible for teaching content area standards. Students' abilities emerged as a major theme regarding perceived impacts on students' efforts to comprehend content area texts and vocabulary.

Factors that teachers perceived as most supportive in teaching content area reading included instructional factors (teacher motivation and student motivation) and infrastructural factors (support from the administrative team, collaboration with English Language Arts colleagues, district literacy support and buy-in from all staff). Teacher-perceived obstacles to providing effective reading instruction included instructional factors (lack of instructional differentiated resources, excessive testing and student ability) and infrastructural factors (lack of

adequate time, lack of proper undergraduate training, inadequate district professional development and student ability). Implications for schools and districts, as well as possibilities for future research were discussed.

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Chapter One

Introduction

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Subject area content mastery cannot be attained without the incorporation of basic reading skills (Rose, 2011). According to the Program for International Student Assessment (2013), the standard reading results for The United States 15-year old students ranked at 498 out of a possible 1000 points.

For a significant time, the educational development within The United States has slowly staggered and Americans were losing in the field of academics to international counterparts (Louis & Mistele, 2012). Specifically, in the areas of math and reading, and college remediation rates continue to increase. This interpretive case study explored middle school content area mathematics and science teachers' perceptions of reading in the content area and what influenced their efforts to infuse reading practices into their daily teaching. This study allowed me to gather more insight into the thoughts and factors that included or excluded reading skills with daily class instruction.

The Challenge of Content Reading in Education

Content area reading is defined as "the level of reading and writing skills that learners need in an academic subject to comprehend and respond to ideas in texts used for instructional purposes" (Vacca, 2002, p. 16). This definition explains that content comprehension was connected to reading and writing and demonstrated how both were needed for successful communication. This is in conjunction with disciplinary reading, which is "advanced reading instruction embedded within content-area classes such as math, science, and social studies"

(Shanahan & Shanahan, 2008, p. 40). According to Shanahan and Shanahan (2008), content area reading focuses on one's ability to use both reading and writing to comprehend the subject matter within a content area and teaches reading skills to obtain an understanding of a specified text while emphasizing study skills that can be implemented within various content areas. To successfully learn information in any type of sequence, one must apply the reading and writing skills required to make this possible. Teachers must establish and use instructional reading strategies that meet the specific requirements of their specific content areas to empower students to increase reading skills.

Many schools are now confronted with a countless amount of challenges when it comes to getting students to attain the essential information required to enable them to become skillful adults who are completely engaged individuals. A great amount of investigation has been directed at teacher beliefs regarding the effective instructional strategies for content area reading (Hindman & Wasik, 2008). These teacher beliefs can come from a wide range of perspectives and can focus on the negative and positive aspects within the field of content area reading (Hindman & Wasik, 2008). Since Reynold's (1992) research regarding teachers' beliefs on history represented an effort to comprehend challenges, more recent research significant to content area reading has placed more attention on the evaluation of teachers' instructional practices instead of their current beliefs (Elusory & Dedeoglu, 2011). Content area teachers' struggles to incorporate reading strategies includes more examinations on content area teachers' qualities and backgrounds instead of beliefs, which typically points directly at the importance of evaluations and less on what teachers believe must be in place to progress reading instruction within the classroom. Studies typically analyze teachers' beliefs concerning content area reading through the exploration of beliefs vital to reading (Flint, Maloch, & Leland, 2010) in place of

examining exactly how teachers' beliefs influence content area reading strategies (Hindman & Wasik, 2008).

In 1995, O'Brien, Stewart, and Moje set out to understand whether the implementation of content reading into the national school system was either successful or unsuccessful, determining that the struggles were related to understanding the beliefs of teachers. School administrators, educational systems, scholars, and politicians continue to examine ways to enhance teachers' beliefs regarding the factors that support or impede the inclusion of reading instructional strategies within various content areas (Caplan, 2000). It seems that many do not understand the true issue of reading in the field of education, and teacher beliefs regarding the issue can sometimes fall by the wayside as major decisions regarding reading are being made by more business focused individuals. Ratekin, et al., (1985) focused on early reading strategy development, indicating educators as being opposed to utilizing reading strategies within their content areas. O'Brien et al. (1995) found many educators who experienced extreme difficulty implementing content reading due to a lack of understanding as to what reading strategies should look like within the content areas. Other difficulties included understanding what should be taught and who should teach it (Ratekin et al., 1985).

Roles and Obligations of a Content Teacher

Current research has suggested that a great deal of content area teachers take on the difficult task of teaching reading within their content area, but many truly believe they may not be equipped to successfully meet the reading demands of their student population (Delany, 2005). Math and science content area teachers continue to display great levels of certainty or assurance in their area of skill; however, they frequently doubt their own adequate knowledge, ability, or preparation for incorporating reading instruction into their area of focus or for

attending to students' basic reading requirements (Greenleaf et al., 2001). There were other

beliefs teachers held that tended to affect the usage of reading skills, specifically regarding the

roles and obligations of content teachers. Spencer et al. (2008) reported that secondary school

teachers categorized reading to be of relatively small importance and as the responsibility of the

English Department. Heller and Greenleaf (2007) proposed that teaching reading and writing in

the secondary setting was no one specific person's obligation. Many described teachers as

content area experts within the field of education who possess unrelated subject matter from

competences.

According to Alger (2007), secondary teachers believed that it was their responsibility to

teach students content whereas the skills to read should have been taught in the elementary

setting, which points to this task not being their duty. Also, Park and Osborne (2006) reported

that secondary school teachers assumed that students have the relevant capabilities to reading

vital for the completion of reading tasks in various content areas, and they understood their main

goal was to instruct students in a specific subject area.

Hall (2005) proposed that content teachers perceived the teaching of reading as the

responsibility of another individual. In many cases, it was understood that the teaching of reading

may indeed benefit all content area subjects. According to Vacca (2002), "Although they have

important roles to play in adolescents' reading development, language arts and reading teachers

need content area teachers to show students how to read and write like a scientist, historian, or

mathematician" (p. 10). This approach was supported by Alger (2007), who asserted that reading

was a problem for content area teachers, wherein "there is still reluctance on the part of content

area teachers to commit to including reading as a goal or objective of their courses" (p. 620).

Science and reading go hand in hand. Inquiry-based science requires students to incorporate the

use of various tools within science to locate answers to questions regarding real-world experiences. Students were then able to compare their thinking with others, communicate with peers, and share their thoughts by using words and graphics. There was a substantial amount of research within the content area of science that indicated language as being vital to learn the content. Reading and language permits students to explain their ideas, make valid claims, present justifiable arguments, and record and present the results of their findings (Worth, 2006).

Bean (1997) suggested that factors impacting strategy selection regarding content area reading was tremendously influenced by various sociocultural views regarding specific schools. As such, leaders within the school environment should be considerate of the issues teachers face. The specific duties and obligations should be specifically outlined for teachers which would allow opportunities to respond to their call of duty. More seasoned teachers were more likely to implement various teaching strategies while teachers who were new to the field may have second thoughts of such implementations (Bean, 1997). This statement has a greater chance of success in a school where the school culture was positive towards various teaching strategies and expected the latest innovations to be implemented, teachers will be more likely to implement them. When school cultures do not allow needs for academic changes, implementing strategies within content areas would be less likely to occur.

Statement of the Problem

Wilson, Grisham, and Smetana (2009) concluded that "for years there have been calls for an increased emphasis on content reading" (p. 708). According to Wexler, Vaughn, and Roberts (2010), most of the recent research continued to spotlight the early childhood components and intervention programs for students who had specific learning disabilities within an elementary setting. As students' reading skills continue to decline, some organizations suggested that there

was an adolescent reading crisis that expanded into the latter grades (Ross, Pinder, & Coles-White, 2015).

Researchers have gained a great deal of knowledge regarding adolescent reading (Fisher & Frey, 2007); however, educators have been unsuccessful at creating and implementing academic instructional alignments that overlap with the demands of contemporary adolescents (Franzak, 2006). According to Fisher and Frey (2007), the issue with adolescent reading proposed that "with the diverse student needs seen today, it is time for less prescriptive and more 'personal' teaching differentiated for each student" (p. 12). After completing an investigation of current content area reading instruction in American secondary schools, Heller and Greenleaf (2007), the Center on Instruction (2008), and Instructional Developmental Services (2011) found various contradictory difficulties which held content area teachers back from effectively incorporating content area reading practices into their daily instruction. These difficulties included an absence of clear understandings and expectations regarding educators' duties in that capacity (Heller & Greenleaf, 2007); difficulties with covering various content area standards (Center on Instruction, 2008) and an absence of comprehension and experience regarding how reading strategies should be taught (Instructional Developmental Services, 2011). The necessities to differentiate various lessons for the wide range of diversity amongst student demands, learning styles, and personal interest (Heller & Greenleaf, 2007), and an absence of differentiated resources which supported the various needs of students were also included (Center on Instruction, 2008).

Biancarosa and Snow (2006) researched and presented over a dozen vital components for highly effective secondary reading programs. These components were divided into two categories which include instructional and infrastructural improvements. The instructional

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enhancements included direct, explicit comprehension instruction, effective instructional principles embedded in content, motivation and self-directed learning, text-based collaborative learning, strategic tutoring, diverse texts, intensive writing, a technology component, and ongoing formative assessments of students (p. 4). The infrastructural improvements included "extended time for reading, professional development, ongoing summative assessment of students and programs, teacher teams, leadership and comprehensive and coordinated reading programs" (Biancarosa & Snow, 2006, pp. 4-5).

It was examined that the components of the two categories were required to the improvement of highly successful secondary reading attempts; however, instructional factors were highly critical when it came to increased student achievement in reading. In addition, Darling-Hammond and Youngs (2002) concluded that providing students with highly effective teachers would be vital for students' gaining the required knowledge needed within the instructional attempts. According to International Reading Association, classrooms should include the full spectrum of literacy within instruction which would allow students to be better prepared for communication across all mediums; utilizing multimedia communication which allows all students to create various ways to practice reading skills which then instils the needed confidence in students regarding their communication capabilities (p. 11). For this reason, students who were struggling to read continue to struggle through school with very limited reading abilities and typically end their high school years with inadequate reading skills. According to Cantrell, Burns, and Callaway (2009), middle and high school teachers' resistance to implementing content reading approaches stems from many factors, including middle and high school traditions and cultures, teacher beliefs about the roles and responsibilities of content area

teachers, and content teachers' lack of confidence in their own preparation as reading teachers (p. 77).

The vital components within Biancarosa and Snow's (2006) study were used as a framework for this study. The goal was to improve the overall understanding of content area middle school teachers' perceptions regarding the factors that were vital to either supporting or impeding their efforts to incorporate reading strategies into daily instruction. Understanding teacher's perceptions were vital to the outcome of this study and guided the study entirely.

Purpose of the Study

The purpose of this interpretive case study was to explore middle school content area math and science teachers' perceptions of content area reading and what influenced their attempts to incorporate reading practices into their daily teaching. Participants of the study were sixth, seventh, and eighth grade teachers from a single middle school who taught math or science. The setting of this study offered a unique position, which assisted to improve the understanding of the infrastructural and instructional factors that educators perceived as vital in assisting or impeding their attempts to incorporate reading instruction into their daily classroom lessons.

Research Questions

The following research questions will outline this study:

1. What reading strategies do math and science teachers describe using?

2. How do math and science teachers perceive their role in supporting content area reading?

3. What do math and science teachers perceive to influence content area reading instruction?

These questions were answered by using an assortment of data collection methods. The data collection methods were as follows: 1) an initial collection of background information through written questionnaire; 2) focus group interviews; 3) individual teacher follow-up interviews.

Significance of the Study

This study provided valuable understandings of the perceptions of middle school math and science teachers regarding content area reading instruction. There continued to be a gap between what was already known regarding the best practices within reading and the definite practices incorporated inside of the classrooms (Benjamin, 2013). Currently, there is a lack of national statistics that connect the best practices within reading and the definite practices incorporated within a teacher's classroom. This analysis allowed an attempt to gather data regarding teacher's voices as it pertained to incorporating reading strategies within their classroom.

Definition of Key Terms

The definitions of some key terms used in the dissertation were as follows:

Content Area Reading: "the level of reading and writing skills that learners need in an academic subject to comprehend and respond to ideas in texts used for instructional purposes" (Vacca, 2002, p. 16).

Content Area Reading: the reading skills required for students to gather meaning and understanding from texts encountered in various content area courses. This included "the ability to make inferences from text, to learn new vocabulary from context, to link ideas across texts,

and to identify and summarize the most important ideas or content within a text" (Torgeson et al., 2007, p. 3).

Content Area Teachers: Educators who teach content area standards in math, English, language arts, science, or social studies. Math and science were specifically selected for examination during this study because in many middle schools, these content areas "comprise the heart of the secondary school curriculum" (Heller & Greenleaf, 2007, p. 48). Both content areas signify a distinct and widely-identified content area reading debate that has its own methods to produce and communicate knowledge (Moje, 2008).

Reading Comprehension: "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (RAND Reading Study Group, 2012, p. 11). The term extracting highlights the significance of the text being read as "a determinant of reading comprehension," (RAND Reading Study Group, 2012, p. 11) while the term "constructing" allowed the responsibility of the reader to "make meaning" as the material was read.

According to Gambrell, Block, and Pressley (2002), vital academic concerns regarding reading comprehension cannot be undervalued; pushing experts to reveal that the most vital issue regarding reading was indeed comprehension. When teachers clarify model independent comprehension methods and provide guided, critical practice, students start to utilize the techniques separately and enhance their reading levels (Biancarosa & Snow, 2006). As a result, the success of teacher-led reading comprehension, the greatest recommendation for improving reading comprehension skills requires one to quickly expand reading instruction, but comprehension specifically (NRP, 2000).

Reading instruction in all content areas can be beneficial and can enhance student learning. Using reading skills in various content areas, such as science increases students' scientific analysis (Hapgood & Palincsar, 2007). An expanding body of research and practices related to content science instruction demonstrated that language was vital for learning and processing the skills in science. According to Worth (2006), language provides students opportunities to explain, take vital positions, provide valid arguments, and document data and various results.

According to Shiveley (2003), various educators and school districts have begun to use a vast number of children's literature for the main resource to teach social studies content. Regardless of the success of reading instruction in certain content areas, teachers often hesitate to provide precise instructions for reading comprehension in secondary classrooms because in many cases they may believe this should have been taken care of prior to the student reaching high school. Educators explain that instructional time plays a major role in covering core content when dealing with the hurdles of reading instruction (U.S. Department of Education, 2009). Also, envisioning oneself as an expert within a specific content area, secondary teachers may have believed that teaching reading to their high school students was of no concern to them (Greenleaf, Schoenbach, Cziko, & Mueller, 2001).

Even though some teachers tend to modify or disregard portions of the reading component, they can also facilitate the learning process and apply methodologies to establish reading abilities. According to Cromley and Azevedo (2007), comprehension continues to rely on the five powerful reading qualities: word reading, vocabulary, inference ability, foundation learning, and method usage. Many content teachers require students to read various types of content and understand the assignment but fail to realize that these activities involve a great deal

of assistance while choosing specific techniques and modifying them to meet the specific demands within a specific subject area (Torgesen et al., 2007).

According to Strauss (2013), in the past few years, elementary projects have been under criticism. Various researchers have demonstrated that reading comprehension increases most when teachers deliver explicit comprehension instruction to their students (Dymock & Nicholson, 2010). According to the NRP (2000), the following research-based strategies were the most vital factors for focused instruction: questioning, activating prior knowledge, analyzing text structure, creating visual or mental images and summarizing. These strategies were most beneficial when text-focused dialogue exists among students (Kelley & Clausen-Grace, 2007). Teachers who instruct their students on how to use various combinations of reading comprehension strategies during the reading process typically experience an increase in reading achievement. Other reading research evidence was directly aimed at assisting teachers to instruct the teaching of reading comprehension to assist students with applying reading comprehension strategies in a variety of text types and genres (Dymock & Nicholson, 2010). Thus, the key to providing successful instruction was to deliver structured learning activities which support students while they develop abilities to use various comprehension strategies to know what they have read (McKeown et al., 2009).

Summary

This interpretive case study was created to study math and science content area teachers' perceptions of influences of their efforts to incorporate reading strategies into their lessons. This study was grounded in the research on secondary and adolescent reading. I am pursuing the development of additional knowledge, which would allow greater understandings into teachers'

perceptions of the factors that support or impede their attempts to integrate reading instructional strategies into their daily teaching instruction.

Overview of the Dissertation

Chapter Two offers an examination of pertinent literature regarding various significant instructional influences (instructional strategies, resources, specific teaching across various contents, and varied texts) and infrastructural influences (administration, professional development, and learning) that support or impede content area teachers' attempts at providing reading instruction within their daily instruction within their context area. Chapter Three specifies the approaches used for the data collection process and analysis, including a detailed account of background information regarding teachers, focus group interview specifics and well-defined individual interview questions that confirms the results. Detailed accounts of the data analysis process were specified which included the coding of qualitative data. Chapter Four will include the specific findings regarding the data analysis process which will include all steps of the data collection process. Finally, Chapter Five will offer a response due to the research questions and will also include any suggestions or implications for local school districts and specific schools and the potential for future research.

Chapter Two

Review of Literature

This study was designed to explore middle school teachers' perceptions of the factors that support or impede the inclusion of reading strategies into their math and science instruction. According to Park and Osborne (2006), many content area teachers believed that instructing reading skills takes from the time content material must be taught to the students. Various content area teachers also believed that teaching reading strategies such as vocabulary and reading comprehension was not their responsibility and should be done by the English or language arts teachers. The use of reading skills while studying science content strengthens and develops students scientific reasoning (Hapgood & Palincsar, 2007). Chapter Two offers a review of research regarding reading search strategies, teacher's perceptions of their role in supporting content area reading, oppositions to content area reading, the reading strategies used by math and science teachers, the sociocultural theory which guides the study and the influences regarding instructional & infrastructural factors that influence content area reading.

Literature Search Strategy

The literature used for this review was gathered through various comprehensive on-line library searches. A librarian also aided with the best methodology selection and assisted in the development of concepts concerning keywords during the actual search. Amongst the specific journal databases researched, SAGE and JSTOR provided the most beneficial results. Before creating the returns, a peer-reviewed source was chosen to ensure appropriate usage of the literature. I then reviewed existing literature which contained empirical research in relevant and specific areas, which was displayed in an extensive range of publications, such as the *Journal of*

Adolescent and Adult Literacy and *Literacy Research and Instruction*. I collected various

articles through an assorted number of searches conducted by using Google Scholar with a

selected preference of peer-reviewed journals and by using various internet search engines such

as Google and Google Chrome. After the classification of vital authors and their work,

additional relevant literature was reviewed and cited.

Teachers' Perceptions Regarding Content Area Reading

According to Spitler (2012), content teachers' personal literacy identities impacts their

usage of reading. Teacher perceptions regarding content area reading plays an important part of

its implementation within the classroom. Many content area teachers believed that while

instructing reading skills was important, the instruction itself takes from the time content

material must be taught to the students (Hall, 2005). Various content area teachers also believed

that teaching reading strategies such as vocabulary and reading comprehension was not their

responsibility and should be done by the English or language arts teachers. During an

examination of content area teachers' beliefs, Hall (2005) discovered teachers who were holding

onto more of the traditional routes seeming to oppose reading in their content areas, while other

teachers were more accepting to the possibilities of teaching reading in their content area.

Additionally, Hall (2005) reported that those teachers who were open to the possibilities of

teaching reading in specific content areas saw it as assistance within their content area while

increasing the knowledge of their students.

Researchers have concentrated on the potential impact of declining reading rates on

secondary school instruction, including the sociocultural connection of schools and classrooms,

teachers' beliefs, and teachers' choice-making procedures (Moore, 1996 & Readence, et. al.,

1998). With this line of inquiry, researchers have found that relevant conditions inside of

schools and societal powers may be identified with teachers' choices to embrace reading

procedures, that teachers' convictions were important in figuring out why teachers use reading

inside of the subjects they instruct (Readence et al., 1998), and what teachers verbally state as

great teaching may not be plainly reflected in the instruction of their classrooms (Moore, 1996;

& Readence, et.al., 1998). According to Peterson et al. (2000), "More than 23% of students at

senior level only demonstrate partial knowledge and skills" that were deemed fundamental for

their grade level" (pg. 5). While incorporating time restrictions, inflexible educational unit

necessities, high stakes tests, and a potential conflict between the student-centered methods of

insight—on which numerous content reading techniques were based—and an educational

module focused on the culture of secondary schools, investigations of secondary education find

that secondary guidelines had been greatly predictable over the previous century and were

resistant to change (O'Brien et al., 1995). The rigidity in the educational module and the

incapacity of changing the mode of education makes it evident that a strategy needs to be

formulated to compute an effective mode of learning and teaching in secondary education

(Huber & Mompoint-Gaillard, 2011).

According to Squires and Bliss (2004), many years of investigating the connection

between teachers' apparent beliefs and performances makes it difficult to teach their students. It

was proposed by Freedman and Carver (2007) that many educators hold beliefs and specific

qualities that influence their daily teaching practices. Likewise, Hall (2005) provided evidence

that revealed how content area teachers made specific choices as to what to teach and how it

should be demonstrated within the classroom and how it affected their convictions. Hall (2005)

expounded that even though these measures of material possess their beliefs, they were greatly

inclined to dominate the activities that occur within their classrooms. Regardless of previous

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educational training, content area planning and administrative professional development, teachers' beliefs continue to guide their professional characteristics and demeanor in the classroom.

Becoming aware of the many hurdles that hold teachers back from implementing reading within the secondary school setting, individuals began to create specialist programs, classes, and lessons to assist with improving teachers' outlooks regarding content area reading instructional strategies and to enhance using content reading on a regular basis (Greenleaf & Schoenbach, 2004). In 1979, Dupuis, Askov, and Lee emphasized programs regarding professional improvement which produced great results pertaining to impacting teachers' beliefs. This issue did not pop up overnight and continues to appear almost 40 years later. According to Dupuis et al. (1979):

> By the end of the program, nearly every teacher had completed techniques from informal diagnostic procedures to textbook evaluations, from developing a complete teaching unit including reading instruction to developing learning centers and skill building materials. In each case, the teachers used their own text and materials, followed their own curriculum guides and taught their own students (p. 48).

The examination involved alternating weeks of various workshops and expert presenters during the academic year, which revealed that individuals clearly changed their beliefs about reading instruction within their classroom because they truly believed that many hands must work to ensure that our youth are reading educated (Dupuis et al., 1979). The implementation of content area reading has pushed content area teachers to understand that helping their students with reading skills was not their duty. Coincidentally, Darling-Hammond (2000) later found

teachers to have considerable obligations about incorporating reading strategies in their own

content areas; however, they did not believe that they were totally trained to encounter the

reading needs of their students for various reasons that particularly focus on their lack of content

knowledge and time within the school day. Many teachers were focused in specific content areas

outside of reading and pushed back on incorporating these reading skills in to their instruction

because they believed that they're already providing an enormous amount of content to their

students (Greenleaf et al., 2001). Content area teachers may demonstrate a sense of assurance or

capability within their own content areas, but they typically were not willing to admit not being

equipped with knowledge, abilities, or the preparation of including reading standards or

strategies into their specific content areas to assist with their students' basic reading needs

(Greenleaf et al., 2001). Some saw this as reducing the amount of rigor that occurs within their

classroom because of the general requirements being pushed out. Understanding teacher

perceptions provides an in depth understanding as to what teachers believe regarding content

area reading.

Opposition to Content Area Reading

Gee (2008) declared that educators must see themselves as part of a literacy discourse

within a community if an increase in the content areas were expected. A great deal of opposition

exists as it pertains to the incorporation of reading across various content areas, with two primary

types of opposition manifesting themselves. While Hall (2005) reported that certain segments of

the content area teaching population were open to the idea of content area reading instruction

being performed within their classrooms, many content-area reading teachers were not as

enthusiastic about the prospect of this instruction. Lesley (2004) remarked that "despite years of

research on the subject, resistance towards implementing content area reading in secondary

classrooms persists" (p. 320). In agreement with Cantrell et al. (2009), many middle and high school teachers resist implementing content area reading for various reasons, including practices and school cultures within the school, beliefs of the teachers regarding their specific responsibilities, contractual obligations as a content area teacher, and beliefs of lacking the self-confidence to successfully implement reading.

Conscious of the numerous obstacles that impede content reading's execution in secondary schools, instructors have created strategies, courses and expert improvement projects intended to enhance teachers' dispositions about content reading strategies and to boost content reading usage (Anders & Levine, 1990; Greenleaf & Schoenbach, 2004). Santa (2006) recommended enhancing adolescent reading groups within classrooms, and influences. Two different schools from Santa's (2006) record precisely connects with the teacher of the classroom and disguises educational standards, philosophies of learning and professional masteries. Evidently, Santa (2006) accepted that teachers who demonstrated strong understandings regarding reading may provide the academic knowledge required by their students, which influences intellectual accomplishments. This investigation revealed that teacher mentality links with adolescent reading within classrooms. Effective ways regarding the education of teachers must be identified to develop learning that empowers them to investigate the complexities of curricula, teaching method, and school societies, and to consider and arrange for content reading instruction (Conley et al., (2005) & O'Brien et al., (1995).

Teachers' beliefs regarding content area reading frequently operate as obstacles to execute in a lesson. Research studies (Phillips et al., 2009) reveal that content area teachers frequently oppose the teaching of reading strategies within their content classes since they

consider this to not be their occupation or duty, they were not skilled or prepared, or there were time restraints to teach both reading and their content.

One reason for teachers not employing content area reading strategies within their instruction was that the thought of focusing on the difficulties of reading seemed inappropriate within a secondary classroom since specific content should be the focus. According to Wilson, Grisham, and Smetana (2009), content area teachers frequently "do not grasp a connection between skills related to reading and content knowledge, as these skills seem to not be aligned with the conventional goals of the secondary curricula" (p. 56). Similarly, various content area teachers fight to accept the instructional strategies concerning teaching comprehension in their content focused classes. Cantrell et al. (2009) concluded that middle and secondary schools were classified by "distinct subject area divisions and subcultures of content area that value different systems of information and instruction" (p. 77). Cantrell et al. (2009) suggested that teachers were confused because they were forced to change their teaching styles which lead to their opposition and affected their judgement to implement new strategies within their classes.

Furthermore, Santa (2006) acknowledged that possibly integrating adolescent reading inside of secondary content area classrooms "dares teachers to force an idealistic shift in what it signifies to teach that is a difficult job" (p. 470). Conley et al. (2005) acknowledged that many teachers frequently demonstrate limited understanding of the approaches of the reading strategies that may be used explicitly in the subject matter. In their 2009 research study, Cantrell et al. demonstrated that the participants who taught math often stated that content area reading strategies remained unrelated to their content area material and did not reach the level of implementation for these specific reading strategies or merely implemented them in extremely selective manners. According to Park and Osborne (2006), teachers were typically ineffective in

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grasping the significance of reading skills within their content areas and rejected the notion of being a reading teacher.

It should be noted that many content area teachers oppose teaching content area reading because they were not appropriately trained in that field. According to Cantrell et al. (2009), many teachers were not appropriately trained on how to apply reading strategies in their classroom instruction. The Education Trust (2004) emphasized that additional support must be placed on strategies geared towards increasing teacher effectiveness as it pertains to reading instruction, many content area teachers reported emotions of being poorly equipped to integrate reading strategies into their classroom instruction and course curriculum. Chehayl (2008) reported that teachers without a language arts or English background believed that integrating reading into the content areas was due to the countless amounts of teachers not properly competent to provide reading instruction from their pre-service training. Furthermore, Cantrell et al. (2009) mentioned that in current years, non- reading teachers perceived reading integration as a difficult task to instruct within their content area nevertheless; teachers might not have the assurance of being well prepared to provide the reading requirements to their students. Content area teachers might demonstrate elevated levels of competence in their respective fields; even though they often may not have the belief of holding the sufficient understanding, abilities, or preparation required for the incorporation of reading skills and instruction to address the basic reading requirements of various students.

Park and Osborne (2006) asserted that non-teachers see themselves as inadequate managers pertaining to reading inside of their classrooms. Spencer et al. (2008) clarified that specific content area teachers have communicated beliefs of being uncomfortable with the arrangement of reading instruction to support the development relevant to reading skills. Hall

(2005) found that content area teachers may not object to teaching reading skills, but often lack the understanding as to how "pre-service and in-service teachers may be certain that they are not competent enough to teach their students reading" (p. 406). Many teachers struggled with the discernments of being inadequate pertaining to meeting the reading requirements of the students and remained fearful to failing so they continued a path of traditional methods that may have not let them down in their previous years. These views impacted how teachers perceived teaching content reading inside of their classrooms which provided true insight as to why oppositions exist.

The Reading Strategies Used by Math and Science Teachers

According to Benjamin (2007), math and science teachers incorporate various reading strategies within their classrooms to assist students with becoming better readers and writers. Various reading strategies can be used in all math and science classrooms to ensure that students gain the knowledge required to become literate individuals.

A word wall is considered as a specific group of words displayed on an actual wall or makeshift wall, bulletin board within or outside of a classroom, chalkboard, smartboard, or whiteboard within a classroom. Typically, the words are largely printed for easy viewing of all students and are continually referenced by the students and teacher during various activities throughout the school day (Cronsberry, 2004). According to Cronsberry (2004), word walls "provide an approach to meaningful teaching of vocabulary with an emphasis on student engagement and higher level thinking skills; build vocabulary, thereby improving reading comprehension and writing style; reinforce understanding of subject-specific terminology with a focus on students internalizing key concepts; helps students improve spelling and awareness of

spelling patterns; provides visual cues for students and encourages increased student independence when reading and writing" (pg. 1).

Vocabulary cards were used for reviews, word sorts, repetition, and comprehension. These vocabulary cards may include terms, meaning or definitions and examples that include picture clues. Vocabulary knowledge increases word consciousness which also increases "an awareness of an interest in words and their meanings involves both a cognitive and an affective stance towards words" (Graves, 2009, p. 7).

The Connect Two Strategy allows for students to learn vocabulary best by being able to connect new words to their existing vocabulary. This vocabulary strategy then allows for individuals to connect words they have little knowledge of with vocabulary they were not familiar with to vocabulary terms they are familiar with. The main goal of this strategy was to select two terms that made a connection in their minds and then explain the connection between the two terms (Benjamin, 2007).

Word sorts and problem sorts are active reading strategies which involves students thinking critically regarding the relationships between various words or specific concepts. This strategy requires students to classify and can be incorporated before, during, or after a specific learning activity. This strategy requires teachers to select specific vocabulary terms and concepts that the students will learn. The students will then write these words on note cards or inside of small squares on a sheet of paper. The teacher then asks the pairs or groups to sort the words into specific categories based on the relationships of the words. This strategy allows for the participants to include specific category titles within the sort (a closed word sort), or the participants can be asked to determine the categories on their own (an open word sort). A

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discussion of the students' categories and the words they have sorted also provides an opportunity for students to use the sense of expression (Benjamin, 2007).

Theoretical Framework

The theoretical underpinning for the proposed study was Vygotsky's (1978) sociocultural theory. Vygotsky (1978) asserted that the sociocultural approach focused on the "interdependence of social and individual processes in the construction of knowledge" (John-Steiner & Mahn, 1996). Vygotsky (1978) proposed that human intelligence originates in society or culture along with promoting learning as a social process. Vygotsky (1978) noted that an important aspect of human intelligence was the Zone of Proximal Development (ZPD), which was aided by More Knowledgeable Other (MKO). This MKO is often classified as someone with a deeper understanding or higher level of knowledge than the student, and is often an adult (Vygotsky, 1978). For this research study, the MKO will be the teacher implementing reading strategies in mathematics and science classrooms. In Vygotsky's (1978) work, he placed an emphasis on the role of language in learning and acknowledged the importance of adults in developing cognition for students. Math and science teachers have ability to develop in-depth knowledge and understanding for students by using reading strategies within their content areas. I wish to explore the importance of reading strategies and the implementation of language tools by teachers in mathematics and science classrooms while supporting students' overall reading growth.

Sociocultural theory focuses on the interactions amongst developing individuals and the culture they live in. This theory also states that human learning was essentially a social progression. Sociocultural theory does not simply focus on how adults and peers impact one's individual knowledge, but it also focuses on how one's cultural beliefs and attitudes influence

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how learning and instruction takes place. According to Hindman & Wasik (2008), teachers'

beliefs regarding reading practices may impact how students learn during reading instruction.

Sociocultural theory was identified as an important theoretical framework for this

research study because the cultural context and social setting of reading can be influenced and

incorporated in science and mathematics classrooms. The importance of teachers as MKO for

students in the Zone of Proximal Development (ZPD) further illustrates the need to explore how

teachers' perceptions of the implementation of reading strategies into science and mathematics

classrooms would support or impede children's overall reading. Additionally, a qualitative case

study design was chosen to guide this research after careful consideration. Case studies are the

preferred design when researchers (a) ask how or why questions; (b) have little to no control over

any of the participants' behaviors; and (c) examine a contemporary phenomenon; (Yin, 2014).

Employing a case study design allows the exploration of the practices of the participants

as they pertain to the use of reading practices in their classrooms. By using a case study design,

multiple types of data can be gathered, which will lead to a richer and fuller understanding of the

participants experiences and perceptions. As the participants were enmeshed in their context, the

use of a case study design enables me to include all factors in this study. Case studies are often

employed in exploring infrastructures and organizations (Yin, 2014), and thus, this design helped

me to explore the infrastructural and instructional factors participants viewed as vital in the

incorporation of reading instruction.

Influences Regarding Instructional & Infrastructural Factors that Influence

Content Area Reading

There were many influences which supported or impeded the incorporation of content area reading within various classrooms. These influences were prone to occur regardless of the grade level, population, socioeconomic status of students or location of the school. Some of these influences were directly related to the teacher's ability or planning; however, many of the influences were out of the teacher's control and point in various directions that can't be modified or improved.

Administration.

Administrators have been said to be a wedge between teachers learning what is required of them in professional development sessions to become better reading instructors since many administrators will not approve time off for non-content area reading teachers to attend reading sessions. According to Greenleaf and Schoenbach, (2004), professional improvement helps teachers and their students' reading activities, along with empowering teachers to create more profound understandings of reading and further positive viewpoints on the learning abilities of their students. The objective of such methodologies was to encourage teachers' advancements pertinent to their own skills and learning. Research has emphasized professional improvement that moves past changing content area teachers' convictions and mentality about reading instruction towards professional advancement that demonstrates to teachers' industry standards to implement reading into all content areas (Hall, 2005). Anders and Levine (1990) argued that adjustments in teacher practices requires not only that new teaching systems be broadly displayed and illustrated, but also that teachers have chances to encounter the practices, apply them, study them, and adjust them for their own utilization. In summary, administrators may be

the wedge between what content area teachers are teaching regarding reading within their classrooms.

Time Restrictions

In many cases, content area teachers provide reasons for evading the use of vital reading strategies to having a limited amount of time for instruction throughout the school day. Cantrell et al. (2009) specified that problems with teaching subjects in various content areas can impede the motivation of those teachers to abort the use of the traditional pedagogical methods. He also suggested that these responsibilities often guide content area teachers to believe that assisting their students with reading beyond their current levels ultimately was not part of their duty and does not allow the time to incorporate such strategies. Parris and Block (2007) accounted that vital factors regarding teachers with under-performing students was simply making time to intentionally instruct reading skills since there were so many other tasks that required completion throughout the day. According to Park and Osborne (2006), many teachers believed that instructing reading skills takes from the time content material must be taught to the students and that material seemed more vital to their specific content area.

Ness (2007) asserted that once teachers begin to believe that the class period was best used covering content area material, the inclusion of basic reading skills becomes less important. She also recommended that content teachers view the integration of reading and intervention for reading skills as simply another task added and was too time-consuming instead of being effective which increased comprehension and retention rates. Ness (2008) continued with her findings which included various studies, secondary school teachers described instructional strategies as being deficient due to the time insufficiencies. Ness (2008) also stated that teachers strongly alleged that content material attention could be sacrificed if time was given to support

struggling students with reading interventions. In her research of professional development that concentrate on reading within the content areas, Thibodeau (2008) found that various teachers were hesitant regarding the amount of time reading instruction could possibly take away from their content instruction as they attempted to provide new methods to their students. In many cases, teachers were not willing to incorporate "additional" material within their classroom in effort to assist students with their reading skills as they deem their content area material as more important.

Teacher Professional Development.

Teacher professional development impacts content area teacher's implementation of reading inside the classroom. Cantrell et al. (2009) observed middle and secondary school teachers' convictions regarding teaching and learning content area reading during the initial execution period of a year-long professional improvement program aimed at content area reading. Educator meeting information was utilized to analyze variables that added to or limited teachers' constant methods usage of content reading. Seventy-seven percent of the teachers surveyed accepted that reading was necessary to their content area and they classified themselves as reading teachers and, additionally, content teachers (Cantrell et al., 2009). Despite teachers experiencing various boundaries while they were in the beginning of content reading execution phases, the teachers reported that professional content reading advancement training and cooperation upheld teachers' capability with reading demonstrations and their content reading activities incorporation (Cantrell et al., 2009).

Guskey (1986) examined that teachers were significantly more prone to employ learning from professional improvement programs when they were provided broad, diverse, and progressing chances to see successful instruction in their own classrooms. Thusly, it predicted

fruitful professional advancements that incorporated endless support from other experienced

people who had effectively executed content area reading and that they work closely with

preparing members to demonstrate and aide effective executions of learning from professional

improvement programs. Guskey (1986) concluded that "regardless of how schools are structured

or restructured, formed or reformed, staff development is essential for everyone directly involved

with students and whose actions directly influence their learning" (p. 73). Overall, teacher

professional development can make an impact on the daily instruction within a teacher's

classroom. Therefore, all teachers should be provided with opportunities to gain additional

knowledge to impact student learning.

Summary

After the review of literature, numerous influences were found to impact a teacher's

perception and attitude towards teaching content area reading strategies within classrooms which

include the school's administration, enforced time restrictions and a lack of teacher professional

development. The most referenced influence was an apparent lack of time for classroom

instruction, which forced teachers to focus on their subject area. Amongst the content area

reading strategies mentioned by teachers, reading comprehension seemed to be the most talked

about, which was a distinctive method regarding instructing reading to their students. Reading

comprehension instruction involves a great deal of preferred techniques which can be included to

guarantee its success. The implementation of these approaches requires teacher content

knowledge and professional training. Professional training and development for teachers

enhances their knowledge and changes their personal beliefs about content area reading

instruction. The personal beliefs and views regarding teaching content area reading varies.

Many instructors who adjust the instructional strategies used inside of the classroom were often

determined to meet the requirements of the students and were eager to go the extra mile without the constant excuses of time restraints or lack of preparation. This type of teacher has a positive attitude and is dedicated to teaching reading skills to their students.

Many educators were intimidated by the idea of implementing the latest strategies because they continue to revisit their traditional approaches of instruction and were reluctant to adapt. Additionally, this issue was relevant for those teachers who consider their professional training or intelligence as inadequate regarding fulfilling the requirements of the students. Overall, teachers believe an absence of self-confidence in their teaching abilities regarding reading. This problem can be resolved by incorporating reading training into all content area reading curriculums. Many content area teachers oppose the incorporation of reading comprehension and begin to believe that students should be able to comprehend basic texts by the time they graduate from high school.

In many cases, teachers assumed that all students were at the appropriate reading levels, which begins the opposition of content area reading. Many teachers believed that teaching reading strategies such as vocabulary and reading comprehension was not their responsibility and should be done by the English or language arts teachers. Nevertheless, their perceptions have been found to be incorrect as teachers delay the implementation of content area reading instruction due to a lack of self-confidence, understanding and motivation to advance from the basic activities within the classroom. As such, teachers focus more on getting students to a level of passing instead of getting them to learn the material being presented to them during instruction.

Chapter Three

Research Design and Methodology

This interpretive case study explored the reading strategies math and science teachers described using, how they perceived their role in supporting content area reading, and the factors that influenced their efforts to incorporate content area reading into their lessons. According to Rossman and Rallis (2003), a case study is used for "in-depth and detailed explorations of single examples" (p.204), and specific examples could include a process, an event, an individual, a group or an organization. This chapter begins with the rationale of design along with the data collection processes, a discussion of trustworthiness, followed by ethical concerns. The following chapters will discuss the location, participant background, participant perceptions, the collection of data and the analysis of data for the research study.

Rationale for Qualitative Research Design

Qualitative research is appropriate for advocating a deeper understanding of social settings or activities seen through the eyes of participants. Qualitative research ensures that the isolation of a phenomena is absent and as a result, significant thoughts arise. This approach placed emphasis on discovery, description, and exploration. Applying this method to the study enabled opportunities to gather and gain data that were both rich and thick, thus providing information which included depth and extent findings.

For this study, I chose to use an interpretive case study design with a phenomenological focus. Case studies are employed when a researcher seeks (a) to answer how and why questions, (b) the system is bounded, (c) the case is examined within a real-life context, and (d) the boundaries between the phenomenon under study and context are not clear (Yin, 2014). Yin (2014) stated that case study designs are highly effective when exploring a phenomenon in a

real-world context. Case studies are flexible in design in that any type or form of data can be included, with the only limits being an ability to access data and relevance to the research question being studied (Yin, 2014). The goal of a case study was not for generalizability, but rather to gain a deeper understanding of the case in question (Stake, 1995).

In this study, the case consisted of middle school math and science teachers and an exploration of their efforts to include reading instruction within their classrooms. Math and science content area teachers display great levels of certainty or assurance in their area of skill; however, they frequently doubt their own adequate knowledge, ability, or preparation for incorporating reading instruction into their area of focus or for attending to students' basic reading requirements (Greenleaf et al., 2001).

To gain clarity with the participants' experiences and perceptions, a phenomenological approach was chosen in addition to using an interpretive case study. Phenomenology is the study of understanding how an individual's perceptions, perspectives and understandings of a specific situation (or phenomenon). Within a phenomenological research study, one attempts to answer, "What is it like for you to experience a particular event?" Obtaining multiple perspectives of the same situation allows one to make specific generalizations of what it is like to experience this situation from the insider's perspective.

This approach was selected because, "The type of problem best suited for this form of research was in which it was important to understand several individuals' common or shared experiences of a phenomenon" (Creswell, 2007, p. 60). Creswell (2007) indicated that using phenomenology enables a researcher to focus on commonalities of experience between participants with the phenomenon under study. Because phenomenology places emphasis on describing a specific phenomenon through the experiences of the participants, this approach was

selected to identify the experiences of these teachers in the use of reading instruction. Using phenomenology enabled the exploration of what and how the participants perceived reading instruction.

Setting

ABC Middle School is a Title I school which served approximately 250 students which were in grades six, seven and eight. Title I provides financial assistance to ABC Middle School and Local Educational Agencies (LEAs) with high percentages of children from low-income families to ensure that all children meet the challenging academic standards set by the state. Most students were on free or reduced lunch and 99% of the students were African American and 1% were White. ABC Middle School is an inner-city public school located on the south side of Memphis, Tennessee. There were approximately 25 teachers who teach at the school who range in years of teaching experience. Most teachers were certified in one subject area with a very limited amount being dual certified in another content subject area. Therefore, there was a very small number of teachers who were certified to teach content area reading. Knowing detailed information regarding the setting allows true understanding regarding the site's dynamics, not knowing could affect the data quality.

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Timeline for the Study

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This case study's span covered a period of twelve months, beginning in early spring 2017, and ended in spring 2018 with the publication of the dissertation in August 2018.

Phase 1
Early Spring 2017

IRB Approval (The University of Memphis)
Submit Request to Conduct Research to Shelby County Schools

Phase 2 (Data Collection Process)
Late Spring 2017 & Fall 2017

Solicit Teacher Participants
Provide Informed Consent Information
Collect Background Information
Analyze Data
Select Purposeful Sample of Convenience for Focus Groups
Email Invitation to Participate in Focus Group Interviews
Conduct Focus Group Round One with Math Teachers
Note Taking
Analyze Data
Conduct Focus Group Round Two with Science Teachers
Note Taking
Analyze Data
Conduct Focus Group Round Three
Note Taking
Analyze Data
Conduct Individual Interviews
Member Check
Analyze Data

Phase 3
Spring 2018

Analyze Data
Code Data
Member Checks
Write Chapter 4: Data Analysis and Findings
Write Chapter 5: Conclusions and Implications

Phase 4
Summer and Fall 2018

Revise Chapter 4: Data Analysis and Findings
Revise Chapter 5: Conclusions and Implications
Set Defense Date
Defend Research
Revisions to Methods Based on Committee Feedback

IRB Approval

A letter of cooperation was obtained from the appropriate school administrator from ABC Middle School. Next, I developed and submitted recruitment materials for teachers. These materials included an invitation for the study which explained the purpose. Finally, I developed and submitted the appropriate consent of participation form for the teachers. The consent from teachers included permission to participate in the study including the collection of background information, focus group meetings and potential interview sessions. All components were submitted and approved by the IRB before the start of the data collection process began. In the following section, the data collection methods are discussed.

Role of the Researcher

In this qualitative research study, I functioned as an instrument of data collection and analysis. Written Background Information Questionnaire and focus group interviews were the primary focus of data. I created the instrument, located and recruited participants, obtained consents, collected, as well as analyzed the data. Because of these multiple roles, and the fact that all information will flow through me, I am an instrument.

Researcher Background Information

I was employed at ABC Middle School, the site of this study, as an Instructional Facilitator from August 2014 to May 2016. I am Elementary Education certified in grades K-8 with an endorsement in Reading. I have worked in various schools since October 2002 as a teacher, Reading Specialist, Instructional Facilitator, and Professional Learning Committee Coach. My teaching experience includes one year of teaching all subjects in Kindergarten and 5th grade; one year of teaching 6th grade math, and ten years of teaching 6th and 8th grade reading. I have collaborated with participants by (a) delivering content area reading professional

development during team or faculty meetings; (b) facilitating intervention programs mandated by the district; (c) providing teaching and learning strategies; (d) coordinating mandated assessments; (e) providing various approaches regarding differentiated instruction in various content areas; (f) facilitating bi-weekly team meetings; (g) providing reading based teaching strategies targeting the struggling reader; and (h) reviewing all grades data achievement to ensure that at-risk students were provided support. I have worked within a school in some capacity for 17 years. Therefore, my background knowledge and experience within the field could assist teachers, as they provide their perceptions. Understanding teachers' perceptions and concerns may allow transparency in data collection.

My previous position should also have a positive influence on the dynamics of the study because of the previous positive relationships established with the participants and the teachers were opened to share their experiences and perceptions. Gathering the research participants' perceptions was the main goal of this study and my personal knowledge regarding the teacher's current reading instruction may have assisted with the collection of authentic data. Burke and Kirton (2006) stated that an "insider perspective" in the field of educational research was vital and "methodologies that support knowledge production from an insider perspective and at a localized level were of great value in developing more refined and complex understandings of educational experiences, identities, processes, practices and relations" (p. 3). My experience within the school provided a great deal of insight regarding the subject matter. Therefore; being able to gather deeper insight from the participants allowed for the study's data collection process to open in the most tremendous way.

Since, I previously held an administrative position at the school, biases in this qualitative study may impose specific limitations that could develop during the research process. Teachers

were reassured that their identities would remain anonymous and that research information would not be connected to their names and provided to anyone outside of the study. Participants were able to withdraw from the study at any time, if they felt uncomfortable with providing information. Another concern that could have arisen was my knowledge within the area of reading which could have given the participants a belief of being judged which could have affected the collection of data. The teachers were assured that all data gathered for this study was solely for research purposes.   and that their point of view was essential in understanding the phenomenon. I will not share the results with the administration or other faculty members within the building. As an inside-researcher, I addressed the issues regarding a researcher's inside role at each stage of research.

Participant Selection

This study included eight participants who taught either math or science in grades six, seven or eight at ABC Middle School. According to Patton (2002), using criterion sampling enables a researcher to have a set of criteria participants who must meet for inclusion in the study. By using criteria, I was able to ensure that participants with experience of the phenomenon under question were selected. The phenomenon of including reading instructional strategies into core content areas, an initial collection of background information was administered to all participants to gather current reading instructional strategy usage within their class.

Choosing research participants from different content areas increased access to perceived challenges and successes across a variety of disciplines. The purpose of gathering this information was to form the framework and understandings of the participants within the study. Obtaining this information enhanced the data collected during the focus group, which also

guided how the focus groups segments interacted.

A qualitative research interview was used to explore the perceptions and lived experiences of the participants. The overall goal of interviewing was to make meaning of what the interviewee said during the process. Interviews were specifically useful when it came to accessing the truth since there was no single truth in perceptions behind a participant's personal experience. In this study, I examined the experiences and perceptions of middle school teachers. This study included convenience sampling which was a sampling strategy where research participants were chosen based on their convenience, accessibility, and vicinity of the researcher (Creswell, 2007).

Data Collection

The collection of data consisted of three rounds of focus groups which included teaching experience, content area reading practices and teacher perceptions about reading. The teaching experience session included basic information regarding the teachers' name, grade level and subject area. The content area reading session inquired about the teacher providing in-class reading activities, out of class reading activities and the types of reading strategies used in the classroom. The teacher perceptions session inquired about the teacher's general reading beliefs regarding reading practices within their class.

The interviews were specifically scheduled during a time which ensured that minimal after school activities were occurring. Following the close of data collection, eight $10 Walgreen's gift cards were provided to all participants who completed the study for volunteering their time. Participants were not monetarily paid; however, an incentive to demonstrate their appreciation was provided at the end of the study. To assist with the identification of middle school math and science teacher's perceptions regarding the factors which supported or impeded

the inclusion of content area reading instructional strategies within their daily lessons, a variety of methods were used during the data collection process. There were various forms of data collected during this process which included a "Background Information Questionnaire," an "Informed Consent Participation Form," three rounds of focus groups, recordings, note taking and individual interview sessions.

"The Recruitment Email to Consent to Participation" (Appendix A) was sent to participants containing a description of the study which included the study's criteria and my contact information. "The Recruitment Email to Consent to Participation" asked for participation and provided the participants with specific details regarding the study. This process only required approximately 10 minutes of the participant's time.

A few days after the recruitment email was sent, I will emailed and provided a hard copy of the "Background Information Questionnaire" (Appendix B) which was used to gather participant demographics and data relevant to their perceptions concerning (a) content area reading; (b) their personal experiences after attending on site professional developments that focused on content area reading; (c) their personal experiences regarding the incorporation of content area reading within their specific content areas; and (d) their specific reading instructional strategies utilized in their specific content areas. One goal of collecting background information was to develop more knowledge regarding the perceptions, characteristics or beliefs within various and focused samples of a population.

"The Background Information Questionnaire" included a series of selected response entries which involved the rating of major themes and their significance to three specific topics: 1) factors that greatly supported their efforts to support their students with content area reading strategies within their classroom; 2) factors that greatly impeded their efforts to support their

students with content area reading strategies within their classroom; and 3) instructional strategies that successfully supported their students with content area reading strategies within their classroom. The open-ended questions which appeared within "The Background Information Questionnaire" were listed first to prevent being swayed by the list of themes that appeared on the next pages. Entries associated to teacher perceptions were rated on a Likert Scale from 1 (strongly disagree) to 5 (strongly agree). All participants were asked to score their agreement or disagreement on the Participants' Perceptions Regarding Reading 19 statements regarding content area reading, teachers' attitudes and teachers' responsibilities.

Data collected from the initial "Background Information Questionnaire" of math & science teachers' experiences, perceptions and current reading practices were provided to depict the population's results and to answer the research questions. Eight of the twelve math and science invitees completed the "Background Information Questionnaire" (Table 3.1).

Table 3.1: *Focus Group Participants & Content*

Content Area	6th	7th	8th	Total Participants
Math	2	1	2	5
Science	1	1	1	3

"Informed Consent Participation Forms" (Appendix C) were provided to all participants at the beginning of the three focus group rounds. The focus group rounds included two groups which included a math group and a science group. The participants were able to ask questions before beginning and once all questions were answered, I asked participants to sign the "Informed Consent Participation Form." Round one of the focus groups only included the math teachers and round two of the focus groups only included the science teachers. The first two focus groups were content specific which allowed the math teachers to share their perceptions as a group followed by the science teachers sharing their perceptions. The third focus group

included all participants of the study. Focus groups rounds were scheduled to meet after the

school day had ended and individual interviews were scheduled two weeks following. During

the first round of the focus groups, we discussed the reading strategies used by both math and

science teachers. Each content area attended separate focus groups to ensure that the appropriate

data was gathered accordingly for a specified subject area during the first round. During the

second round of the focus groups, we discussed how math and science teachers perceived their

role in supporting content area reading along with what influenced their instruction of content

area reading instruction within their classroom.

All focus group rounds occurred on different days and were held in a specified teacher's

classroom to allow the participants opportunities for comfort and privacy which included less

possibilities for an interruption to occur. During the focus group rounds, two audio recorders

captured the audio of the interview to ensure that all responses were documented with accuracy

and to ensure that technical issues were planned for. Participants were offered an opportunity to

ask any questions prior, during and after the focus group sessions. I began with a brief

introduction and restate the purpose of the study. I also explained that notes would be taken

during the focus group process and that they should not feel negatively towards the process.

Note taking was vital to this process to allow nonverbal data to be captured. Audio-recording a

group was beneficial; however, some of the nonverbal behaviours could have been lost during

this process. Therefore, taking notes might capture that possible data.

The process of asking the specified focus group questions began and all focus group

probes corresponded to specific research questions within the study. During this process, I

occasionally verified that the recorder was working, asked one question at a time, always

encouraged participant responses and provided transition periods between major topics.

Analysis of Background Information

Even though the data collected from the background information was created to assist with the implementation of the focus groups and individual interviews, the data was examined to add depth to this study. The goal of this case study was to collect the types of reading strategies math and science teachers described using and to understand how math and science teachers perceived their role in supporting content area reading and teachers' perceptions that influenced reading instruction.

Additionally, analysis was required to establish patterns that may arise based on significant variables such as content area experience or teaching experience levels. "The Background Questionnaire" began with a brief selected response item that simply asked participants to check the subject they teach: math or science. This item allowed filtering to occur by content-area during a later analysis. There were three-open-ended questions which appeared: Make note these were refined based on analysis of earlier data collection

1) Please list and briefly explain the two major factors that you believe supports your efforts to assist students with reading content area material within your classroom.

2) Please list and briefly explain the two major factors that you believe inhibits your efforts to assist students with reading content area material within your classroom.

3) What two strategies do you incorporate most often to assist your students with reading content area material within your classroom?

These three questions were directly aligned with the research questions regarding the instructional factors that supported or impeded the inclusion of reading strategies into their teaching. Codes were color-coded if they appeared various times within the analysis process so that trends within the data can be simply identified across content area groups. Following the

completion of all open-ended response coding, codes were gathered to determine the frequency of the responses for each question. Codes were ranked according the frequency of various responses in the open-ended response section. "The Background Questionnaire Participant's Individual Responses" (Appendix D: Table 4.2) data was expected to gather a synopsis of math and science teachers' qualifications, reading practices and beliefs regarding content area reading instruction.

Focus Groups

Focus groups took place after the collection of background information occurred and the consent forms were signed. By conducting focus groups, I was able to gain knowledge regarding the research participant's experiences and perceptions related to their personal reading instruction in their specific content area. By employing focus groups, I gathered many viewpoints at one time. In addition, the participant's interactions with each other lead to a deeper reflective process. The use of open-ended questions aided in ensuring credibility, eased data analysis, and lessened any researcher bias. "The Focus Group Interview Protocol" (Appendix E) will list probes used to guide the discussion.

I served as the focus group moderator. My duties included forming probing topics for the session that were used to guide the discussion. It was essential to prepare and present themed probes that could encourage more chances for the collaboration amongst the research participants. All focus group probes corresponded to a specific research question within the study. Detailed planning and having the research participants adopt a conversational role encouraged a genuine belief during focus groups and avoided a singular focus regarding the moderator's achievements within the focus group.

Probing topics were employed to lead the focus group discussions, incorporating specific questions concerning the teachers' responsibilities, the barriers that were present, the factors that support or impede their attempts and the infrastructural factors that impact daily teaching. These topics were created by using the research questions from the study. The discussions within the focus group spotlighted important themes related to the research questions and required additional probing to gain clarity.

According to Rennekamp and Nall (2003), "focus groups are a special type of group used to gather information from members of a clearly defined target audience" (p. 1). This focus group was made up of nine participants and was used to gather information regarding the perceptions of the participating group members. "The goal of a focus group is to promote self-disclosure among participants because a group, rather than an individual, is asked to respond to questions, dialogue tends to take on a life of its own" (Rennekamp & Nall, 2003, p. 1). In summary, the goal of our focus groups was to gather the teacher's perceptions regarding the incorporation of reading strategies within their classroom.

I experienced difficulties with scheduled interview times due to after school scheduling conflicts. Time adjustments had to be made to meet during the participant's planning periods since both participant groups were on different planning times. Several participants coached after school sporting events which conflicted with the after school scheduled times. Professional development and faculty meetings also interfered with the interviews occurring after school since this was the only time all teachers would be free from teaching responsibilities. The weather also caused difficulties during the scheduled interview times as the school was closed on three scheduled interview days due to flooding and a lack of electricity.

Note Taking

During the focus group rounds, I took notes to ensure that I had gathered all the specific details that the recorders may not obtain. After the focus groups, I wrote down my insights and questions to pursue. My notes contained central forms of gathered information which included quotes that continued to arise which were sentences or phrases that illustrated vital key points of important point of views, non-verbal cues that the participants demonstrated as they spoke or listened such as facial expressions, smiles, laughter, head nodding, distress or gaps, specific wording or descriptions generated during discussions, specific key points or themes regarding each probing question, follow-up questions that could possibly occur and concerns or thoughts that may occur during the process. Note taking was helpful in the later stages of analysis and making notes of these instances increased the probability of recalling points during the analysis phase.

Data Analysis

Data analysis was repeated and followed a Data Collection Stage Process (Appendix F). Becoming familiar with the appropriate data was a collective process during qualitative analysis with the initial step being a time to truly become familiar with the data. This time was also spent reading and re-reading gathered transcripts of the recorded data and reviewing any audio-recordings as much as possible.

Eight content area participants who taught math or science stated their perceptions regarding the importance of reading in their content area, provided key classroom reading strategies used in their classroom, provided challenges that either supported or impeded reading instruction during their content focused lessons and provided their perceptions regarding their responsibilities of incorporation reading strategies into their content area.

Analysis of Focus Group

There were three stages of data analysis process. First, the analysis of the focus group data began with listening to the audio from both focus group rounds. Initially, I listened to the complete recording to gain understanding and the flow. The purpose of completely listening was to inform myself with the data before transcription. Upon the second round, I began to transcribe the focus group interviews precisely. The third listening consisted of taking notes related to key themes and other issues that arose from the data. All group communications (questions, laughter and verbal or non-verbal responses to other participants) were also transcribed. Once the transcripts were completed, I read each transcript without taking notes to check for consistency and to begin the preparation of coding. The transcription process was very detailed. Therefore, many steps were required to ensure that data was not lost during this process.

Initial coding began by combining all transcripts into a single document and chunking significant segments into a chart created to acquire the codes produced during initial coding process and during the following focused coding. Each chunk of text from both rounds of focus groups was organized chronologically corresponding with the focus group question that was asked at the beginning of that session. All focus group questions probes, categories or sub topics corresponded with one or more of the research questions of the study.

Initial codes were generated when creating the document. Color coding was used to isolate the chunks of text that correspond to initial codes to identify specific patterns within the text. For example, once I have organized my data, I provided each category or theme an assigned color to classify the items of information. When the initial codes and color-coding was completed, the initial codes were gathered to create groups for further analysis. After completing the focus group coding, transcripts from focus group 1 and focus group 2 were evaluated and

compared within each theme or category. For example; the responses may reveal that read a-louds were a strategy used in both science and math which would read a-louds a category under the strategy themes.

Analysis of Individual Interviews

Using individual interviews enabled me to carefully explore the phenomenon under study through individual experiences and perceptions. Interview data assisted to develop a deeper level of understanding of what the participant was attempting to explain or communicate during the focus groups. Using individual interviews allowed for additional opportunities to probe or ask more detailed follow up questions to gather information that aided in an understanding of the phenomenon being explored.

Individual interviews are extremely beneficial when collecting detailed information regarding a person's thoughts, experiences, behaviours or perceptions (Dörnyei, 2007). In-depth individual interviews could be used to assist the participants who may not include specific information or who may be uncomfortable speaking openly within a group, or when the researcher needs to distinguish individual as opposed to the entire group.

The individual interviews were conducted by developing an Individual Interview Protocol (Appendix G) which included the process followed by the expectations for each interview. An interview guide was included which listed the questions or issues to be explored during the interview. In the individual interviews, I talked with each participant for 30 minutes to an hour. The individual interviews allowed me to probe the participant's beliefs and perceptions to get a deeper understanding of the factors that supported or impeded the inclusion of reading strategies into their daily instruction. The interviews took place face-to-face and were audio recorded to ensure that all data was thoroughly collected.

The structured interviews required transcribing the recorded interviews. It took

approximately one week to transcribe all interviews. After I finished transcribing the interviews,

I e-mailed each participant a copy of the interview to review for accuracy. This was an

opportunity for each participant to make corrections to the transcript as necessary. The next

phase of the data analysis involved open coding of the transcripts to identify common words,

phrases, similarities, and differences among the participants (Appendix H: Word Cloud). Similar

responses were identified using similar phrases or words. Selective coding was used in the next

of the data analysis process. The purpose of the selective coding method was to generate themes

from the open codes. There were four key themes that were emerged from the open coding. The

themes were Participants Perceptions of the Importance of Reading in Content Areas,

Participants Key Classroom Reading Strategies, Participants Perceptions of Preparation for

Teaching Reading and Participants Perceptions of Their Own Responsibilities Regarding

Content Reading.

Analysis of Transcription

Transcriptions consisted of close observations of specified data through repetitive and

thorough listening which were a vital first step to the data analysis process. Transcribing takes a

great deal of time to complete. Therefore, the allotted amount of time must be allowed for this

process to be a success. According to MacLean, Meyer, and Estable (2004), this process was

extremely thorough and detailed and requires a great deal of dedication and effort on my behalf

to ensure that what was heard is then transcribed for data purposes. I transcribed the focus

groups after each session occurred. As mentioned earlier, the first two rounds of focus groups

were separated according to subject content. The data was transcribed to gather data regarding

the perceptions of math teachers and then from science teachers. The first two focus groups were

content specific which allowed the math teachers to share their perceptions as a group followed by the science teachers sharing their perceptions. The second round of focus groups included the research participants and was transcribed to gather data regarding the perceptions of all research participants. The separation of focus groups and transcriptions occurred to ensure that I gathered the appropriate data regarding each content area. Each content area may have incorporated or perceived reading differently. Therefore, separating the two content areas was allowed for the distinctions between the two areas.

Analysis of Coding

Coding was used to aid me in beginning to analyse the data and create an initial level of understanding and exploration. Coding was not simply a data breakdown; it enabled me to capture both a semantic and conceptual reading of the collected data. Once familiar with the transcripts, I coded all data items and finished this phase with ordering all specific codes and pertinent data excerpts. Once the coding was completed I began the next step in the analysis process.

For this study, "strategies" might be one of the initial codes. For example, if a teacher talks about reading activities incorporated within their classroom, then I would code this under strategies. If a teacher has no input during the focus group rounds, then I would code this under behaviours absent response. If a teacher provides her/his opinion regarding the implementation of reading within their content area, then I would code this under grounded coding. The listed coding may change during the process; however, for now, a general decision has been made to ensure organization.

According to Creswell (2007), probing for specific themes is logical and significant because it allows for the identification of the similarities within the gathered data. It was

important to note that the themes were constructed by myself, as they analysed the data, to explore and understand the experiences of the participants in relation to the phenomenon under study. This process was finalized by me ordering all coded data for specific themes constructed during the process. The relationship among my research questions, codes, and themes could be word repetitions, categories, key words, metaphors, analogies or connectors. Revising and reviewing themes includes evaluating to see if the themes function properly in relation to all coded pieces (Creswell, 2007). I evaluated the themes to see if an influential piece existed or a major component contributed to the data has been created. Once this was completed, I initiated defining the connection between each specific theme. It required the collapsing, split or discarding of themes all together and restart of the process of theme development when the criteria was not met.

Defining and naming themes required me to write a thorough analysis of each theme. I asked clarifying questions regarding the meaning the theme tells, how the theme fits into the data, and identified the basis within each theme. For example, if reasons continue to arise that include being prohibited from incorporating reading instruction then the theme would be placed under the factors that imped teachers' efforts to support their students with content area reading strategies within their classroom. I then created a brief and enlightening title for each separate theme. Connecting the themes was an essential component and involved interlinking the analytic narrative and data excerpts, which informs the reader of a logical and convincing way to demonstrate how the data connects. Quotes were selected based on being mostly represented within the research findings. The setting and speaker will be provided in the text at the end of each quote. For example: *The teacher describes how she used vocabulary strategies in a math lesson. She was able to get the students to draw on learning from a previous lesson, "I found that*

while using the vocabulary strategies, I was able to get the students to apply the knowledge and skills that they learned from a lesson taught last year on fractions." (interviewee 28, female).

Member Checks

According to Maxwell (2012), member checks allow researchers to compare understandings of what a participant said or meant during the process to ensure that the researcher's interpretation is precise. This technique should be used by a researcher to assist with improving the accuracy, credibility and validity and of study. Member checking can be incorporated during the interview process, at the end of the study or both to increase the credibility and validity of the study. Member checking was conducted in the individual interviews and after transcriptions were completed with the research participants. The participants were asked to evaluate the themes and verbiage that arose regarding the importance of their instructional practices and perceptions. Each participant was asked if there were any themes or statements that did not emerge through the data within the report and if there were particular information that could support their ability to incorporate reading instruction into their content area.

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Issues of Trustworthiness

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The goal of research studies is to produce findings that are accurate and have validity. Qualitative analysis is "valid, reliable, creditable, and rigorous" when it is performed correctly (Anderson, 2010, p. 22). According to Merriam (1998), validity in the field of qualitative research addresses triangulation, researcher's biases, and member checks. This study addressed all three to establish validity. Triangulation was attained by collecting various sources of data including background questionnaires, focus group interviews, individual interviews, and member check results to construct credible explanations regarding the phenomena of study.

The most obvious risk to internal validity for this study was my previous role as an Instructional Facilitator for the research participants of the study. Anonymous data collection may have alleviated this risk to a certain degree; however, this was not an option during Phase 1, where participants' identities were required for creation of meaningful samples for focus groups. My position was more detailed in Phase 2, which entailed focus group rounds and interviews. I guided data collection and analysis during this phase.

External validity can be a challenge in qualitative research studies. According to Merriam (1998), using predetermined questions and specified coding procedures and analysis increases the external validity of the study. Taking measures to improve validity allows for methodological advantages related to making the findings more believable.

Limitations

"Because qualitative research occurs in a natural setting, it is extremely difficult to replicate studies" (Wiersma, 2000, p. 211). Limitations are potential weaknesses that are in almost everything we do and are in most cases out of the researcher's control. The use of a sample of convenience, in contrast to a random sample, affects the study and is not normally applied into a greater population, only proposed. Another limitation of this study was time. This study was completed during a time period that captured a glimpse of the situation and was heavily dependent upon conditions that adversely affected the time period.

This qualitative study had specific limitations that could have evolved during the process since I was previously employed at the school in an administrative position. The participants could have held back on providing true beliefs in fear that their statements being repeated to the current administrative team. Another limitation could have arisen since my expertise and content area background is in reading. Therefore, the participants could have believed that I may judge

their perceptions and comments instead of truly documenting and analyzing for the purpose of this study.

Delimitations

The parameters of this investigation explained the characteristics which sets boundaries of the scope and describes the restrictions of the study. I decided to investigate in what ways content area math and science teachers perceived the factors that supported or impeded their efforts to integrate content area reading instructional approaches into their daily instruction. The study only included teachers with math and science backgrounds as they should incorporate reading strategies into their daily lessons. Therefore, participants of the study were sixth, seventh, and eighth grade teachers from a single middle school who taught math or science. The setting of this study offers a unique position which assists to improve the understanding of the infrastructural and instructional factors that educators believed were vital in assisting or impeding their attempts to incorporate reading strategies into their daily classroom lessons.

Ethical Procedures

Ethical issues were addressed at each phase in the research. In compliance with the guidelines of the Institutional Review Board (IRB), participants completed and signed an Informed Consent Participation Form to participate in the study. Participants were advised that all personal identifying information would be kept confidential, assured that they may withdraw from the study at any time without penalty, and advised that participation was completely voluntary, and risk were no greater than they would encounter when taking a test or going about a normal work day. The individuals that participated in this study received information about the process that would be used to conduct the study and would have the option to not participate.

The participants were not harmed or placed in any type of hostile environment during their involvement in this study. After an agreement of participation had been made, I continued to develop a trusting relationship which encouraged participants to be open and honest regarding their responses. The participation was not invasive and did not impose on the participant's personal space or on their personal lives. I was careful to analyse data in such a manner to avoid any form of false analysis, misstatements, and misunderstandings.

All participants in the study were informed that their identities would not be publicized, and their remarks and participation would not be treated in a private manner. Therefore, the participants were entitled to expect that this information would not be disclosed to others except during the focus group rounds. All information relating to this study will remain in a protected location for five years from the time the study was completed and accepted. The protected storage of data is for the protection of participants and the reputation of The University of Memphis. Confidential information connected to the research study that is on my computer will be transferred to a secured online storage for three years. At the end of three years, all data connected to this study will be destroyed. Any individual participating in this research study was guaranteed privacy outside of the focus groups. Consequently, no identifying information for participants will be revealed in written or verbal form.

Summary

The purpose of this chapter was to explain in detail the research methodology that would be employed in this study, describe the sample selection and its process, explain the procedure utilized during the design, the instrumentation and data collection and offer explanations of the processes used during data analyzation. The proposed study followed a qualitative interpretive case study design with a phenomenological approach. I implemented a background information

questionnaire, two rounds of focus group for a total of three focus groups and individual

interviews. In Chapter 4, the qualitative phenomenological findings of the research study and a

complete analysis of the data will be presented.

Chapter Four

Findings

Introduction

In the previous three chapters, the theoretical framework and study of methodology were presented and explored in the context of the present study. Specifically, literature related to the theoretical framework included socio-cultural theory (Vygotsky, 1978) and phenomenology (Creswell, 2007). Given the present study relies on a phenomenological approach, which places emphasis on personal perspectives, an interpretive case study approach was used. In this case, the use of the interpretive case study approach allowed for the exploration of reading strategies that math and science teachers described using, how they perceived their role in supporting content area reading, and the factors which influenced their efforts to incorporate content area reading into their daily teaching practices. The remainder of this chapter presents major findings related to the study described in detail in chapter three. These findings are organized and presented across four primary themes, which are described in detail in the following sections. Within each of the four primary themes, additional sub-themes emerged (see Table 4.1). The four primary themes and their sub-themes will be explored through their connection to the three research questions which guide the present study. To reorient the reader, the research questions guiding the present study were:

1. What reading strategies do math and science teachers describe using?

2. How do math and science teachers perceive their role in supporting content area reading?

3. What do math and science teachers perceive to influence content area reading instruction?

The four primary themes which emerged from data collection and analysis were: 1) Participants' Perceptions of the Importance of Reading in Content Areas, 2) Participants' Key Classroom Reading Strategies, 3) Participants' Perceptions of Preparation for Teaching Reading, and 4) Participants' Perceptions of Their Own Responsibilities Regarding Content Reading. Table 4.1 presents a graphical overview of how the four primary themes; their sub-themes and the three research questions overlap. As can be seen, each of the four primary themes intersects with the three research questions in various ways. Therefore; the sub-themes will serve as the organizational framework for this chapter.

Table 4.1: *Primary Themes*

Themes	Sub-Findings/Topics	Research Questions/Do the key themes inform the research question?
1. Participants' Perceptions of the Importance of Reading in Content Areas	1. The Importance of Reading Comprehension	1. What reading strategies do math and science teachers describe using?/No
	2. TN-Ready Testing	2. How do math and science teachers perceive their role in supporting content area reading?/Yes
	3. Motivating students to read	3. What do math and science teachers perceive to influence content area reading instruction?/Yes
2. Participants' Key Classroom Reading Strategies	1. Using Graphic Organizers	1. What reading strategies do math and science teachers describe using?/Yes
	2. Instruction Before, During and After Reading	2. How do math and science teachers perceive their role in supporting content area reading?/No
	3. Creating Safe Reading Environments	3. What do math and science teachers perceive to influence content area reading instruction?/Yes
3. Participants' Perceptions of Preparation for Teaching Reading	1. Lack of Preparation	1. What reading strategies do math and science teachers describe using?/No
	2. Lack of District and School Level Administrative Support	2. How do math and science teachers perceive their role in supporting content area reading?/Yes
		3. What do math and science teachers perceive to influence content area reading instruction?/Yes
	3. Lack of Reading Resources	
	4. Students' Lack Motivation	
	5. Standardized Testing	
4. Participants' Perceptions of Their Own Responsibilities Regarding Content Reading	1. Struggling Readers	1. What reading strategies do math and science teachers describe using?/No
	2. Teaching Reading is Definitely My Responsibility	2. How do math and science teachers perceive their role in supporting content area reading?/Yes
		3. What do math and science teachers perceive to influence content area reading instruction?/Yes

Theme 1: Participants Perceptions of the Importance of Reading in Content Areas

Theme one intersected with the following research questions: *How do math and science teachers perceive their role in supporting content area reading?* and *What do math and science teachers perceive to influence content area reading instruction?* When participants talked about their specific perceptions and the factors which influenced content area reading instruction, three sub-themes emerged: 1) the importance of reading comprehension 2) the stresses of the TN Ready Test and 3) motivating students to read. Each of are discussed in detail in the next few sections.

Table 4.2 *Participants' Perceptions Regarding Reading*

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The purpose of reading instruction is to teach students to recognize words and to pronounce them correctly.	0	2	2	4	0
Reading and writing are unrelated processes.	0	0	0	4	4
It is not necessary for students to write text on a daily basis.	1	3	0	0	4
The purpose of reading is to understand print.	3	1	3	1	0
Instruction should always be delivered to small groups.	1	2	0	5	0
Subjects should be integrated across the curriculum.	3	4	1	0	0
Students need to write for a variety of purposes.	4	4	0	0	0
Teachers' attitudes toward reading affect students' progress.	2	4	2	0	0
Reading is critical to students' ability to understand key concepts in my class.	4	4	0	0	0
Middle school teachers can help struggling readers to become better readers.	4	4	0	0	0
The responsibility for teaching students to read lies primarily with the elementary school teacher.	1	0	0	5	2
Content-area teachers are responsible for helping students to read course texts better.	0	4	3	1	0
Reading in the content areas (science, social studies, math) requires different skills than reading fiction.	0	1	1	1	5
Many students in my class struggle with simple decoding of content-area texts	1	5	2	0	0
Students who do not read well tend to struggle in my class more than students who do read well	3	4	1	0	0
Students who read well in language arts classes generally read well in all of their classes.	5	3	0	0	0
Vocabulary has a big impact on my students' ability to read and understand texts in my class.	4	4	0	0	0
Middle school students who don't read well can be taught to read better.	4	4	0	0	0
Most students' struggles in content area reading stem from comprehension problems	1	5	1	1	0

According to Table 4.2, 88% of participants disagreed with the perception of teaching students to read being primarily the elementary school teacher's duty. Therefore, the participants perceived teaching their students to read as part of their responsibility. Johnnie, a science teacher stated that "standards are constantly changing" so expecting my student's previous teachers to have taught a standard that was recently added does not make sense. Elizabeth, a science teacher explained how "many elementary teachers have not received the proper training" therefore; placing this primary responsibility on them would not be wise. All participants perceived writing for a variety of purposes as critical to their students' ability to understand key concepts in all classes, so they perceived reading as an important factor for success while also accepting their role of teaching reading. As will be seen in subsequent discussion, all participants agreed that reading plays an important role in all content areas.

The Importance of Reading Comprehension

All participants asserted their belief in the importance of teaching reading comprehension in their respective content areas of math and science, since many expressed that reading comprehension directly influenced the major academic gains found in their classes. Johnnie, a science teacher, expressed how "reading plays a major role in comprehension and without the necessary or required reading ability, or grade level reading ability, students will struggle." Several other teachers referenced low performing students as a reason for reading being important within their classes. Sharon, a science teacher, expressed how "reading skills must be incorporated in my daily lessons to ensure mastery of class assignments, homework and assessments since I have so many students who are low performers." Casey, a science teacher, also expressed how "low performing students are in the majority of my classes, so I must include daily reading strategies to help them to simply understand the material being provided." This is

vital and points to an overall agreement amongst participants as to how reading plays an important part in all content areas. According to Casey, "reading is considered a major element in my content area which determines a child's success." Several other participants provided specific examples of how reading comprehension contributed to content area success. For example, Frank declared, "I think math is going more towards understanding things in context and being able to solve problems rather than just mere calculations, so reading skills have helped many of my students with comprehending their math skills." Frank clearly supports the connection between reading skills and the deeper comprehension of math skills. Another example from Sharon, described how successful "comprehension strategies helps my students to decode challenging science word problems which can sometimes frustrate them due to their lack of understanding." Again, Sharon's example shows the clear connection between reading comprehension and content area learning.

Conversely, the importance of reading comprehension in content-area learning and achievement was also found through counter-examples that illustrated how difficulties arise when a lack of comprehension exists. In other words, teachers also expressed how the lack of reading comprehension skills seemed to impact achievement or understanding on the part of the student, regardless of a specified content area. For example, Lynn in her science class, expressed how students would often demonstrate a lack of comprehension skills because "they're answering questions not being posed." In addition, the lack of reading comprehension also seemed to negatively impact other areas besides content-area achievement. For example, some of the teachers reported that the lack of comprehension skills encountered by students who experienced difficulties reading sometimes led to a decreased desire to comprehend text. Teachers expressed how students' low comprehension levels prohibited them from

understanding basic information which in many cases were unrelated to academics. For that reason, reading became imperative in content area classes to increase their overall comprehension rates and to ensure student academic success across the board.

Additionally, as compared to previous years, teachers reported that students seemed to struggle with increasingly unfamiliar vocabulary, which in turn required them to use a wide range of reading strategies across all content areas. Elizabeth, a science teacher, explained that reading is "an important part of science since the students get to see terms over and over again and will begin to make connections in other classes which will build the importance and their value of reading." Elizabeth was not unique with this observation. Other participants also supported the integration of reading across the curriculum to assist students with their lack of comprehension skills. Henry, a math teacher, reported "when students read in all content area classes, they begin to experience academic success across the board which in turn demonstrates an overall academic success." In addition, Henry's example also shows how these teachers now view comprehension as a requirement for achievement in all content areas.

As has already been made evident, all participants strongly perceive that reading comprehension connects to all content area learning and success. As well, it is also clear from participants' responses that these perceptions shaped how they structured their classrooms and more specifically what strategies they used to improve their student's content area learning by way of reading strategies. Interestingly, several participants believed that by incorporating diverse reading strategies in their lessons, students would gain the necessary skills required for success in all other content areas. In her math class, for example, Carolyn described how her students participated in "Accountable Talk sessions which required my students to provide their understanding of reading material while also assisting them with communicating or formally

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debating with peers in an organized setting." Another participant, Sharon, explained how she used the Accountable Talk strategy to promote students' higher-order thinking skills while also helping them to learn, reflect on what they have learned, and verbalize their understanding in her science class.

Other examples of specific reading strategies included decoding, inferencing, and comparing and contrasting. As an example of decoding, Elizabeth, a math teacher, explained how she "must break down words for students to understand the skills we are about to cover during lessons" since decoding helps her students to understand the course material." Several other participants mentioned using inferences and compare and contrast while also stressing the complexity of comprehension to assist their students in mastering reading skills. Sharon in her math class, expressed how "inferring during reading activities is difficult for many of my students, but comprehending seems to be more challenging." So many times, "I'm forced to differentiate many of my lessons to ensure that my students get it." These teachers are required to complete more checking for understanding actions during lessons to ensure comprehension since many also reported making the mistake of assuming that their student's physical reactions such as students nodding their heads and smiling meant successful comprehension.

As a result, all participants asserted that despite not being reading teachers or literacy coaches, they still understood the value of students' possessing strong reading skills and this in turn, helped students to succeed academically. For example, Elizabeth expressed that although she is a math teacher, "without those reading skills, our students will not make it far in life." These strong values held by the teachers of this study clearly link reading comprehension and academic success to eventually becoming capable adults.

TN Ready Testing

Another example of how math and science teachers' perceptions surrounding the importance of incorporating reading strategies into their daily instruction is through preparation for the TN Ready Test. In this case, teachers expressed feeling obligated to incorporate more reading skills to facilitate concept understanding specific to the TN Ready Test. For example, Frank believed that "reading is playing more of an important role in math since the TN Ready Test is now being geared more towards comprehension and analyzation instead of simple calculations from previous years." Given the increased connection between academic literacy standards and accountability measures, teachers will be expected to increase the amount of reading strategies they use to ensure TN Ready Test success. And so, it was not surprising to have teachers discuss perfecting their craft as they continue to incorporate reading strategies while preparing for the TN Ready Test. As a final point, these teachers felt a true sense of accountability regarding their content area material; although teaching reading to their students has been pushed to the forefront in all content area courses to ensure that all students succeed on the TN Ready Test.

Motivating Students to Read

Several math and science teachers in this study, reported engaging their students in reading skills such as speaking, asking questions, learning new vocabulary terms, and writing down their thoughts. Lynn expressed, that in math class, "when students were not motivated to read, these tasks seemed almost impossible to accomplish." Subsequently, many of the participants described how they motivated their students by offering choices during instructional time, while other participants allowed their students to select reading topics or genres to cover during class instruction, specific reading materials, methods of assessments, the order of

classroom activities, social arrangements or making decisions about classroom routines. By using these strategies, participants reported increased student engagement. The use of these strategies also made their content more significant and appealing to their students. As a result, all participants believed student motivation to be a major factor in their students becoming better readers.

Furthermore, some participants specifically described how they motivated students by choosing reading activities connected to their interests and real-life experiences, while others included hands-on-learning and culturally relevant activities. As Carolyn, a math teacher, expressed that "incorporating reading strategies into dissecting recipes assists many of my students to understand what is needed when trying to make food for their families since many of them enjoy cooking." Casey and Johnnie, both science teachers, also described using reading activities as a motivational technique since many of their students truly enjoy science labs and become excited with the thought of increased lab time. Here, reading activities served as the key link between students' interests and science learning. Again, these examples demonstrate how connecting students' interests and providing real-life experiences during class instruction can assist with motivating students to read.

All teachers agreed that when their students read well, they seemed academically driven so incorporating motivational techniques also helped them to read better. Several of the participants also believed that low reading levels seemed to contribute to other difficulties in their students' lives including dropping out of school, becoming pregnant and other "criminal activities." In this way, several of the participants showed how motivating their students had implications for academics and life-long success. For example, Sharon, a science teacher,

expressed continuing to "encourage reading in hopes of motivating students to believe in themselves" as doing so could provide them with the "life skills" they will need to be successful.

Ultimately, a clear link was shown across all three sub-themes. Specifically, it is apparent that the belief that reading comprehension is important for student success impacted how teachers motivated their students, prepared their students for the TN Ready Test, and how they incorporated reading strategies to facilitate content area learning and achievement and eventually life success.

Theme 2: Participants Key Classroom Reading Strategies

Theme two intersected with the following research questions: *What reading strategies do math and science teachers describe using?* and *What do math and science teachers perceive to influence content area reading instruction?* When participants talked about their specific perceptions and key classroom reading strategies, three sub-themes emerged:
1) using graphic organizers 2) instruction before, during and after reading and 3) creating safe reading environments.

Using Graphic Organizers

Six participants reported using graphic organizers since they allow students to think about vocabulary terms or concepts in various ways and are designed to engage students in creating meaning, synonyms, antonyms, and/or visual representations for given terms or concepts. While teachers also reported spending a great deal of time assisting students in comprehending various concepts, a major challenge still existed since vocabulary skills must be successfully taught to eliminate any possible obstacles which may contribute to the lack of students' comprehension as well as promoting lasting acquisitions of language. Each teacher found graphic organizers to be extremely helpful and were open to obtaining more knowledge regarding various ways to teach

vocabulary skills and concepts to middle school students' using graphic organizers. Henry, a math teacher, believed that "requested strategies should provide middle school students with deeper understandings into the content which would work in all classrooms."

Several reported that graphic organizers assisted their students with brainstorming and making sense of content information. One teacher stated, that there are teaching techniques which can assist students who struggle to read, but teachers must incorporate these techniques to enhance their personal reading instruction. Participants perceived graphic organizers as an influential strategy to content area reading instruction. Casey, a science teacher, expressed how "graphic organizers allow her students to visually see and process content material." The Frayer Model is a graphic organizer used by several teachers which allowed students to create their own meaning while attempting to understand vocabulary terms and writing in their content area. In this case, many teachers described the Frayer Model (Frayer et al. 1969) as being a great strategy as it allowed their students to define the term, provide examples, characteristics and non-examples of the term to assess their understanding of the terminology presented. Figure 4.1 provides a template of the Frayer Model which allows students to write the word along with providing a definition, examples, characteristics and non-examples.
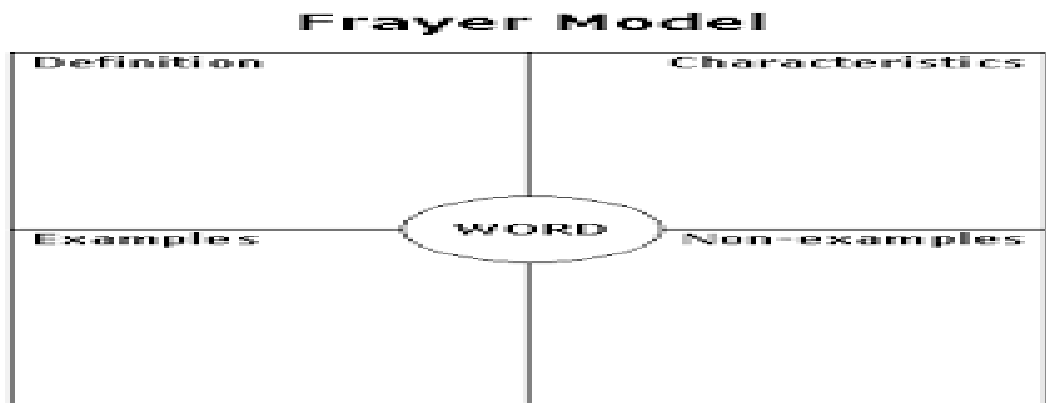
Figure 4.1: Frayer Model Word for Non-Examples

Several teachers labeled The Frayer Model as being a great strategy to use with struggling readers as it assisted students in gathering their thoughts and make sense of the provided information. Figure 4.2 provides a template of the Frayer Model that is typically used with lower performing students and which allows students to write the word along with providing a definition, an example, or details, use of the word in a sentence and a place to draw a visual representation of the term. Regardless of what reading strategy math and science teachers use, all participants reported graphic organizers as the most effective reading strategy during focus group discussions. Graphic organizers allowed their students to incorporate vocabulary terms, meanings, and examples such as pictures or diagrams.

Definition	Word used correctly in a sentence
Example or Details	Picture

Vocabulary Word
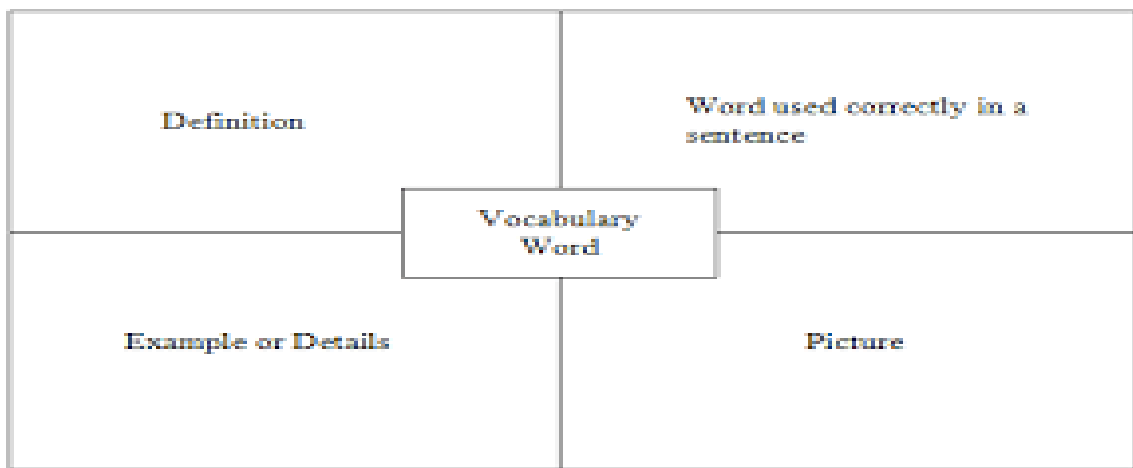
Figure 4.2: Frayer Model for Pictures

Instruction Before, During and After Reading

Providing instruction before, during and after reading was conveyed by each teacher as a strategy used since many of their students do not use appropriate reading techniques or have good learning habits. Each of the participants also expressed how they use different strategies at each phase of instruction, whether before, during or after reading. In each case, the instruction served a different purpose. For example, activating students' prior knowledge was identified as a

critical (before) reading strategy as it allowed teachers to gage students' background

comprehension and set a purpose for the reading. Frank shared "without defining the words

before instruction in math, understanding what words mean during instruction will be difficult

and there's no way they can get to the next phase," even in math. Frank also described this

strategy as a technique which worked perfectly before, during and after reading tasks and

provided students with specific techniques to assist them with moving through challenges.

Furthermore, each participant reported incorporating hands-on learning to assist their students

with making important connections, by imbedding ideas and concepts which students should

know before reading.

As discussed, the participants' use of instruction during reading also aided students,

because many participants found a great deal of their students who lacked the appropriate

reading skills which in turn impeded their academic progress. Providing instruction during

reading was noted as influencing content area reading since its focused students' thinking

throughout the entire lesson. As a science teacher, Casey reported, how "completing station

rotations contributed to students' reading success since students got to have productive

struggles" while receiving guidance from the teacher. These teachers explained station rotations

to be activities which students completed during instruction and is another strategy to engage

them in the content area as well as in reading. Station rotations are an effective strategy to use in

many content areas since it forces "students to figure it out during instruction," Casey continued.

All teachers reported helping students to better understand and succeed when they instructed

them during reading. They also reported that instructing during lessons helped them to monitor

students' understanding and correct any misconceptions which may have surfaced. Finally,

participants explained how providing instruction during reading activities allowed their students

to reread or ask questions, make connections to the content, monitor their own understanding, and stay focused. The reporting of these strategies on the part of participants shows the importance of using instruction during reading activities and which contributed to the success of students' abilities to read proficiently, as well as grasp content-area material.

Perhaps most importantly, instruction that was provided after reading was reported as having notable value and usefulness according to these math and science teachers. For instance, several participants described helping students to better understand text by instructing them after reading activities since it allowed them to constantly monitor their progress. Sharon reported allowing students to "share out" after reading in her class which was a technique used to check for understanding after the reading process had been completed. She also noted that "I often ask students to read assignment directions or passages on certain pages aloud followed by requesting them to provide the information in their own words to ensure understanding." These teachers also reported asking students to share out what they had read or learned to provide students with multiple opportunities to question, summarize, discuss, reflect, and respond to the text. Ultimately, there were various key reading strategies which teachers incorporated into math and science which assisted students with increasing reading skills.

Creating Safe Reading Environments

According to the teachers of this study, creating a safe reading environment made incorporating reading strategies into their content area class less stressful to teach while also making students feel safe to read aloud, ask questions, and participate in discussions. Reading allows the reader to "change a written text into meaningful language by proving independence, comprehension and fluency skills through text interactions" provided Casey. She also explained that for students to be successful at reading or to grasp a reading strategy, teachers must ensure

that students feel academically safe. Each participant believed that students should feel safe and secure to learn and participate in reading activities, so it was vital to think about the classroom environment, beyond academics. According to Lynn, students were more likely to consider "the social risks" prior to engaging in any type of reading activity in class and sometimes "remaining quiet feels safe to them". Therefore, it is critical to create environments where students have a sense of belonging and want to be involved in reading activities. Three participants also reported being conscious of their school and classroom environments which made creating a culture that included respect and safety simpler. Lynn also stated, "creating a safe environment where one won't be ridiculed because you don't know" was extremely important and "setting up a good culture in a room of emerging readers may increase reading skills and confidence."

Several other participants described creating a safe environment as a requirement to incorporate successful reading strategies while also providing ideas to others on how to make their students' feel safe and inviting during reading tasks. Johnnie, a science teacher, believed that "in order for students to learn, they must feel safe" while Sharon also deemed that "inviting classrooms play a huge role in learning and encourages students to successfully perform." These perceptions connect with how completing these tasks could assist teachers to save time while also engaging students in reading skills. Frank, a math teacher, indicated that, "being intentional about our content area, literacy, students' overall growth and well- being is also a way to foster academic safety." Frank and Lynn both noted how they continue to instil the essentials of improving comprehension by incorporating "intentional" reading strategies; however, without having safe classroom environments these attempts would fail in their content area class.

Specifically, the participants confirmed a variety of uncontrollable factors which affect

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student's learning, but the one factor educators validated as controllable was the type of classroom environment provided to their students. Thus, creating a safe and positive classroom environment could positively impact student learning. Each teacher perceived a safe classroom environment as influential to content area reading and a way to increase effective teaching and learning. Frank provided how being "intentional" about a safe environment and reading strategies has assisted with providing the academic achievements required for "the next grade" while also providing students with a sense of belonging. Other participants believed that for students to learn, they must feel supported and safe so without these conditions being in place, their minds will wander which will in turn make the process of teaching reading more difficult along with a lack of student learning. Undoubtfully, when students feel safe "they learn complex reading and writing skills" during instruction exclaimed Henry, while also "learning information to help their success" in all content areas expressed Casey. Ultimately, teachers perceived that creating safe reading environments directly contributed to the impact of student learning.

Finally, a definite connection appeared across all three sub-themes. Specifically, it is apparent that a belief regarding the incorporation of classroom reading strategies is vital for students' literacy success. These strategies are essential in content area classes and contribute to students' fundamental academic development. Strategies such as graphic organizers and instructing before, during and after reading activities while creating safe environments impacts students' learning and reading achievement.

Theme 3: Participant Perceptions of the Challenges for Incorporating Reading Instruction

Theme three intersected with the following research questions: *How do math and science teachers perceive their role in supporting content area reading?* and *What do math and science teachers perceive to influence content area reading instruction?* When participants talked about

their specific perceptions and the challenges for incorporating reading instruction, five sub-themes emerged: 1) lack of preparation 2) lack of district and school administrative level support 3) lack of resources 4) students' lack of motivation and 5) standardized testing.

Lack of Preparation

According to all participants, content area teachers receive less than a sufficient amount of preparation on reading instruction, and few consider themselves as reading teachers. Many participants believed that educators must have the appropriate training to prepare them to teach reading skills which also includes reading comprehension, listening comprehension, and learning various content strategies through reading. For example, in her math class, Carolyn, believed that "for me to be successful at teaching reading then I must have the required training to reach my students." Participants perceived a lack of appropriate training, technical skills, and experience to pose a challenge for incorporating reading instruction. Casey, a science teacher, reported only being exposed to "about two or three [reading] courses during college since my major was science." She also noted that "the classes kind of helped me, but having an elementary background is what assisted me with obtaining a great deal of reading skills to support my students with reading instruction as well." Several participants stated how math and science teachers were only provided a few reading focused courses in collegiate programs. Therefore, this makes teaching reading difficult since there was little background in the field of reading instruction. According to Elizabeth, a math teacher, "my undergrad degree was in math so I'm just taking teaching courses now and I did not have any student teaching either. Not having any formal training does not help me as I attempt to incorporate reading strategies in my class." Several frustrated participants also believed pre-service training to be inadequate regarding reading for content area teachers in a majority of teacher preparation programs.

Additionally, these participants added how educators cannot teach the skills they do not know, and teacher preparation programs should ensure that all teacher candidates comprehend the process of learning how to read, as well as what steps to takes to assist struggling readers with primary literacy skills. Furthermore, they believed that all states should ensure that their teachers are overly prepared to incorporate various aspects of reading skills along with having access to the best curricula.

Some participants believed that experienced and skillful teachers can scaffold students' language by building on what students already know and by also providing progressively challenging material which is appropriate for each student; however, completing this task requires a great deal of practice and training. While all participants accept their role and the responsibility to support content area reading, they are fully aware that they are not experienced and skillful reading teachers. Lynn, a math teacher, referenced her "lack of understanding of how reading was taught since I'm not a reading teacher," as she described her new challenges of incorporating reading into her daily instruction. She also inserted, "considering my pre-service teaching was non-existent, I did not do student teaching and had one three-hour course which was reading for math teachers" which focused mostly on math skills likewise; Johnnie, a science teacher, stated that "I went through an alternative reciprocation program called Teach for America which only focused on science skills." These teachers provided details regarding how many teacher preparation programs move slowly to seal the gap between the program's pre-service curricula and what current data states regarding incorporating reading.

According to all participants, the difficulties of teaching reading instruction and obtaining effective training have been extremely underestimated by colleges, universities and licensing programs since each participant reported not receiving the appropriate reading instruction

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training in their educational programs. Elizabeth and Lynn, both math teachers, reported their "lack of ability" or "expertise" in teaching reading; however, both felt that teachers' "ability" and "expertise" positively influenced content area reading instruction. Many participants reported a great deal of content-area texts in which students read, science and math as perhaps being the most difficult to comprehend. Nevertheless, science and math teachers frequently stated feeling the least prepared to teach their students how to read. Frank, a math teacher, and Johnnie, a science teacher, both provided "the lack of proper training" and a lack of adequate "professional development" as challenges which also influenced the incorporation of reading instruction in their classes. Comparably, all participants faced challenges with their undergraduate preparations regarding reading instruction.

Additionally, all participants reported completing undergraduate degrees in science or math which did not offer them reading strategy knowledge. Casey provided, "I am a science teacher, who was not trained to teach reading so assisting students with science texts is very different from teaching them to read. It is more like, helping them to make sense of and learn from science texts." Casey's courses taught specific science content without considering many students who may not have the skills to succeed without the needed reading skills. Numerous participants reported these consequences as being harmful to their content area's success and without the incorporation of reading in their content area, success would be impossible.

Lack of District and School Level Administrative Support

Even though reading skills are now being incorporated in content area classes, there remains a lack of district and school level administrative support to assist with the implementation of these needed skills. Therefore, six participants described the many attempts of implementation as being a difficult task due to the many challenges they face within the

school day which are out of their control. According to Henry, a math teacher, "administration provided strategies and suggestions for implementation (i.e., co-teaching) during in-house professional development sessions;" however, co-teaching opportunities could be a major challenge due to daily school operations. Teachers expressed how they were expected to encourage and support their students' success and likewise, school districts and administrators should be expected to support teachers by providing the necessary professional development (PD) exclaimed several participants. They also perceived a great deal of PD opportunities today as ineffective since they neither modify teaching practices nor increase student learning. Ineffective PD is considered by participants as a challenge to successfully incorporating reading instruction. Sharon, a science teacher, offered "we were given reading resources at a Literacy PD" to review on our own, but there was no hands-on experience provided which limited non-ELA teacher's incorporation of reading techniques due to a lack of understanding. Teachers additionally reported how the majority of district PD was geared towards specific content areas and was usually not provided to cross curriculums which meant that a huge amount reading strategy PDs were only for ELA teachers. According to several participants, on many occasions, ELA teachers were required to report back to the entire staff, if there was a strategy deemed as valuable to all content area courses. Participants also perceived that the district makes no true efforts to assist other content area teachers to become more knowledgeable regarding content area reading.

According to teachers, the district, and school level PDs fall short in various ways; however, any PD initiative should acknowledge teaching reading to be complex and should encourage and provide literacy professional learning communities year-round, in stages and in active learning sessions. All participants are expected to support reading and incorporate these

strategies into their lessons; however, reading skills PD for non-ELA teachers have been

extremely limited. Johnnie, a science teacher, believed that "the role of the administration

should be to provide the professional development needed and along with the support to help

non-ELA teachers to effectively incorporate reading strategies in the classroom," but many times

the school day does not allow for this to occur due to discipline issues and daily operations.

Participants also believed that school districts and school level administrators should develop

effective PD by providing teachers with frequent workshops which include active learning

opportunities, immediate feedback, and continual support.

A great deal of participants also described receiving resources from PD sessions;

however, no true direction of implementation was provided which offers no authentic assistance

to them during instruction. The PLC Coach was reported by participants as having organized

limited PD opportunities, which attempted to assist non-ELA teachers in their efforts to

incorporate reading strategies. The school district provided reading support to ELA teachers;

however; "better district levelled PD could be implemented to ensure all content teachers receive

the same services as ELA teachers," according to Johnnie. This would ensure that all content

area teachers are capable of and buy-in to effectively teaching reading. Frank, a math teacher,

believed that "teacher buy-in is important for students to get reading instruction all around," as

this shows the importance of reading skills in all content areas and not just in ELA classrooms.

According to participants, collaborating with the PLC Coach who has a background in

English could play an important part in the attempts to advance the reading skills across the

board. Many participants acknowledged their role in supporting content area reading and

perceived themselves as "learners" while being open to collaborating before, during and after

school. Participants' perceived valuable assistance to math and science teachers stemming from

collaborating with the ELA department as tremendous opportunities for school-wide literacy growth. They believed more co-teaching opportunities with the ELA department could assist all teachers with implementing reading skills. Teachers agreed to being much more likely to use strategies they learned through job-embedded professional learning, including collaboration with peers. They were also more likely to use strategies that fit their perceptions and supported students' ability to read.

The participants stated that a major challenge regarding the incorporation of reading strategies was due to the lack of the school administrative team's support. Participants shared how school leaders spoke of increasing reading rates and getting students reading on grade level; however, no true support was provided in this area due to other tasks. Participants perceived administrative support for content area reading instruction as important and influential. Johnnie, a science teacher, noted that "content area reading support is always mentioned, but nothing is truly ever done to support us on a consistent basis." Therefore, academic support sometimes falls to the wayside which makes discipline issues and school operations major priorities. Lynn, a math teacher, also noted that "the role of administration is to ensure that teachers know exactly what is expected of them" in terms of reading instruction across all disciplines and to provide real time exemplars. "If the push doesn't come from them, how can they expect it to be a priority school-wide" according to Johnnie. He also exclaimed, "you must lay out a plan for it, provide the professional development and support, and then inspect what they expect in terms of reading implementation across all curriculums."

These participants also suggested the implementation of school-wide reading initiatives that could be coordinated and supported by school leaders which would "assist students reading in all content areas." Participants also believed that a school-wide reading initiative could assist

teachers to support the individual student along with placing a direct focus on reading skills which in return incorporates families. Some participants stated there were content teachers on their grade teams who believed that teaching reading to middle school students was not their personal responsibility. Therefore, they did not buy in to working as a team to teach reading within their content area. Four teachers noted how "administration could easily help with this issue" by placing a greater focus on a school-wide plan.

Overall, participants reported that school's administrators and district level leaders believed that content area reading is vital in all core classes; however, they did not provide systematically support during the process to ensure that it happened which was an obstacle for the teachers. "The most valuable support has to be more practical while showing appreciation for the efforts that teachers provide in their classes specifically to those who do not feel as knowledgeable about being reading teachers," explained Elizabeth.

Lack of Reading Resources

All participants agreed that it was extremely difficult for students to receive a proper education without being supplied the correct resources, but obtaining these resources requires sufficient funding which many schools do not have due to budget cuts. All participants believed this issue to be too common within many school systems of today; yet, it is constantly ignored even though the materials are needed for student academic success. Not having access to appropriate and needed reading resources is perceived by teachers as a challenge for incorporating reading instruction. Sharon, a science teacher, explained needing to be "given the tools and resources required to incorporate reading" as this would make reading instruction a simpler task. All participants reported not having enough resources to include reading skills in their teacher tool box. Frank, a math teacher, stated "having a tool box of things taught in PD or being self-taught along the way" to ensure the proper skills were gained in his class. He also defined the tool box

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as "resources and skills you have learned over the years of teaching and having the ability to quickly apply prior knowledge to help students with reading informational articles to apply strategies such as cause and effect." A lack of access to differentiated resources was reported by several participants which inhibits their efforts of incorporating reading in their content area. Participants also believed that all teachers should acquire effective reading instructional skills to assist students with making sense of content area information since many students come with a lack of basic skills, but resources are required.

Several participants were provided instructional resources; however, the resources were outdated and lacked instructional differentiation which was needed due to a large population of students requiring various levels of reading instruction. Completing this task requires "a more thorough selection of materials from outside sources to reach middle school students who read and comprehend below grade level as the pre-packaged resources were not tackling student's needs," according to Johnnie. He believed that these materials are indeed available, but greater attempts to collect these resources from administration should be a true focus to ensure students receive the proper reading instruction. Casey also believes, "administration's role is to make sure we have the resources and if not, they should try to find resources within and outside of the school." She also stated, "I believe time and being able to find instructional resources to aid instruction during that class" is a challenge for us all, to support content area reading and to assist students to academically succeed, we must obtain the necessary content materials. Elizabeth, Johnnie, and Frank all noted "at times this means asking the PLC Coach along with other teachers in and outside their building, web searching and at times attempting to create what they can't find." Participants believed in the importance of instructional materials to assist with content area reading instruction with the overall goal of student success. For example, in her

math class, Carolyn believed that "without the appropriate resources then my reading attempts may not be the best." Unfortunately, worst case scenarios can happen when teachers are not equipped with the necessary resources, they attempt to cover the required standards without having what they truly need to successfully teach the skills.

Students' Lack of Motivation

Seven teachers reported low student motivation to be a significant factor in their students' success within reading instruction. Students' low motivation pertaining to actively engaging in reading activities is perceived by teachers as a challenge for incorporating reading instruction. Sharon, a science teacher, reported having "many students who just don't want to participate in class reading activities." Teachers believe this issue coupled with students' ability creates huge problems regarding students being motivated to perform reading skills. Students' motivation regarding reading was low and seemed to stem from their environments outside of the school according to what many participants have observed amongst students. According to several participants, this type of motivation was believed to have begun early in their students' lives and continued to decrease as they progressed in age specifically if there were no motivating factors of enforcement. Casey, a science teacher, reported "many of my students don't have anyone to truly push them to believe in themselves academically" so in many cases they do not believe in their ability to succeed. Participants believed teaching middle schoolers to become motivated readers or learners continues to be an issue since many of them have spent so many years not focusing on reading or learning and during these years reading motivation tends to worsen specifically for struggling readers.

Participants also believed teachers to be the key element to motivating students to read and learn since many children at this age find it hard motivate to read or learn. Teachers owned

the role to help motivate students and to support content area reading instruction despite their own feelings of inadequacy. Elizabeth, a math teacher, stated how she, "sometimes found it difficult to motivate students to read specifically since I was not properly prepared or trained in my teacher education program with the skills, knowledge, and reading instructional strategies to build students up." In conclusion, these teachers wanted additional support and ideas to assist students with their motivational issues; however, they were unsure of who could provide it.

Standardized Testing

Many of the participants reported challenges of experiencing excessive testing which impacted the incorporation of reading instruction into their content area. Participants stated that standardized and summative testing took a great deal of time from their instruction which forced them to mainly focus on their content material during instruction. TN Ready and its accompanying accountability is perceived by teachers as a challenge for incorporating reading instruction. Elizabeth, a math teacher, noted that, "most days my instruction is focused on TN Ready math items since this is tied to student grades and my evaluations." According to all participants, standardized and summative testing happens a great deal during the school year and takes up a great deal of time from instruction. Participants also reported their students having excessive amounts of mandated tests which comes from the school's administration, district, or state. Frank, a math teacher, summed this up by stating, "we use one test to gauge how students will do on another test, so we keep testing." Participants claimed excessive testing required them to focus more on their content material to ensure students passed the test which meant teachers had less time to provide reading instruction. Henry, a math teacher, admitted that "these tests take away time from student learning and teachers providing reading instruction, but we must get our content taught so students will pass their tests." Teachers reported being expected to have all

content information taught for standardized and summative assessments despite the many instructional days missed for excessive testing. Six teachers agreed how in this era of high stakes testing, "we do our best."

Participants believed reading instruction to be weakened by the mandatory curricula developed to prepare their students for standardized tests. Teachers explained how they are required to use prepared materials which they did not create and in many cases the material does not address the actual learning needs of students sitting in their class. Teachers described how the prepared materials included scripted lessons which determined the exact content to be taught which limited opportunities to make instructional adjustment regarding incorporating reading skills. All teachers admitted to being expected to spend a great deal of time on practice tests and drills to prepare students for their upcoming tests which leaves less time to incorporate daily reading activities. Standardized testing and the preparation required for testing is noted as a negative influence of content area reading instruction. Henry, a math teacher, stated how "the material and requirements reduce my autonomy regarding reading instruction." Overall, participants believed standardized tests limits the type of instruction they could include in their lessons which in many cases pushes reading skills out of their daily class lessons.

As a final point, significant correlations emerged throughout all five sub-themes. In detail, it is evident that a belief regarding educators not being equipped with the proper training to teach reading skills remains due to a lack of formal education received by teachers through higher educational systems, school districts and schools where they teach. A lack of reading resources, students' lack of motivation to read and excessive amounts of standardized testing also contributed to the difficulties experienced by teachers in their attempts to incorporate

classroom reading strategies. These components are crucial issues in content area classes and can contribute to students obtaining the essential literacy support in content area classes.

Theme 4: Teachers' Perceptions of Their Responsibilities Regarding Incorporating Reading

Theme four intersected with the following research questions: *How do math and science teachers perceive their role in supporting content area reading?* and *What do math and science teachers perceive to influence content area reading instruction?* When participants talked about their specific perceptions and responsibilities regarding incorporating reading, two sub-themes emerged: 1) struggling readers and 2) teaching reading is definitely my responsibility. Teachers discussed how they assisted their struggling readers by incorporating more in-depth vocabulary and comprehension strategies to support their students to make more sense of reading skills.

Struggling Readers

All participants reported when students possess a reading strategy or become strategic readers, they are in better positions to perform academically. For instance, Lynn, a math teacher, described a strategic reader to be "students who are better able to construct meaning, interact with text more proficiently, use their prior knowledge to further their learning and use context clues to help construct meaning." All teachers are often required to teach reading to many struggling readers in their content area even though this task can sometimes be extremely difficult. Therefore, completing this task for these teachers means knowing a great deal of information regarding employing reading strategies across content areas to those students who struggle.

All teachers reported being required to incorporate reading strategies since they have struggling readers in every class who may camouflage themselves to not stand out and are often

disengaged in the lesson and passive with their attempts in participating. Therefore, participants perceived their role as crucial in supporting content area reading for all students and particularly so for struggling readers. Several teachers also described having students who incorporated coping strategies to help them get by without improving their literacy knowledge since the majority of the material is challenging and is often unachievable for many struggling readers. Additionally, many participants expressed the need for more assistance regarding how to support struggling readers in teacher education programs to aid with the realistic strategies for today's struggling readers. For example, Elizabeth, a math teacher, stated that "my undergraduate years did not assist me to teach reading skills to my students. I was a math major and that is what I was taught." All teachers described having students who are now coming with extremely low foundational skills and as a result, incorporating reading strategies must be used to assist students with understanding academic language. Teachers also believe that for students to be prepared to master reading standards, they must come equipped with strong foundational skills. Therefore, it is important for all content subject area teachers to become knowledgeable of the ELA standards along with reading strategies to help students with mastery and understanding which they missed in the early grades. According to Johnnie, a science teacher, "being knowledgeable of the ELA standards has helped me to assist my students who struggle to read in my science class." In essence, participating teachers perceived assisting struggling readers with reading strategies and their own knowledge of ELA standards is influential to content area reading instruction.

Several participants described how reading could sometimes be a complicated process for students as they made attempts to decode terms, organize thoughts and make meaning of content material since many don't recognize reading as a means of language acquisition, a form of communication, and a process of sharing relevant information and important ideas. For that

reason, providing students with various strategies to read may open many doors for them in a world full of interactions and teachers perceived this as their responsibility to make this happen. Henry, a math teacher, stated that "incorporating specific reading strategies into my lessons will help my students to be better communicators outside of the classroom since they are provided opportunities to practice those skills inside of the classroom." Participants reported how various activities and strategies used in ELA can also be used in their math and science classes to assist their struggling readers. For example, many participants described think-a-louds, decoding words, main idea and details, rereading, and asking questions to clarify information as helpful techniques they often use to teach reading to their students. Participants also confirmed the use of writing, rotation stations, maps, webs, and other graphic organizers as ways which allowed them to further organize meanings and concepts while teaching reading skills.

Casey, a science teacher, believed that students face special challenges when they encounter reading in mathematics and science, but teachers can use a variety of strategies to assist. Many teachers reported struggling with linking writing and mathematics and honor the integrity of both disciplines at the same time. Frank described, "teaching writing is a difficult task since I'm technically not a writing teacher." Frank's statement shows that teachers are often the first ones to tackle struggling readers and the accompanying literacy instruction that must be provided for them. Numerous participants reported following news reports of how across the nation students are struggling with learning how to read proficiently which makes the problem of incorporating reading skills necessary in all content areas. Because of this reality, some districts implement new literacy curriculums; however, many teachers reported being lost while attempting to incorporate this new material into their lessons. Sharon, a science teacher, reported "feeling lost on what to do when many of my students don't understand the basic reading skills

required to be successful so I must figure it out since their education is in my hands." As a result, when this happens teachers are often left to wrestle with the curriculum, the materials, and the impact of literacy-based programs into their instruction while providing support for struggling readers.

Teaching Reading is Definitely My Responsibility

All participants acknowledged being more than a content area teacher which was sometimes tough to wrap their minds around. Elizabeth, a math teacher, explained that she "knew and understood that she could not do the work of a reading specialist, yet she felt a sense of obligation and responsibility to meet students' needs, even when those needs were outside of her content area." Additionally, Carolyn similarly described that "content teachers aren't expected to perform the work of a reading specialist; however, all teachers should be prepared to teach reading skills in all classes." All participants were open to being trained on essential literacy instruction despite being math and science teachers since they believed they were responsible for their student's reading success being that it could also assist them with comprehension and success in life. Lynn believed that "in order to prepare students for careers or college, reading skills should be a part of all subject areas so I attempt to include some daily reading skills." Overall, participants believed that it takes a total buy-in of all teachers and administrators to make reading gains from students as ELA teachers cannot tackle this problem alone.

Many participants described themselves as content area teachers who assume the responsibilities of reading instructors. As such, participants perceived their role as teachers to be beyond their content area instruction and to students' literacy needs. Carolyn, a math teacher, reported, "I find myself focusing on what they know and how to complete the task" while

Sharon, a science teacher, stated that she "makes sure that students understand the vocabulary terms and assignments." These examples reveal how the participants perceived teaching reading as their responsibility and as it being important within their content areas. Additionally, Henry, a math teacher, revealed how "integrating reading into my math lessons is my responsibility." In contrast, some participants reported several of their teammates as believing reading instruction to be the sole responsibility of the ELA teacher; however, all participants disagreed with this concept. Lynn, a math teacher, reported teaching reading as "definitely an interdisciplinary responsibility in the building" to ensure students gain reading skills in all content areas. Carolyn, a science teacher, stated that "I must assist my students within my class to tackle the many struggles they have with reading because if I don't do then they won't get it."

Each participant agreed that allowing students to write in all content classes, improved their performance in ELA; however, it also improved their performance in their content area classes as well. This understanding revealed how participants perceived writing to be influential to content area reading instruction. Johnnie, a science teacher, believed that "getting students to read and write should be a norm, across the board" likewise; Elizabeth, a math teacher, agreed that "working to bridge the gap and having students write in any subject makes sense and helps everyone." As a result, participants continue to incorporate daily reading strategies into their lessons and took additional steps by offering opportunities to write by using daily writing prompts.

Additionally, participants reported there being an increased struggle with teaching content area material since many of their students struggled while reading so they took on dual teaching roles as they saw this as their responsibility. Casey revealed, "as a science teacher, you must pull out strategies which occur in ELA classes like, cause and effect and inference" to

improve reading skills; likewise, Carolyn provided "the ELA collaboration assisted me in my math class to gain hands-on experience" from skilled reading instructors. These examples revealed how participants perceived that collaborating with ELA teachers was an excellent promotor as they had more experience teaching reading and offered a great deal of strategies and support to assist struggling content teachers. Lynn then provided that "there should be an overall understanding of the achievement gap that needs to be bridged and should not be solely fixed by the ELA teacher." Overall, all participants acknowledged being more than a content area teacher, which stemmed from their firm belief and commitment to the process of integrating reading into content-area learning.

In conclusion, a definite link was displayed through all four primary themes which emerged from data collection and analysis. The four primary themes discussed were: 1) Participants' Perceptions of the Importance of Reading in Content Areas, 2) Participants' Key Classroom Reading Strategies, 3) Participants' Perceptions of Preparation for Teaching Reading, and 4) Participants' Perceptions of Their Own Responsibilities Regarding Content Reading. In particular, it was evident that teachers perceived their role as crucial in supporting content area reading for all students by providing reading strategies and particularly so for struggling readers. As a result, they took on dual teaching roles as they saw this issue as their responsibility despite being math and science teachers. These responsibilities are imperative in all content area classes and impacts students' reading practices.

Chapter Five

Discussion

The purpose of this interpretive case study was to explore middle school content area math and science teachers' perceptions of content area reading. According to Spitler (2012), content teachers' personal literacy identities impacts their usage of reading. By completing this study, I learned what teachers believed to support or impede their attempts to incorporate reading practices into their daily instruction. The following research questions assisted with directing the gathering and analysis of data regarding the factors which influenced reading instruction:

1. What reading strategies do math and science teachers describe using?

2. How do math and science teachers perceive their role in supporting content area reading?

3. What do math and science teachers perceive to influence content area reading instruction?

This study included nine middle school math and science teachers who were intentionally selected as participants due to their content area of focus and willingness to contribute to the research field. During the data analysis, four key themes emerged regarding the factors that math and science teachers perceived as vital to influencing their attempts to incorporate reading instruction in their content area. The four key themes which developed from the examination of the data were: a) Participants Perceptions of the Importance of Reading in Content Areas, b) Participants Key Classroom Reading Strategies, c) Participants Perceptions of the Challenges for Incorporating Reading Instruction and d) Teachers' Perceptions of Their Responsibilities Regarding Incorporating Reading.

This final chapter provides discussions for each of the four key themes and will make recommendations regarding research opportunities in areas which further research can be completed. In addition, the research questions will be explored in the context of existing literature. According to the findings, this chapter will also answer each research question along with providing implications and future recommendations to be discussed in detail.

Research Question 1: *What reading strategies do math and science teachers describe using?*

Participants were knowledgeable of effective reading strategies and identified numerous strategies used in their content area classrooms which assisted their students to become better readers. Conley et al. (2005) acknowledged that many teachers frequently demonstrated limited understanding of the approaches of the reading strategies that may be used explicitly in the subject matter. In contrast, the participants reported using various forms of reading strategies to assist students in their classrooms with reading skills. For example, vocabulary skills, graphic organizers, word walls and learning root words were the most commonly used strategies which ensured that students understood terminology in content area classes. Other participants reported using reading strategies such as brainstorming, webbing, popcorn reading, context clues, citing evidence, reading aloud, drawing, and writing and cause and effect which assisted students with comprehension and fluency skills. According to Benjamin (2007), math and science teachers incorporated various reading strategies within their classrooms to assist students with becoming better readers and writers. Both content areas signify a distinct and widely-identified content area reading debate that has its own methods to produce and communicate knowledge (Moje, 2008). Therefore, this research connected with the findings and confirmed that math and science teachers incorporated various reading strategies into their daily instruction. Clearly, this shows how the teachers of this study were adamant about helping their students to become better

readers while also experiencing a great deal of frustration due to a lack of support within their school district and school building.

In this study, the participants used various reading strategies to assist students; however, comprehension seemed to be the focal point for assisting many students. Participants admitted to previously assuming that when students were not equipped with specific reading skills, they simply needed more practice; however, they came to realize that without effective reading strategies from all teachers, more practice did not solve the problems of low reading and comprehension levels. Participants sensed the need to incorporate reading strategies within their content area to assist students with reading skills which in turn supported all content area teachers. Cronsberry's (2004) research connected with the findings and confirmed that reading strategies provided approaches to improving reading comprehension and reinforced understanding of subject-specific terminology by helping students with reading and writing.

Teachers reported that the days of teaching content material in isolation is far behind us since students now require additional reading support as it seems that incorporating reading skills into content area lessons are required for success. Teachers expressed that without the incorporation of daily reading skills that students would not have a chance of comprehending a great deal of material to become proficient readers. Clearly the findings aligned with, Hall's (2005) research who discovered teachers that seemed to oppose reading in their content areas; however, these teachers were receptive to incorporating various reading skills as they realized what the damage of not having the skills was creating within their content area. Teachers also experienced other difficulties which included an understanding of what should be taught and who should teach it (Ratekin et al., 1985). Students not being equipped with the required reading skills impeded the academic growth in math and science as students were not able to

comprehend terms and questions posed during lessons. A lack of proficient reading skills held

teachers back from covering the content standards required for testing. Therefore, incorporating

reading strategies such as vocabulary techniques was a necessity for students' success so instead

of focusing only on unknown terms, teachers should be certain that students fully understand the

instructional tasks (International Reading Association, 2014). This goal was accomplished as

teachers incorporated various instructional tasks within content areas to ensure the success of

their students. It was found that teachers talked through terms to assist students with their

understanding of what was being asked of them by helping them to comprehend actual meanings

while connecting those terms in other aspects of their lives. These findings also correlated with

the restructuring of learning materials or strategies in various ways which often led to increased

vocabulary (National Reading Panel, 2000). Teachers confirmed that without the incorporation

of reading strategies, (e.g., vocabulary, comprehension) students will continue to struggle

academically.

Seven participants implemented the sociocultural theory by developing students' reading

skills and by acknowledging how their perceptions regarding reading instruction influenced their

students' learning. Meanwhile, Bean (1997) confirmed how the sociocultural theory focused on

developing individuals while also focusing on how one's perceptions and how it may have

influenced learning and instruction. Whereas, more seasoned educators were more likely to

implement various teaching strategies while teachers who were new to the field may have second

thoughts of such implementations (Bean, 1997). Their support regarding students' reading and

writing abilities assisted with developing better reading and writers. Additionally, to support

their students' learning and development, some teachers taught reading and writing together.

According to the focus groups and individual interviews, teachers appeared to understand the

importance of the sociocultural approach while also articulating and implementing such approaches by continuously attempting to develop their students into literate individuals. Ultimately, there were various key reading strategies which participants reported as incorporating into math and science lessons to assist their students with increasing reading skills.

Research Question 2: *How do math and science teachers perceive their role in supporting content area reading?*

Data revealed that teachers perceived their role in supporting reading skills as a requirement for student success across all content areas which backs Guskey's (1986) research that "it is essential for everyone directly involved with students and whose actions directly influence their learning" to assist with the process of educating students (p. 73). Participants believed that the involvement of everyone demonstrated the importance of reading achievement which taught students that reading should also be of importance to them which contradicted Spencer's et al. (2008) report that how secondary school teachers categorized reading to be of relatively small importance and was also the responsibility of the English Department. As Hall (2005) reported, teachers who were open to the possibilities of teaching reading in specific content areas saw it as assistance within their content area while increasing the knowledge of their students. Particularly, teachers emphasized a push for all content areas to incorporate reading strategies which allowed everyone to benefit academically. Teachers believed that I to truly support students, they must prepare them to make meaning of every depiction, or text they will encounter regardless of the subject area. To teachers, it seemed that students who were placed in situations where they witnessed repetition, were provided with more information that began to stick with them and made more sense when it was seen in all areas. Ultimately, teachers incorporating reading strategies in to their content area speaks volumes and shows

students their position towards learning and the importance of reading skills. Contradictory to Cantrell et al. (2009), which specified that problems with teaching subjects in various content areas can impede the motivation of those teachers to abort the use of the traditional pedagogical methods, traditional methods were being revised to reach all types of learners who have various learning levels. The teachers were eager to incorporate non-traditional methods as they provided better learning outcomes in content areas. Indeed, participants' positive perceptions of their role in teaching reading demonstrated how they all have a duty to support their English Language Arts (ELA) colleagues since reading skills benefit all which links to the 77% percent of educators who were surveyed and accepted reading as being necessary to their content area and who also surveyed themselves as being a reading instructor (Cantrell et al., 2009). Teachers found that reiterating reading strategies and vocabulary terms, improved the student quality as they moved from one grade to the next. Assisting with reading skills cannot be viewed as someone else's duty since there was a direct effect in all subject areas and by placing this huge task on ELA teachers means that students will miss certain strategies as it is impossible to cover an enormous amount of skills during such short time frames. These findings demonstrated how vocabulary knowledge increased word consciousness in all areas which also increases "an awareness of an interest in words and their meanings" (Graves 2009, p. 7) which connected reading skills to other subject areas, the entire school and real-life interactions.

Teachers felt the need to create safe environments by encouraging other content area teachers and students to buy-in to the reading initiatives which could increase student achievement. A major finding revealed a lack of understanding basic skills amongst students which required additional reading instruction to support struggling learners as teachers attempted to tackle the reading requirements of math and science. Teachers took accountability for

supporting reading skills instruction as it revealed the necessity for content area teachers to involve students in custom-made reading activities. Therefore, teaching reading skills in math and science classrooms was viewed at as a requirement and not an extra responsibility. This study's findings revealed that Heller and Greenleaf's (2007) research which stated that teaching reading and writing in the secondary setting was no one specific person's obligation and was not a direct connection to the findings of this study.

Once again, all participants agreed that without their support of incorporating reading, students would fall farther behind which would only increase the problem of comprehension and without the assistance of all teachers, students would not gain the required skills to academically achieve. Furthermore, teachers who supported students with developing reading skills would have definite impacts on students' academics and lives in the years to come. Teachers knew their support would assist their students' professions, and life decisions as they could rest upon how they decided to help students with reading skills. Finally, it was confirmed by teachers that it takes an educational community to make a difference for students, so their support was not a choice, but was mandatory which again upholds Guskey's (1986) claims regarding everyone being directly involved with student's learning.

Research Question 3: *What do math and science teachers perceive to influence content area reading instruction?*

According to Hindman & Wasik (2008), teachers' beliefs regarding reading practices may impact how students learn during reading instruction. When teachers had positive perceptions regarding the incorporation of reading skills in their content areas, students began to see the importance of it as well and began to improve their skills, so teachers found that incorporating reading strategies was a requirement. I found that many participants initially

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doubted their ability to effectively teach reading skills, but later improved their teaching methods to enhance student's skills by obtaining in-depth understandings of what reading skills students lacked. My findings were supported with Greenleaf et al., (2001) which examined math and science content area teachers who displayed great levels of certainty or assurance in their area of skill; however, they frequently doubted their own adequate knowledge, ability, or preparation for incorporating reading instruction into their area of focus or for attending to students' basic reading requirements. Findings also revealed how not being an education major was a true concern for many since they lacked the confidence and skills to properly incorporate reading skills in math and science classes. In many cases, participants were no confident at some point in their career regarding the implementation of reading skills; however, they continued to obtain the most effective strategies for their students while collaborating with various teachers in the school building. Content area teachers may demonstrate a sense of assurance or capability within their own content areas, but they typically were not willing to admit not being equipped with knowledge, abilities, or the preparation of including reading standards or strategies into their specific content areas to assist with their students' basic reading needs (Greenleaf et al., 2001). On the other hand, the studied teachers reported feelings of not being equipped with the necessary reading skills to effectively teach their students.

Data revealed how many participants of the study considered themselves as inadequately prepared as how to incorporate reading strategies into their content area's instruction. These findings validate on-going research suggesting that a great deal of content area teachers take on the difficult task of teaching reading, but many truly believe they may not be equipped to successfully meet the reading demands of their student population (Delany, 2005). Teachers are now equipping themselves with the required resources and skills needed to battle the low reading

skills issues which exists amongst their students. It has not been an easy road to travel, but learning what students needed continues to assist with reading instruction while also believing that students could master specific tasks which also instilled greater amounts of academic confidence.

According to Cantrell et al. (2009), many teachers were not appropriately trained on how to apply reading strategies in their classroom's instruction as this backed up my study's findings regarding participants lacking training or professional development opportunities from their educational programs or from their school district. Furthermore, Cantrell et al. (2009) mentioned that in current years, non-reading teachers perceived reading integration as a difficult task to instruct within their content area nevertheless; teachers might not have the assurance of being well prepared to provide the reading requirements to their students. Data corelates with findings concerning participant's reports of receiving limited reading instruction training during their college years while also reporting not receiving any training due to the non-traditional route taken after previously working in different careers. Participants also reported that previous states of employment only required content area certification courses prior to teaching middle school students. Therefore, a great deal of focus was not placed on reading instruction since it was not required to complete a degree which also confirms Cantrell's (2009) findings.

Although participants lacked the training, confidence, and/or skills required to incorporate reading, they felt responsible and vested in the students' education to prepare them for success. For example, one participant mentioned how they received support from their English Language Arts (ELA) colleagues in working with the students reading deficiency. These findings confirmed Dupuis et al., (1979) claims regarding many hands working to ensure that our youth are reading educated. Knowing that students struggled to complete basic activities could

not go ignored so many participants have vowed to do something about it. Darling-Hammond (2000) later found teachers to have considerable obligations about incorporating reading strategies in their own content areas; however, they did not believe that they were totally trained to encounter the reading needs of their students for various reasons that particularly focused on their lack of content knowledge and time within the school day.

Participants reported teaching students reading strategies in math and science assisted them with their comprehension skills in other content areas; however, in many cases it reduced the amount of time they spent on content material which confirms how many content area teachers believed that while instructing reading skills was important, the instruction itself took away from the time content material must be taught to the students (Hall, 2005). Study findings also supported Deshler, et al., (2001) regarding curriculums not allowing enough time for the integration of reading strategy instruction. Participants believed that additional time should be given during class periods to ensure the standards were taught with the incorporation of reading skills.

Overall, teaching reading benefited students to comprehend information at faster rates which improved academics school-wide. It was originally thought of as an additional task; however, teachers grew to believe that incorporating reading strategies assisted with the comprehension of their content material. Nevertheless, time remained an issue affirming Park and Osborne's (2006) findings regarding many content area teachers believing that instructing reading skills takes from the time content material must be taught to the students. Data revealed that teachers found these additional tasks as necessary within their content if success was expected.

Findings revealed how the use of reading skills while studying science content

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strengthened and developed students scientific reasoning skills (Hapgood & Palincsar, 2007) which was found to be a huge benefit in science. Teachers' beliefs regarding content area reading frequently operated as obstacles to execute in a lesson. Participants confirmed their feelings regarding administrators and district leaders making reading skills a priority if they ever intend to increase reading abilities across the board. These feelings linked with Guskey (1986) who concluded that "regardless of how schools are structured or restructured, formed or reformed, staff development is essential for everyone directly involved with students and whose actions directly influence their learning" (p. 73).

Teachers reported being interested in various trainings to assist with their needs of incorporating helpful reading strategies in content area classes; however, effective ways regarding the education of teachers must be identified to develop learning that empowers them to investigate teaching methods and to consider and arrange for content reading instruction (Conley, et al., 2005) & (O'Brien et al., 1995). Teachers also requested hands-on training which allowed co-teaching and observations to occur in various content areas. Anders and Levine (1990) argued for the adjustment in teacher practices which should require new teaching systems, but also that teachers should have chances to encounter the practices, apply them, study them, and adjust them for their own utilization. If teachers are not allowed to practice, apply, study and adjust strategies then true incorporation cannot occur due to a lack of connections with the material.

Teachers reported that effective professional development allowed them to create the skills and knowledge needed to tackle students' reading challenges. Effective professional development requires considerate planning followed by thorough implementation along with feedback to ensure that it responds to the teacher's identified needs and Greenleaf and

Schoenbach, (2004) confirms that professional development helps teachers and their students' reading activities, along with empowering teachers to create more profound understandings of reading and further positive viewpoints on the learning abilities of their students. Teachers who partake in professional development must incorporate their new skills and knowledge to work. Professional development was not considered as effective unless it allowed for teachers to advance in their instruction or demonstrated how administrators have become better leaders. Guskey (1986) examined that teachers were more prone to employ learning from professional development when they were provided with broad, diverse, and progressing chances to see successful instruction in their own classrooms which demonstrated findings connected with accomplished research.

Recommendations for Further Research

This study found that one group of teachers considered themselves as not prepared to teach reading skills within their content area courses due to a lack of school, district and Principal support along with there being a lack of reading courses and programs offered by universities and colleges. Many considered themselves inadequately prepared as to how to integrate reading strategies into their content area's instruction just as Park and Osborne (2006) asserted regarding non-reading teachers seeing themselves as inadequate reading skills managers. Also, school district's professional developments fall short on providing non-English Language Arts teachers the resources and strategies required to assist with increasing reading achievement within content areas. Research regarding how to better equip content area teachers with reading strategies would be an asset to the field of adolescent literacy. Studies as to how effective ELA collaboration could provide valuable instructional, planning and time management models for content area teachers who seek to restructure their teaching to increase literacy

instruction could be a productive link to research in the field. Teachers in various states are required to undertake a specific amount of professional development hours annually. This requirement is typically met through attendance at school-wide monthly teacher meetings and one or two-day conferences, with few, if any, hours devoted to addressing any individual teacher's specific reading instruction needs. Shockingly, teachers have little responsibility, involvement, or accountability in directing this professional development.

Implications

Founded on the results of this study, the following implications were made:

Teachers should:

1. Learn, understand, and implement how reading skills are taught through various content area courses. Teachers seem willing to gain the required skills necessary to assist their students with becoming proficient readers.

2. Reflect on the learned reading strategies and how to implement them in their daily lessons.

3. Continue to motivate students to be more involved with literacy in all content areas.

4. Realize how their perceptions regarding reading impacts students.

5. Realize the vital role they play in literacy education.

Principals and school districts should:

1. Offer greater opportunities for teachers to attend effective professional development which focuses on the implementation of reading in content area classes. Teachers appear eager to incorporate reading skills by collaborating with ELA peers.

2. Provide teachers with classroom environments that are conducive to students' literacy learning and development.

3. Create courses which include more reading skills.

4. Provide teachers with additional opportunities to implement reading skills while teaching content material.

5. Provide teachers with the necessary resources required to reach struggling readers.

6. Recognize the significance of reading skills in all content areas.

I recommend that university and college programs and school district level professional development teams perform thorough evaluations to develop new guidelines that incorporate content area reading strategies which equip all content area teachers. I would also recommend the incorporation of all content area classes to include reading instruction which would increase the daily reading practices that students receive. My final recommendation would be to add reading teachers back into all schools on all grade levels to ensure that all students obtain the basic reading skills required to become proficient readers. I would begin by understanding that ELA teachers cannot include the many mandated language standards into their daily lessons required by the state which would allow for reading teachers to assist with the basic skills required for students to be successful in ELA classes.

Conclusion

This interpretive case study began as an investigation to explore middle school content area math and science teachers' perceptions of content area reading and what influenced their attempts to incorporate reading practices in to their daily teaching. Considering what we as educators know academically, believe spiritually and do unconditionally for our students puts us

in a position of wondering how to make a connection and put a plan in action. This study was launched from both a scholarly and personal interest in exploring teachers' perceptions and teaching efforts in hopes of gaining insight on how to support content area teachers who attempt to address the reading needs of our youth. I am optimistic about current knowledge and the latest viewpoints that evolved during this study and it was my hope that these findings would make meaningful contributions in the reading field.

The participants' identification of the challenges which supported or impeded their efforts to incorporate reading skills in to their instruction included many beneficial implications for schools and districts attempting to develop content area literacy plans. Students' abilities to comprehend texts, content area teachers' abilities to effectively provide reading instruction and a lack of content area reading resources were some major challenges identified by participants. Another challenge identified by participants was the amount of instructional time provided for content area classes, regardless of the amount of planning time offered by the school, participants still felt time was a challenge. A lack of instructional time continues to be an obstacle amongst content area teachers regarding the incorporation of reading skills.

Content teachers require assistance organizing collaborative time which maximizes their effectiveness. Procedures should be put in place regarding meetings and strategies to be modelled by experts in the field along with providing practice and implementation opportunities. Teachers believe they have responsibilities of providing effective reading instruction, but they still struggle with how to accomplish the task. Removing challenges does not assist teachers as long as how to effectively incorporate reading skills continues to arise. Teachers must understand that teaching reading through content area courses offers great opportunities for students to engage in reading skilled activities that could increase student's comprehension

levels. Providing classroom environments that encourage reading instruction allows greater

opportunities for student development and learning.

Dear ABC Middle School Teacher:

If you have received this email, then you are an ABC Middle School content area teacher within the areas of science and math who was selected to participate in a research study regarding teaching content area reading. This study will examine content area teacher's perceptions regarding the factors that either support or impede your efforts to incorporate reading strategies into your daily instruction. As a content area teacher, your participation and feedback are vital to assisting me to better comprehend teachers' perceptions regarding content reading. Your agreement to participate in this study, will contribute to my understanding of how to better assist you as the classroom teacher and your students to create high levels of academic reading strategies in your classroom.

Furthermore, participating in this study may offer opportunities for reflection of your own teaching regarding teaching across content areas. There is no guarantee that you will get any benefit from taking part in this study; however, your willingness to take part may, in the future, help society as a whole to better understand this research topic.

Confidential information connected to the research study will be transferred to a secured online storage for three years. At the end of three years, all data connected to this study will be destroyed. Any individual participating in this research study is guaranteed privacy outside of the focus groups rounds. Consequently, no identifying information for participants will be revealed in written or verbal form.

Your informed consent to participate will be given through a signature. You may withdraw from participating in this survey at any time and without penalty. To the extent allowed by law, your information will be kept confidential, and only focus group results, not individual responses, will be reported.

At the beginning of this process, you will be asked to provide your name; however, *your name will ONLY be seen by the researcher and will only be used as a means to identify teachers to participate in the follow-up interviews.*

This background collection process will ONLY require approximately 10 minutes of your time. Your personal information will be kept confidential via the secured online storage for three years, and your school name will not appear on the findings.

If you decide to participate or may have questions or concerns regarding this study, please contact me at (901) 496-6464 or asburks@memphis.edu if you have any questions regarding this research. She is being guided in this research by *Dr. Laurie MacGillvray, Advisor, please contact her at (901) 678- 2365 or lmcgllvr@memphis.edu* if you have any additional questions regarding this research.

Printed Name: _____

Signature: _____

Sincerely,
Angelica S. Burks-Henley, Student
Department: Instruction, Curriculum & Assessment
The University of Memphis

Appendix B: Background Information Questionnaire

Modified from Nahmias, C.K. (2010)

This questionnaire was created to collect background information regarding the academic reading practices that you may utilize within your content area classroom. All information provided will assist in gathering insight in the reading instructional strategies needed in order improve reading within your content area. All responses are confidential beyond those participating in the focus group and the research team and will be kept secured on an online storage for three years. Recorded responses will only be viewed by you and the research team.

1. Please create an 8-digit numeric identifier (Example: 01311985)

2. Please indicate your grade level.

3. Please indicate the subject(s) that you currently teach.

Describe the degree to which you use content area reading strategies?

4) Please list and briefly explain the two major factors that you believe supports your efforts to assist students with reading content area material within your classroom.

5) Please list and briefly explain the two major factors that you believe inhibits your efforts to assist students with reading content area material within your classroom.

6) What two strategies do you incorporate most often to assist your students with reading content area material within your classroom?

7. On average, how much time do your students spend reading IN YOUR CLASS each week? In estimating time, please include time spent reading any course-related materials (i.e., textbooks, articles, notes, etc.)

- ☐ no class time is spent reading
- ☐ less than 50% of class time
- ☐ 51%-80% of class time
- ☐ more than 80% of class time

8. **What instructional strategies (if any) do you use in your classroom to help students better comprehend your content area texts?**
    ☐ Exit Slips
    ☐ Inference
    ☐ Summarizing
    ☐ Think A-loud
    ☐ QAR (Question Answer Relationships)

9. **For EACH of the following instructional strategies, please indicate whether you've tried it in the last year.**
    ☐ teaching key vocabulary (using graphic organizers, logographic cues, etc.)
    ☐ summarizing
    ☐ Question-Answer Relationships
    ☐ setting a purpose for reading (anticipation guides, study guides, etc.)
    ☐ TPRC (Think, Predict, Read, Connect)

10. **Of the strategies you've tried or learned about, which TWO do you think have been or have the potential to be the most effective in helping improve your students' reading comprehension?**

    1.

    2.

11. **The purpose of reading instruction is to teach students to recognize words and to pronounce them correctly.**
    ☐ Strongly Agree
    ☐ Agree
    ☐ Neutral
    ☐ Disagree
    ☐ Strongly Disagree

12. **Reading and writing are unrelated processes.**

    ☐ Strongly Agree
    ☐ Agree
    ☐ Neutral
    ☐ Disagree
    ☐ Strongly Disagree

13. **It is not necessary for students to write text on a daily basis.**
    ☐ Strongly Agree
    ☐ Agree
    ☐ Neutral
    ☐ Disagree
    ☐ Strongly Disagree

14. **The purpose of reading is to understand print.**
    ☐ Strongly Agree
    ☐ Agree
    ☐ Neutral
    ☐ Disagree
    ☐ Strongly Disagree

15. Instruction should always be delivered to small groups.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

16. Subjects should be integrated across the curriculum.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

17. Students need to write for a variety of purposes.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

18. Teachers' attitudes toward reading affect students' progress.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

19. Reading is critical to students' ability to understand key concepts in my class.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

20. Middle school teachers can help struggling readers to become better readers.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

21. The responsibility for teaching students to read lies primarily with the elementary school teacher.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

22. Content-area teachers are responsible for helping students to read course texts better.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

23. Reading in the content areas (science, social studies, math) requires different skills than reading fiction.
☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

24. Many students in my class struggle with simple decoding of content-area texts.
☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

25. Students who do not read well tend to struggle in my class more than students who do read well.
☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

26. Students who read well in language arts classes generally read well in all of their classes.
☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

27. Vocabulary has a big impact on my students' ability to read and understand texts in my class.
☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

28. Middle school students who don't read well can be taught to read better.
☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

29. Most students' struggles in content area reading stem from comprehension problems
☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

Thank you for completing this questionnaire. I will be contacting you soon regarding your participation in a focus group which will include your peers to discuss your perceptions about the challenges of implementing reading strategies in your classroom.

Appendix C: Informed Consent Form to Participate in a Research Study

memphis.edu/rsp/compliance/irb

Middle School Teacher's Perceptions

This information is being hand delivered to you because you are being invited to take part in a research study about math & science teachers' perceptions regarding the incorporation of reading strategies. You are being invited to take part in this research study because you teach either math or science. If you volunteer to take part in this study, you will be one of about 9 people to do so.

The person in charge of this study is Angelica S. Burks-Henley of University of Memphis Department of Instructional Curriculum and Leadership. There may be other people on the research team assisting at different times during the study.

The purpose of this interpretive case study is to explore middle school content area math and science teachers' perceptions of content area reading. By completing this study, we hope to learn what influences their attempts to incorporate reading practices into their daily teaching.

The research procedures will be conducted at ABC Middle School. You will need to remain at ABC Middle School after 3:30 pm during the study. Each focus group round will take about one hour. The total amount of time you will be asked to volunteer for this study is 4 hours each over the next few months. Approximately 3 hours will be spent in two focus group sessions along with 1 hour for an individual interview.

As a content area teacher, you will be asked to participate in a series of discussions to provide feedback that may be vital to assisting me to better comprehend teachers' perceptions regarding content reading with your content area.

To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life. You may find some questions I ask you to not be directly related to your content area.

There is no guarantee that you will get any benefit from taking part in this study; however, your willingness to take part may, in the future, help society as a whole better understand this research topic.

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering. If you decide not to take part in this study, your decision will have no effect on the quality of services you currently receive.

If you do not want to be in the study, there are no other choices except not to take part in the study. There are no costs associated with taking part in the study. All participants will receive a $10 Walgreen's gift card for taking part in entire study.

We will make every effort to keep private all research records that identify you individually to the extent allowed by law. Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be personally identified in these written materials. We may publish the results of this study; however, we will keep your name, the school's name and other identifying information private.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. The protected storage of data is for the protection of participants and the reputation of the University of Memphis. Confidential information connected to the research study will be

transferred to a secured online storage for three years. At the end of three years, all data connected to this study will be destroyed. Any individual participating in this research study is guaranteed privacy outside of the focus groups rounds. Consequently, no identifying information for participants will be revealed in written or verbal form.

We will keep private all research records that identify you to the extent allowed by law; however, there are some circumstances in which we may have to show your information to other people for example, the law may require us to show your information to a court or to tell authorities if you report information about a child being abused or if you pose a danger to yourself or someone else. Also, we may be required to show information which identifies you to people who need to be sure we have done the research correctly; these could be people from such organizations as the University of Memphis.

If you decide to take part in the study you still have the right to decide at any time that you no longer want to continue. You will not be treated differently if you decide to stop taking part in the study. The individuals conducting the study may need to withdraw you from the study. This may occur if you are not able to follow the directions they give you, if they find that your being in the study is more risk than benefit to you, or if the agency funding the study decides to stop the study early for a variety of scientific reasons. You may take part in this study if you are currently involved in another research study

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions, suggestions, concerns, or complaints about the study, you can contact the investigator, Angelica S. Burks-Henley at 901.496.6464. She is being guided in this research by *Dr. Laurie MacGillvray, Advisor, please contact her at (901) 678- 2365 or lmcgllvr@memphis.edu* if you have any questions regarding this research. If you have any questions about your rights as a volunteer in this research, contact the Institutional Review Board staff at the University of Memphis at 901-678-2705. We will give you a signed copy of this consent form to take with you.

If the researcher learns of new information regarding this study, and it might change your willingness to stay in this study, the information will be provided to you. You may be asked to sign a new informed consent form if the information is provided to you after you have joined the study.

Focus group participants will be informed that it is important to keep what is said in the focus group setting private. Also as the investigator I cannot ensure that participants will keep what is said private.

I understand that I am consenting to be audio-recorded in the focus groups and individual interviews. I also understand that participate created identifiers will be associated with your responses.

_____   _____
Signature of person agreeing to take part in the study   Date

_____
Printed name of person agreeing to take part in the study

_____   _____
Name of [authorized] person obtaining informed consent   Date

Appendix D

Table 4.2: *Background Question Participant's Individual Responses*

Statement	Carolyn	Johnnie	Elizabeth	Frank	Lynn	Henry	Casey	Sharon
The purpose of reading instruction is to teach students to recognize words and to pronounce them correctly.	4	4	3	4	2	4	3	2
Reading and writing are unrelated processes.	4	5	4	5	4	5	5	4
It is not necessary for students to write text on a daily basis.	1	4	5	5	4	4	5	5
The purpose of reading is to understand print.	2	3	4	1	3	1	1	3
Instruction should always be delivered to small groups.	3	4	3	1	4	4	4	4
Subjects should be integrated across the curriculum.	1	1	3	2	2	2	2	1
Students need to write for a variety of purposes.	1	1	2	1	2	2	2	1
Teachers' attitudes toward reading affect students' progress.	1	1	2	1	2	3	2	2
Reading is critical to students' ability to understand key concepts in my class.	1	1	2	1	2	1	2	2
Middle school teachers can help struggling readers to become better readers.	1	2	2	1	2	2	1	1
The responsibility for teaching students to read lies primarily with the elementary school teacher.	4	1	4	4	4	5	4	5
Content-area teachers are responsible for helping students to read course texts better.	2	3	3	2	3	2	2	2
Reading in the content areas (science, social studies, math) requires different skills than reading fiction.	4	2	4	5	3	4	4	4
Many students in my class struggle with simple decoding of content-area texts	1	2	3	2	2	3	2	2
Students who do not read well tend to struggle in my class more than students who do read well	2	1	3	1	2	1	2	2
Students who read well in language arts classes generally read well in all of their classes.	2	1	2	1	2	1	1	1
Vocabulary has a big impact on my students' ability to read and understand texts in my class.	1	2	2	1	2	2	2	1
Middle school students who don't read well can be taught to read better.	1	2	1	1	2	1	2	2
Most students' struggles in content area reading stem from comprehension problems	4	1	2	2	2	2	2	3

(1) Strongly Agree   (2) Agree   (3) Neutral   (4) Disagree   (5) Strongly Disagree

Appendix E: Focus Group Interview Protocol

Modified from Nahmias, C.K. (2010)

After all the arrival of the participants, the audio recorder will be turned on and the

following set of directions will be read aloud to the entire group:

Good afternoon! Thank you so much for agreeing to participate in this focus group interview today. The purpose of this interview will be to gather your perceptions regarding the factors that support or impede your efforts to incorporate reading, writing or reading strategies into your daily classroom instruction. I have a series of questions that I will use to facilitate our discussion on today. You are free to directly answer my questions, respond or comment to other participants, or ask me questions to clarify what is being asked. Follow-up questions may be asked at different points to explore an individual's thinking process or the thinking process of the group as a whole. Today we will be focusing on your roles and perceptions regarding implementing reading instruction with your content area.

Are there any questions that need to be addressed before we begin this session?

Focus Group One Questions for Math Teachers:

1. In your grade level, or at your school, what role does reading play in your students' mastery of your

subject area content? What should it play or what does it play?

2. What responsibility does your content area of teachers have, to help students read better?

3. What obstacles have teachers in your content area faced in trying to help students comprehend subject

area texts?

4. What are the content area reading strategies that teachers report using in their classrooms?

5. What factors contribute to the success of teaching reading in your content area?

6. What experiences of professional development has helped teachers in your content area to infuse

reading strategy instruction into their classroom?

7. Was pre-service teacher training within your content area effective in preparing teachers like yourself to

teach reading strategies to middle school students?

Focus Group Two Questions for Science Teachers:

1. In your grade level, or at your school, what role does reading play in your students' mastery of your subject area content? What should it play or what does it play?

2. What responsibility does your content area of teachers have, to help students read better?

3. What obstacles have teachers in your content area faced in trying to help students comprehend subject area texts?

4. What are the content area reading strategies that teachers report using in their classrooms?

5. What factors contribute to the success of teaching reading in your content area?

6. What experiences of professional development has helped teachers in your content area to infuse reading strategy instruction into their classroom?

7. Was pre-service teacher training within your content area effective in preparing teachers like yourself to teach reading strategies to middle school students?

Focus Group Three Questions for All Participants:

1. How do teachers in your school perceive their responsibilities in helping students to comprehend texts in their classes?

2. What are the factors that teachers perceive as most significant in inhibiting their efforts to provide content area reading instruction?

3. How does administration in this school support the teaching of reading in your content area classes?

4. What is the role of the administration in supporting teaching reading in your content area classes?

5. What role has the instructional coach played in attempting to use reading strategies in your content area?

Appendix F: Data Collection Stage Process

Event	Date to be accomplished	Research Question 1 What reading strategies do math & science teachers describe using?	Research Question 2 How do math & science teachers perceive their role in supporting content area reading?	Research Question 3 What do math and science teachers perceive to influence instruction of content area reading instruction?
IRB Approval				
Request to Conduct Research				
Solicit Teacher Participants				
Provide Informed Consent Information				
Collect Background Information				
Analyze Data				
Select Purposeful Sample for Focus Groups				
Email Invitation to Participate in Focus Group Interviews				
Conduct Focus Group Session One with Math Teachers				
Note Taking				
Analyze Data				
Conduct Focus Group Session Two with Science Teachers				
Note Taking				
Analyze Data				
Conduct Focus Group Session Three with All Participants				
Note Taking				
Analyze Data				

Conduct Individual Interviews				
Member Checks				
Analyze Data				
Code Data				
Member Checks				
Write Chapter 4: Data Analysis and Findings				
Write Chapter 5: Conclusions and Implications				
Set Defense Date Revisions to Methods				
Based on Committee Feedback				

Appendix G: Individual Interview Protocol

After the focus groups have ended, each participant will be individually interviewed to allow each teacher to provide more in-depth details regarding their classroom or content area. The audio recorder will be turned on and the following set of directions will be read aloud to the entire participant:

Good afternoon! Thank you so much for agreeing to participate in this individual interview today. The purpose of this interview will be to gather your perceptions regarding the factors that support or impede your efforts to incorporate reading instructional strategies into your daily classroom instruction. I have a series of questions that I will use to facilitate our discussion on today. You are free to directly answer my questions or ask me questions to clarify what is being asked. Follow-up questions may be asked at different points to explore your thinking process. Today we will focus on your roles and perceptions regarding implementing reading instruction with your content area.

Are there any questions that need to be addressed before we begin this session?

1. Now that you've heard your colleagues, how do you now perceive your daily responsibilities in helping students to comprehend texts in your class?

2. What are the factors that you perceive as most significant in inhibiting efforts to provide content area reading instruction within your class daily or weekly?

3. How do you perceive the administration's support of teaching reading in your content area class?

4. What is the role of the administration in supporting the teaching of reading in your content area class?

5. After participating in the focus groups, how do you perceive your administrator's interactions with you regarding the support of content area reading?

6. After talking with your peers in the focus groups, have you had any new thoughts regarding content reading? Is there anything else that you would like to share?

7. Has participating in the study impacted the way you think about content area reading?

Appendix H: Word Cloud

Appendix I: Participant Individual Key Classroom Reading Strategies

Reading Strategy	Math6 Carolyn	Math6 Henry	Math7 Elizabeth	Math8 Frank	Math8 Lynn	Science6 Johnnie	Science7 Casey	Science8 Sharon	Total
Exit Slips	X			X	X	X	X		5
Inferencing		X					X		2
Summarizing	X	X			X	X	X		5
Think A-loud			X		X		X		3
QAR (Question Answer Relationship)		X		X	X	X	X		5
Vocabulary (Graphic Organizers)	X	X	X	X	X	X	X	X	8
Anticipatory Guides						X	X		2
TPRC (Think, Predict, Read & Connect)					X				1

*X represents participants reporting of reading strategy

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