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Interpreting Middle and High School Teacher Concerns Toward RTI Implementation

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Walden University
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Abstract

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MA, The Ohio State University, 1986

BA, Saint Augustine's University 1985

Dissertation Submitted in Partial Fulfillment

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Abstract

Research exists about secondary school Response to Intervention (RTI) models, but little is known about the concerns of middle and high school teachers who are working together to implement RTI practices as a shared responsibility. The extensive body of documentation on RTI at the elementary level has not helped educators develop systematic RTI implementation practices across all levels (Ehren, 2013). The purpose of this quantitative study was to determine whether there were differences in practice concerns, if any among middle school and high school teachers' RTI practice concerns when measured by the Impact Stage of the Stages of Concern Questionnaire (SoCQ). The theory of planned behavior informed the framework for this research. A Snowball Sampling strategy was used to recruit a total of 31 general education teachers from a Northeastern USA County. Data from teacher's SoCQ were analyzed using ANOVA to investigate the differences in concerns, if any between middle school teachers in Grades 6-8 and high school teachers in Grades 9-12 about RTI practices. The results indicated no differences between 6-8 and 9-12 grade teacher concerns for all questions. Findings from this research may reinforce the importance of discussions about sharing RTI practice concerns between middle and high school teachers. Such conversations may foster more collaborative teacher working relationships which may lead to better implementation of the RTI initiative across grade levels for improved student learning outcomes.

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Dedication

To my Lord and Savior Jesus Christ, who predestined and carried me through the highways and byways of life to this point in time. My life is dedicated to serving in the capacity you designed for me to meet the needs of your people. To my mother and grandmother who daily stressed the importance of education and how important it was to secure my place in the world by making a positive contribution to it long after they were gone. To my dad for giving me the drive to develop beyond my present state. To my husband Walter and son Sidney for understanding my drive and commitment to use education as the vehicle through which all children can obtain a better way of life. To Dr. Deborah Jones who knows the right thing to tell me at the right time to get me to the next level. I am grateful for our friendship through the years. To Dr. John Flohr who steadied me and knew how to light a fire underneath me to get me to move in the right direction I thank you. To Dr. Wade Smith, a comrade and team member who helped change my perspective on things I had overlooked. Finally, to Dr. Richard Nemiroff for helping me to focus on maintaining good health throughout the process so that I could go on to make positive contributions to society beyond the degree process. To the beloved Mrs. Eloise R. Stone, mentor and friend during my Ohio State University graduate years, your wisdom has become a mainstay and still accompanies me on the journey. Peace and blessings to you all.

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To my committee chair, Dr. John Flohr, thank you for your guidance and facilitation of the doctoral process. Your willingness to accept and understanding of my style of working (independence of mind until I could work through it) is much appreciated. A special thank you to Dr. Wade Smith, my methodologist who knew the right questions to ask to get my thinking on the right track. To Dr. Michelle Brown, URR, I thank you for your concern when I ran into blockages on the road to data collection. Dr. Deborah L. Jones, you have been a boss, colleague, coach, and friend. Thank you for consistently encouraging me to pursue this journey and standing by while I completed it. Finally, I want to acknowledge myself for my commitment and steadfastness toward completing this goal. As I carry this work into the world to make a difference in the lives of people I am reminded of I Corinthians 15:58 Therefore, my beloved brethren, be ye steadfast, unmovable, always abounding in the work of the Lord, forasmuch as ye know that your labor is not in vain in the Lord.

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Chapter 1: Introduction to the Study

Introduction

Educators have faced problems developing system-wide approaches to Response to Intervention (RTI) implementation (Ehren, 2013). RTI, as an educational reform, affects all levels of the system making RTI implementation important to the decision-making of many educators (Meyer & Behar-Horenstein, 2015). Although literature supports the implementation of RTI in elementary schools (Bouck & Cosby, 2017), there are still questions about the most efficient way to systematize RTI in secondary schools (Ciullo et al., 2016). Many middle and high school educators consider it an urgent need to develop and use the RTI model to collect data and make decisions that benefit all learners (Casey et al., 2012, p. 109). The purpose of this study was to determine if there were differences in practice concerns among middle school and high school teachers regarding RTI as measured by the Impact Stage of the Stages of Concern Questionnaire (SoCQ; George, Hall & Stiegelbauer, 2006).

Early detection of students that struggle academically can serve as a preventative measure in RTI implementation. Identifying struggling students early helps integrate the instruction process which is of significant benefit to older students according to Sanger, Friedli, Snow, and Ritzman, (2012, p. 103). The ability to make valid decisions about middle school student performance leading to high school can improve student outcomes and create shared practices (Johnson & Smith, 2011). Sanger et al. argued that RTI model development in middle school is more advantageous than that in high school providing more ease in transition between the two different levels.

Although the RTI framework continues to be widely used and accepted throughout the United States (Mellard, Frey, and Woods, 2012), there is limited research about the effect RTI has on school districts based on my review of the literature. Johnson and Smith (2011) observed that differences in structure and operations also play a role beyond elementary school. Middle school represents a crucial juncture where students may rely on basic skills acquired in elementary school to process content knowledge during the middle grades (Johnson & Smith). Thus, middle and high school decisions about student learning often reflect the characteristics of different grade levels.

Current RTI models, according to researchers can be used throughout pre-K-12 education but are more often implemented at the elementary level (Bouck & Cosby, 2017). However, elementary level models for RTI may not be appropriate for use in middle school because adolescents think differently than younger students due to physiological changes, as reflected in the different school structure and operations at the middle school grade level (Johnson & Smith, 2011). Snow, Sanger, Childers, Pankonin, and Wright (2013) recommend that middle and high school educators collaborate more closely to achieve effective RTI implementation in secondary settings. Snow et al. further suggest that the proper use of elementary RTI models might lower dropout rates in secondary school. The main purpose of RTI is to reduce placement in special education, which is a task requiring improved planning and collaborating by educators to offer programs more closely tailored to the needs of the learner, Snow et al. (2013). This type of tailoring of programs within the model is the underlying principle of RTI. The research of Sanger et al. (2012) indicated the need for new strategies and classroom practices that

promote teacher collaboration and the building of teacher confidence when implementing RTI.

Understanding teacher roles related to RTI implementation is an important component of the RTI implementation process. In the view of Ehren (2013), every educator should assume some level of leadership in RTI for the good of professionals working together. My focus in this study on better understanding teacher concerns about their roles and how they will work together on the RTI initiative stemmed from Ehren's discussion of teachers moving away from "silos" or individual practices and connecting with other general education teachers to integrate RTI practices. By measuring educators' concerns about teacher collaboration using the Impact Stage of the SoCQ, I was able to draw conclusions about teacher differences in middle and high school. Findings from this investigation may help educators and educational researchers to formulate practice-sharing strategies for use at different school levels. Findings may also help educators to manage time spent on the initiative, and educational leaders to standardize practices between middle and high school teachers. Positive social change may develop when middle school teachers and high school teachers engage in closer exchanges to share good practices about RTI. As Avalos-Bevan and Bascope (2017) noted, these types of exchanges can lead to collaborative general education teacher relationships

The major sections of this chapter focus on the problem of developing collaborative, systematic processes of RTI implementation at each level of U.S. public school education. Although useful RTI implementation practices exist at the elementary level, these practices need to be further researched, reported, and shared at the secondary school level (Dulaney, 2012). In this study, I viewed RTI through the lens of the theory

of planned behavior (TPB; Ajzen, 2011) by examining teacher concerns, intentions, and perceived behavior control toward RTI implementation. In this chapter, I provide background on RTI in U.S. public schools and the ongoing problem of sustaining momentum to keep RTI at the forefront as an intervention to help struggling students. The purpose of this study and the research question that I addressed are outlined along with the theoretical framework for the study. The chapter also includes a discussion of teachers' understanding of RTI and the role teachers need to play in developing collaborative relationships toward RTI implementation.

Background

According to a 2011 survey on implementation of RTI, educators in most U.S. schools (94%) have implemented some level of RTI (Ehren, 2013, p. 449). Although terminologies related to RTI concepts vary, Ehren (2013) posited that many educators are familiar with some iteration of the framework. The author further explained that conscientious educators are searching for ways to implement RTI and may participate in continuous professional development as a means of identifying implementation practices in their work environments. However, Ehren reported there is not enough information to determine the validity and reliability of the SoCQ used in the study. Additionally, I was not able to generalize any trends reported about RTI from statistics cited in the Ehren article. Because of the lack of reported trends or statistics that can be used to generalize how close educators are to full implementation of RTI practices, it was necessary, I believe, to explore the fundamentals of RTI in public education.

RTI is an educational reform that affects all levels of public school education. The literature is saturated with research that supports the use of RTI in theory at the

elementary school level (Dulaney, 2012, p. 73). However, it has been a struggle for general education teachers beyond the elementary school level to implement RTI practices (Sanger et al., 2012). As King and Lemons (2014) noted, there is little evidence in the research to guide educators' efforts related to RTI implementation in middle and high school. RTI is rooted in a framework that provides intervention services to students who struggle academically. It is a commonly used approach for academic intervention in public schools to minimize placement of students in special education (Wilcox, Murakami-Rahmalho & Urick, 2013, p. 76). As I will more fully discuss in Chapter 2, the intervention is a systematized approach to delivering high-quality instruction that enables educators to make informed decisions about student learning.

Problem Statement

In this study, I addressed the potential differences in general education teachers' struggles to interpret RTI implementation practices in middle school and high school where there is a lack of systemic reform that was intended for all educators attempting to implement the initiative (Ehren, 2013). Literature supports the use of RTI practices mostly at the elementary level (Sanger et al., 2012). However, educational reform affects K-12 levels of the system making RTI implementation important to decision-making across many levels (Meyer & Behar-Horenstein, 2015). In conducting this research, I was able to gain insight about differences in teacher RTI practice concerns in both middle and high school. Meyer and Behar-Horenstein (2015) further noted that a system-wide approach to developing RTI for students at all levels may help educators to better field interventions and prevent academic failure.

It is difficult to discuss system-wide approaches to RTI when much of the literature focuses on RTI implementation at the elementary school level. Despite the importance of the RTI initiative, limited research exists regarding the use of RTI in middle and high schools (King & Lemons, 2014). A system-wide approach to RTI implementation should reflect a redevelopment of the models implemented in elementary schools that reflect the needs of middle and high school students (King & Lemons, 2014). In one study, researchers explored the opinions and reactions of secondary school educators before and after RTI implementation to assist other school leaders in similar settings to structure RTI implementation (Sanger et al., 2012). Themes that emerged from the findings included challenges and concerns, support for the model, implementation considerations, and the need for experts in special education and communication (Sanger et al., 2012). Shapiro (n.d.) posited that in many of the schools working levels of implementation around 50%-70% exist during the start-up years of RTI implementation process, which are heralded as strong indicators of success. Although Shapiro (n.d.) agreed that successful tiered instruction encompassing RTI functions should include teacher collaboration, he indicated there was a need for educators to plan and work together to achieve the best practices between middle and high school.

In conducting this investigation, I addressed a gap in the research on RTI implementation in post elementary school. Specifically, I measured middle and high school teacher RTI implementation practice concerns to address the problem of limited research that supports secondary school practices related to the use of this innovation for struggling students. My use of questions from the Impact Stage of the SoCQ (George,

Hall, & Stiegelbauer, 2006) helped me to draw conclusions about the concerns of middle and high school teacher differences about the RTI framework.

Purpose of the Study

The purpose of this study was to determine if there were differences in practice concerns among middle school and high school teachers as measured by the Impact Stage of the SoCQ (George et al., 2006). Johnson and Smith (2011) posited that research on RTI is currently limited to elementary school settings and that researchers have not considered the physiological and psychological changes that occur after elementary school. The importance of secondary school teachers sharing information about RTI and a concerted effort toward its successful implementation between school levels can aid teacher understanding at both the middle school and high school levels (Isbell & Szabo, 2014). Collaborative relationships between middle and high school general education teacher groups can help implementation practices. Isbell and Szabo (2014) further noted in their research that groups of educators collaboratively working together to build professional learning communities can help ensure that students learn.

Research Question and Hypotheses

The research question for this study was: To what extent do middle school and high school teacher raw scores on RTI practice concerns differ with regard to collaboration, time management, and teachers' roles when measured by the Impact Stage of the SoCQ?

The Impact Stage of the SoCQ is a tool that researchers, program evaluators, administrators, and change facilitators can use in assessing teacher concerns about strategies, programs, and materials necessary to collaborate on new programs introduced in schools (George et al., 2006). The research was needed to determine if there are differences in RTI practice concerns between middle and high school teachers (Sanger et al., 2012). I addressed this gap in research by quantifying differences in raw scores on questions related to the Impact Stage of the SoCQ.

Null Hypothesis: H_0

There are no significant differences in raw scores in middle school 6-8 grade and high school 9-12 grade teachers' RTI practice concerns when measured by the Impact Stage of the SoCQ.

Alternate Hypothesis: H_A

There are significant raw score differences in middle school 6-8 grade and high school 9-12 grade teachers' RTI practice concerns when measured by the Impact Stage of the SoCQ.

Although a *t*-test was plausible, I could have also used ANOVA because it is much more powerful and more likely to find significance that is present than a *t*-test. The *t*-test may have more of a chance of increased error when comparing two or more means

and the use of ANOVA helps to minimize errors ("Key Differences," 2018). I measured the dependent variable (teacher concerns) by comparing differences in middle and high school teacher raw scores on the Impact Stage of the SoCQ.

Theoretical Framework for the Study

Ajzen (2011) introduced the (TPB) in 1989 to study human behavior and decision-making in the health domain. Since then, the theory has become a frequently cited model for predicting human social behavior (Ajzen, 2011, p. 1113). Educational researchers have used TPB to explain teachers' intentions and behaviors in the classroom (Ajzen, 2011). However, only one group of researchers (Russo et al., 2015) have used the theory to predict teachers' intentions to refer students to mental health professionals based on my review of the literature. According to Russo et al., the model assumes that human behavior is goal-oriented and socially influenced. I chose to use TPB because of my focus the prediction of intentions. This framework was a good fit for this study because I sought to measure concerns about middle and high school teacher intentions and perceived behavioral control toward RTI implementation using data points concerned with collaboration, managing time, and how teachers' roles will change.

I used TPB (Ajzen, 2011) as the theoretical framework for the study to examine middle and high school teacher concerns about their actions in implementing RTI. Specifically, I used the theory as a lens to view data about teacher intentions and behaviors toward collaborating on RTI. To gather data on teacher intentions, I administered questions from the Impact Stage of the SoCQ, which is what Russo et al.(2015) noted, can be used to explore an individual's intent to perform context-specific actions toward a goal. Data on teachers' context-specific actions were helpful for

measuring how teacher RTI practice concerns affect teacher intentions to coordinate their efforts with others along with perceived behavioral control to improve themselves to make the innovation work. I selected the TPB framework because it enables researchers to consider internal (e.g., knowledge) and external (e.g., cooperation of others) control factors when performing a behavior like RTI implementation (Russo et al., 2015). Additionally, the theory is suitable for studies of professional environments such as educational institutions where both knowledge and the opportunity to cooperate can influence teacher behavior (Ajzen, 2011)**.**

TPB, thus was relevant to measure factors that influence RTI practice concerns about RTI implementation. Examining teacher RTI practice concerns about collaboration, managing time, and how their roles may change when implementing RTI. Interpreting any differences from the results of the study will help build a foundation to better RTI implementation practices between middle and high school teachers.

Nature of the Study

The quantitative experimental design is an approach for this study that focused on differences in RTI practice concerns between middle and high school teachers related to RTI implementation. The basis of the study was to use an ANOVA to evaluate differences in raw scores on the dependent variable-teacher concerns using the impact stage of the SoCQ about RTI in middle and high school. It was the best design to use with a categorical independent variable that had two groups where I could test for differences in the means of the dependent variable broken down by the two levels. The SoCQ enabled me to quantify differences in raw scores on questions with regard to

collaboration, managing time, and teacher roles all of which pertain to teacher concerns when implementing RTI practices in middle and high school. It is foundational in laying the infrastructure to build collaborative working relationships between teachers in middle and high school to improve educational practice. The independent variable was school level (middle and high school) with teacher RTI practice concerns toward collaboration, managing time, and teacher roles on RTI implementation measured as the dependent variable on the impact stage of the SoCQ to determine differences in responses on the tool. I recruited middle school and high school teachers from one New Jersey County school district using snowball sampling by obtaining teacher emails from school district websites to collect responses on the SoCQ about RTI implementation. To answer the research question, I presumed there was no association between the independent and dependent variable. I estimated an appropriate number of subjects for my study design i.e., the number needed to find the results that I sought to answer the research question. The data I collected in the sample using ANOVA to determine whether there was sufficient evidence to reject the null hypothesis in favor of the alternative hypothesis. I expect the size of the difference to be present in the sample. A sample size of 31 general education teachers in math, science, social studies, and language arts was drawn from a middle and high school teacher population.

When the questionnaire was scored, the raw scores were calculated for the impact stage of the SoCQ by locating the percentile score for each scale in the table and converting it to a percentile score. ANOVA assisted in determining how much variance there was in the population by calculating the variance in the sample. The *F-ratio* that

was used as the significance statistic told me how big of a difference there was when the samples were compared and whether the effect is more than just chance.

Gaining access to accurate teacher emails from school district websites aided in soliciting many of the study subjects. However, threats to internal and external validity do not go unnoticed with this type of subject recruitment. History, maturation, selection, and mortality all have the potential to pose internal threats to validity. Although the group was studied once there was no way of interpreting the group's history about the topic prior to measuring concerns of the group. Maturation can have an inferential effect on the power of the study in the amount of time that lapse between subjects agreeing to participate and actual administration of the tool. There could have been life events that prevented a study subject from participation causing me to go into the subject reserve to get more respondents. The ability to control for bias when selecting from the reserve that included teachers from one county school district could have had an impact on the study as I did not know whether the teachers knew each other.

The sample teacher population for the study was drawn from a teacher email distribution list that helped control for the bias. The sample population included middle and high school teachers with a minimum of two years teaching experience and who were able to understand and answer the survey questions. The loss of any study subjects from the sample population could have impacted the study as challenges would be present that relate to the variable presumed to cause change and additional study subjects would need to be sought from the reserve. Study subjects that agreed to participate provided responses on the email survey through Survey Monkey. A returned and completed survey denoted Informed Consent. Potential study subjects were sent an email invite about their

interests for participation through the Constant Contact email distribution platform. A more detailed explanation of the email technology and its distribution platform used in this study can be found in chapter three. Study subjects were asked to notify me using this technology platform if they expected to drop out of the study due to unforeseen challenges.

On the side of external validity, the interaction effects of selection biases could have impacted my subject recruitment. Care was taken that the biases did not present when ascertaining study subjects from the email list that could impact the dependent variable. Using public means, I solicited a heterogeneous sampling of middle and high school teachers that represented the general population of the groups. Otherwise, snowball sampling using a comprehensive database of teacher emails to obtain study subjects from the larger educational environment is a great tool for building capacity. Using teacher email lists that targeted middle and high school teachers in one New Jersey County school district, aided in drawing a sample from the population inferring characteristics pertaining to teacher concerns about the larger population.

The data were analyzed using SPSS. I obtained data using the SoCQ that was to show differences in teacher RTI practice concerns toward RTI implementation in middle and high school. Survey Monkey was the vehicle through which the online survey was sent to study subjects. The survey was sent to both middle and high school teachers on the same day with a timeline given for responses. No incentive was offered for participation in the study. The middle school teacher group consisted of 17 study subjects and the high school teacher group consists of 14 study subjects drawn from a

total population of 872 general education teachers in math, science, language arts, and social studies. It further sets the stage to draw conclusions about the null hypotheses.

Definitions

The following terms are key to understanding the research and are defined in accordance with how they were used in the study.

Attitudes and concerns: Golmic and Hansen (2012) referred to pre-service teachers that brought their personal beliefs, attitudes, and concerns about inclusion to teach students with exceptional learning needs. Beliefs, attitudes, and concerns about inclusion were used synonymously. Concerns were measured about implementing innovations in schools in the Golmic and Hansen study much like pre-service teachers had the challenge of completing their student teaching requirements in general education classrooms to measure their attitudes and concerns toward inclusion.

High school: High school is defined as Grades 9-12 in New Jersey.

Middle school: "The term middle school is defined in different ways by various educational authorities, however, the law established sixth grade as the lower threshold for certain programs in both middle and high school" (Virtue, 2012, p. 5).

This study involved general education middle school teachers for Grades 6-8 and high school teachers for Grades 9-12 in New Jersey. School level with two levels: middle and high school as the independent variable that was measured by teacher RTI practice concerns about RTI implementation serving as the dependent variable. The basis of this study was to evaluate differences in raw scores on the dependent variable-teacher concerns using the impact stage of the SoCQ about Response to Intervention (RTI) in middle and high school.

Teachers, school professionals, and educators are intended to be synonymous. All other terms appear as they are and reflect the meaning intended for purposes of this study. The professional literature reflects the terms used throughout this study. In some instances, related to RTI, some refer to inter-professional collaboration to be inclusive of psychologists, social workers, and counselors (Sosa & McGrath, 2013). For purposes of this study, the collaboration included middle and high school teachers. According to Sosa and McGrath, collaboration is defined as two or more professionals working together from different disciplines to meet the needs of students. Sosa and McGrath stressed the importance of teacher collaborations because of programmatic silos that teachers function in throughout the school day. Although teachers are in separate classrooms the goal is to dismantle these silos and reduce feelings of isolation by creating more collaborative relationships School personnel have become savvy in their approach to RTI implementation, especially at the elementary level taking special care to formulate teams of people through committees to address RTI. Sosa and McGrath further supported the literature by contributing a lost sense of isolation helps to rid professionals of individual silos and bridges the gap to collaborative relationships. Additionally, Nellis (2012) supported the role of teams as being a critical component to RTI implementation. Helping teachers to become comfortable working in groups can do more to develop successful RTI practices.

Assumptions

One of the assumptions of the study is that teachers are quite comfortable working in individual classrooms. Teachers have grown accustomed to such routine operational habits and find it difficult to find time for collaboration. It is what Nellis (2012) reported

as an easy way out for teachers not to have to share beliefs, values, and practices in building teams in the school community. Another assumption of this study is research on RTI with secondary students is inadequate (Pyle &Vaughn, 2012). I assumed that the Impact Stage of the Stages of Concern Questionnaire (SoCQ; George et al.) was an acceptable tool used by educators that I could adequately measure responses to survey questions about RTI. Models for the support of RTI implementation exist at the elementary school level (Bouck & Cosby, 2017). However, RTI is a national reform initiative and given the small number of robust studies on effective RTI models for secondary schools, it is not clear from the literature whether middle and high school districts operating using some version of an RTI framework (Pyle & Vaughn, 2012). I assumed to be true that teachers participating in this study were familiar with RTI or some aspect of it. Full use of the RTI framework may not be utilized in middle and high schools but only derivatives of it since it is mandated in every state.

Scope and Delimitations

Specific aspects of the problem related to RTI practices concern a lack of standardization throughout schools and not all teachers are involved in making decisions about student performance. All school professionals play a role in educating children. Sosa and McGrath (2013) emphasized there are different members that make up the school body, but they all share similar goals when it comes to addressing the performance needs of students. If there is no standardization throughout the school system concerning RTI, the likelihood of collaboration occurring between teachers is minimal. All teachers play a role in participating in data-driven decision-making when it comes to student performance. To ensure teacher participation in the RTI process, it is necessary to involve

all of them in the process since they play an integral part in student development. Unfortunately, Nellis (2012) further reported how little schools practice consultation on a routine basis.

The boundaries of the study included general education teachers with at least two years of teaching experience who can help contribute to student success when implementing RTI. The boundaries were reasonable in that the research question and variables were appropriate to the teacher population taking the survey. Teachers were randomly selected in their established areas of teaching and by their grade levels. Teacher concerns were measured by grade level between the middle and high school with no subject matter concerns. The established areas of teaching were broken down by general education subjects that included math, science, social studies, and language arts. All other general education subjects were delimited from the study. A high-quality RTI process for all children in the general education classroom can help increase their rate of learning and meet established benchmarks. TPB is related to this study and used to explain teachers' intentions and behavior in the classroom (Russo et al., 2015). As a researcher, surveying a percentage of general education teachers represented by the sample population and understanding the relevance of this group to the larger population can help generalize the results of the study to the larger world. Research supported the gap in the literature of inadequate research on RTI in secondary schools. I wanted this study to show statistical differences between middle and high school teacher concerns to lay the groundwork for collaborative practices between the two levels. A further delimitation of this study might include only math and language arts/English teachers as opposed to the four different subject areas used in this study.

Limitations

Limitations existed related to the design that included internal and external validity, construct validity, and confounder variables. Internal limitations are concerned with potential weaknesses related to teachers having a known knowledge about some form of RTI or its practices. With the lack of standardization of RTI in schools, it is unlikely that schools employ the same implementation process. However, Bjorn, Aro, Koponen, Fuchs, and Fuchs (2016) posited RTI is considered a routine practice in many parts of the US. It is likely that teachers know something about RTI but the extent to which any pre-existing knowledge about RTI practices can influence the validity of the study is minimal. Connecting the TPB construct to the existing instrument used in this study can help control for internal validity. When controlling for external validity, care should be exercised when utilizing representatives from local schools. I minimized bias to the study by having no relationships with people who serve on Intervention Referral & Services (IR&S) Committees. Although these people play a vital role in the review of test questions that are apropos to the study, care should be taken to ensure there are no existing relationships between the researcher and members of this committee. Reasonable measures to address the limitations in this study included recruiting general education teachers for the study not involved in RTI and the IR&S Committee. Drawing a sample from one county in a Northeastern state where the researcher is not employed further reinforced anonymity for the investigation of the general education teacher population potentially controlling for bias. The limitation of this study was a small sample size that was not truly representative of the total population.

Significance

The potential contributions of this study will have significance in developing collaborative communities for middle and high school general education teachers to improve educational practices. Improved educational practices can lead to standardizing RTI implementation between middle school and high school. Measuring RTI practice concerns of middle school and high school teachers using the impact stage of the SoCQ can help draw conclusions about teacher differences. The results can be used to improve teacher practices through the use of a new innovation that affects student struggling academically. This investigation can pave the way to practice-sharing strategies and standardized practices between middle and high school teachers. Positive social change may develop when middle school teachers and high school teachers share concerns about RTI practices in education that can lead to collaborative general education teacher relationships.

Summary

Helping middle and high school general education teachers to be involved in making data-driven decisions by determining the extent to which there are differences in practice concerns between the two levels when implementing RTI was the focus of this study. Quantifying the extent to which there are differences in RTI practice concerns for middle and high school teachers can help contribute to developing a more systematized approach to RTI implementation at the secondary level. Using what elementary schools have already done to implement RTI and helping teachers to develop shared practices can lead to collaborative teacher relationships. Although robust literature exists that guided

elementary school RTI practices, the implementation of similar practices in secondary schools is still a dilemma (King & Lemons, 2014).

As I seek to quantify differences in raw scores for secondary teachers' RTI practice concerns in this study, several components are addressed from the literature that discusses the development of support systems to implement and sustain RTI practices. In Chapter 2, I elaborate on the literature-based research of various RTI components that play a role in implementing its practices. Emphasis is placed on each component and what can be done in the future to sustain its practices related to the RTI initiative.

Chapter 2: Literature Review

Introduction

The problem identified in this study was the lack of research on secondary school RTI practices. Little evidence existed in the literature to help secondary school educators implement RTI practices (King & Lemons, 2014). The purpose of this quantitative study was to determine the extent to which middle school teacher RTI practice concerns differed from high school teacher RTI practice concerns when measured by the Impact Stage of the SoCQ (George et al., 2006). Sanger et al., (2012) posited that research was needed to determine secondary teacher concerns about RTI practices; the researchers highlighted the need, in particular, for new strategies that could be incorporated in middle school classroom practices.

In this chapter, I review literature related to the successful implementation of RTI, focusing on the development of collaborative relationships between teachers at different grade levels. In this review of the literature, I summarize the research on the importance of identifying struggling students at the earliest stage of development, challenges teachers face in implementing into instruction, and systemic process changes that can be a significant benefit to older students at the secondary school level. Waiting to start the RTI conversation at the high school level puts students at a disadvantage (Sanger et al., 2012). Integrating RTI practices at the middle school level can lead to improved outcomes for students and create opportunities for shared practices (Johnson & Smith, 2011). I also review with the literature on decision-making and student performance. Before presenting the literature review, I discuss my literature review strategy and provide an

overview of the study's theoretical foundation. The chapter concludes with a summary of key points and a transition to Chapter 3.

Literature Search Strategy

I conducted an initial search for articles in the Education Research Starters, ERIC, and Sage Premier databases. The keyword searches I used for these searches were – *Response to Intervention, RTI, RTI implementation, RTI collaboration, and RTI in secondary schools*. My keyword searches within these databases did not yield optimal results. Another phrase that I used in my searches was *Intervention & Referral Services Committee,* a term used by some professionals in local schools to describe how they address RTI. Using the Walden University Library, I expanded my search by using multiple databases and derivatives of words when employing keywords. I expanded the search by using the multidatabase site, Thoreau which allowed me to conduct a more advanced search for refining my topic.

Using Thoreau and its multiple database searches yielded a total of 60,374 articles in contrast to 15,078 articles found in Education Research Starter, ERIC, and Sage Premier on the topic of RTI. I predicated the process I used for narrowing the selection of articles to include in the literature review on how current the articles were and whether each article contributed in any way to addressing the gap in the study. Once I determined that an article was relevant in scope to the topic and had been published between years 2011 and 2015, I entered the details of each article selected for the literature review into an Excel spreadsheet as a point of reference. After finalizing each article's relevance, I was ready to begin writing the literature review.

Theoretical Foundation

The theoretical construct used for this study was the TPB. Ajzen (2011) introduced the TPB in 1989 and has increasingly become a frequently cited model for predicting human social behavior. Ajzen's theory originates from the study of human behavior and decision-making in the health domain. I chose to use this theory because of its applicability to the study of the prediction of intentions. In this study, I measured teacher concerns, which have a basis in explaining behavioral intentions and perceived behavioral control according to Ajzen (2011).

Researchers use TPB to assess individual concerns, subjective norms, and perceived behavioral control in order to determine individual intention (Swaim, Maloni, Napshin, & Henley, 2014). I investigated whether middle and high school teacher RTI practice concerns differed about RTI implementation. Because TPB is a predictor of intentions (Ajzen, 2011), I examined concerns within its framework to explain how RTI teacher practice concerns differed toward implementing RTI. A tenet of TPB is that a person's plan or intention to act is the most important predictor of behavior that will follow (Cooke & French, 2011). Intention begins the process of starting an action (Medina-Sanchez, Quintero-Romero, & Cabrera-Sosa, 2014). Teachers are integrally involved in making the RTI process work and helping to achieve school goals, yet they also need professional support to make it happen (Adams and Forsyth, 2013). Educators working together in the school environment depend on each other to help meet the objectives of the RTI mandate. Teacher trust between colleagues can support information exchange and knowledge development in a professional environment (Adams & Forsyth, 2013).

Using TPB as a framework to investigate the concerns, intentions, and perceived behavioral control toward RTI can help build collaborative relationships between middle and high school teachers in the implementation process. The research question in this study related to TPB in that it was focused on investigating differences in teacher concerns and teachers' intentions to collaborate, manage their time, and manage evolving teacher roles as they implement new RTI practices at different grade levels. In a coauthored study, Ajzen used TPB and applied it in relation to drinking, avoiding alcohol, and refraining from fast food (Ajzen & Sheikh, 2013). Ajzen and Sheikh (2013) assessed the TPB variables by relating one behavior (action or inaction) to the anticipated effect measured by the other behavior. Ajzen and Sheikh's study was concerned with differences between teachers in an approach to implementing RTI. In another study coauthored by Ajzen, researchers examined the relationship between knowledge as being the precursor of effective action relying on TPB (Ajzen, Joyce, Sheikh, & Cote, 2011). Studying the effects of accurate information on concerns and decisions Ajzen et al., (2011) indicated that in TPB, beliefs constitute the informational foundation that determines behavior. According to Ajzen et al., concerns and perceived behavior control combined can have an effect on performance related to a specific behavior. In the case of this study, concerns and perceived behavior control could be a significant factor in determining how middle and high school teachers build communities of practice toward RTI.

History of Response to Intervention (RTI)

RTI is a framework used in public schools that enables school professionals to intervene and help students who are struggling academically. Prior to the reauthorization

of the 2004 Individuals with Disabilities Education Act students with learning disabilities were identified by the gap in their measured potential and what they actually achieved (Bineham, Shelby, Pazey, & Yates, 2014). The framework integrates federal policy by using components of IDEA 2004 and NCLB 2002 (Mellard, Stern, & Woods, 2011). Bineham et al. (2014) posited that RTI became the alternative approach to determining if struggling learners needed more in-depth assessment of learning disabilities. As a result of integrating the federal policies, states required the use of RTI practices to meet the educational needs of the total learner. Over 70% of school districts nationally implement RTI (Hoover & Love, 2011).

Efforts by school districts to implement RTI practices across the country seem to be fragmented. According to Bineham et al. (2014), there are no clearly defined processes that govern implementation models for RTI. Even without standardized practices, efforts to implement RTI have been occurring at some level in most school districts (O'Connor & Freeman, 2012, p. 297). Evidence presented by Pyle, Wade-Wooley, and Hutchinson (2011) showed teacher confidence and support to be an important factor in the implementation of RTI in classrooms. However, before discussing teacher collaboration on RTI practices, clear practice guidelines would be helpful to provide direction for those responsible for implementing the practices. Groups of educators are involved in intervention practices to help identify areas of learning weaknesses in students (Bineham et al., 2014). Decision-making about student performance is a key component of RTI. Ajzen's (2011) TPB suggests cognitive and effective process reasoning and placed more emphasis on individual decision-making and information processing. Providing relevant resource information to educators about RTI practices can aid teachers in making better-

informed decisions about the process and students who receive the intervention. Clarity of communication and effective collaboration will help guide teams of educators in public schools toward successful RTI implementation (Meyer & Behar-Horenstein, 2015).

Questions still arise about the best way to deliver systematic RTI between the different tiers of the framework in secondary schools Ciullo et al., (2016). Resource information about evidence-based strategies used by other teachers may help answer questions posed by educators making decisions when using the framework. Sharing these strategies between teachers could help start the development of knowledge-sharing practices between classrooms that begins with discussion.

Gaining an understanding of formal and informal discussion around RTI implementation can be significant to teacher classroom practices. However, expecting teachers to implement a process without ongoing support and collaboration can impede progress toward implementation practices. Regan, Berkeley, Hughes, and Brady (2015) posited that school initiatives often do not consider the feelings and opinions of those who must implement the change and can negatively affect implementation. Tyre, Feuerborn, Beisse, and McCready (2012), in a similar way, discussed readiness, stating that institutionalization, initial implementation, and continued evolution of the initiative all create the foundation for RTI practices. Tyre et al. posited further that self-assessment tools developed by state departments for use by schools may create a more in-depth understanding of the school as a system and how RTI operates within the system.

Systemic communication practices among professionals engaging in RTI can be challenging (Isbell & Szabo, 2014, p. 13). The importance of creating team players for

RTI implementation, enabling communication among the team, and coordinating information for professionals participating in the process will help develop new strategies for intervention. Ensuring school personnel gets a better understanding about RTI begins with a dialogue. Discussions about RTI are happening across the country because it has been widely implemented as a prevention model in all 50 states to help influence student achievement (Hudson & McKenzie, 2016). Because intervention is the focal point, it should be important enough to allocate funds for professionals to strategize and develop research-based interventions that aid classroom practices. RTI planning for 21st-century learning among preservice teachers may help schools get a head start on RTI implementation practices. However, the gulf between pedagogical instruction in teacher education programs and classroom practices is of great concern in education (Sanden, 2016). With so many budgetary restraints, preparing preservice teachers ahead of time in an online environment may help equip them with the skills necessary to implement RTI when entering the education system.

Funding related to IDEA and Common Core Standards should be earmarked for intervention early in student academic careers to minimize special education placement (Wilcox, Murakami-Rahmalho, & Urick, 2013). Common Core is providing services to at-risk students and identifies students with learning disabilities as a part of the RTI implementation process. Funding connected with each of the initiatives may help minimize special education placement and sustain RTI practices that provide support for students struggling academically. The goal of Common Core Standards is to build accountability across states and help high school students graduate without remedial needs (Kornhaber, Barkausas & Griffith, 2016). Some of this funding could be allocated

to special preservice teacher programs to attract new teachers to the field. Kuo (2014) indicated the importance of preserving the integrity of RTI implementation that protects what it was originally intended to do. Establishing a common ground between IDEA policies and Common Core Standards that prepare all students to graduate promotes efforts to help close the learning gap between general and special education students (Kornhaber, Barkauskas, & Griffith, 2016). As this gap is closed between students looking ahead to coordinate the efforts of professionals implementing RTI is necessary to systematize the process (Isbell & Szabo, 2014).

RTI is neither an IDEA nor Common Core Standards mandate but is fixed in data-driven decision-making and problem-solving about student performance that makes it related to these mandates. State departments of education have already begun to promote research and practices supporting RTI in school districts (Dulaney, 2012, p. 54). The use of RTI frameworks will continually make its appearance in states across the country. Wilcox et al. (2013) pointed out, that RTI theories are internationally tested with its policy springing into action locally. Understanding RTI to be a framework with several education support tiers for students may need to incorporate the necessary support for those implementing it. Simplifying the process and coordinating the efforts of the people involved may help make it practical. As Isbell and Szabo (2014) pointed out, coordinating efforts among professionals when implementing RTI is necessary to systematize a process.

There were contrasting views presented in the research about standardizing RTI practices. Systemic changes that optimize processes in organizations can be challenging often leading to a variety of viewpoints. The context of viewpoints by researchers toward

RTI practices can be different in scope. Saeki et al. (2011) concluded that a systematic approach in academics, when applied to the social and behavioral domain is still in the beginning stages. However, Dulaney pointed to RTI's application in the behavioral domain as being ambiguous and lacking conciseness. Pre- and post-assessment data alone do little to detail the social, emotional, and behavioral functioning of students Saeki et al. (2011). Dulaney (2012) noted that RTI, when implemented in the academic domain almost always involves regular progress monitoring that is quantifiable that proves difficult in the social and behavioral domains. Data used in a specific academic area can be used to assess a student's performance

Although many efforts have been made to prevent labeling of students, it is still a formidable issue. When labels are placed on students, teachers sometimes have preconceived ideas about students' capabilities (Brock's Academy, 2011). It could lead to a child not being taught to its fullest capability. Without a disability classification, a student may not receive special education services. New systemic changes mandated by the government when implementing RTI in elementary and secondary schools may be one way to minimize labeling students' ability and determine their capabilities before processing a disability classification. New systemic changes mandated by the government when implementing RTI in elementary and secondary schools may be one way to minimize labeling students' ability and determine their capabilities before processing a disability classification. The systemic shift to RTI caused significant changes in how schools operate on a daily basis (Tyre, Feuerborn, Beisse & McCready, 2012, p.103). Additionally, adaptations to RTI models are significantly different from elementary and middle schools that attempted to employ similar practices (Prewett, Mellard, Deshler,

Allen, Alexander & Stern, 2012, p. 136). Secondary schools are mimicking RTI implementation processes used by elementary schools while trying to close basic skills achievement gaps. Even more alarming is a deficiency in scientific knowledge about the effectiveness of RTI in secondary settings (Prewett et al.). Processes that work for elementary schools may not work at the secondary level. Regardless of the method employed, closing the achievement gap at either level are critical statements used throughout the literature when adopting RTI frameworks in schools across the country.

Tyre et al. (2012) posited that the uniqueness of each school within a school system should first be considered when attempting to initiate RTI practices. Change may be slow when adapting groups of professionals to implement RTI practices who have not previously implemented it. Determining the group's readiness to adopt RTI processes is largely connected with a school's climate and whether they are ready for the change. School climate and its receptiveness to a new knowledge base help create practices that follow. As with any new innovation, it may be helpful for teams of educators at all levels of the system to look for new ways to communicate within the system that can help create readiness. Tyre et al. pointed to engaging stakeholders to help evaluate the system. These groups of people define and work on trying to close the achievement gap as they evaluate the RTI framework for implementation. RTI means different things to different people engaged in the readiness process. Helping educators move from a conceptual realization to a practical one in the simplest way possible may help meet the goal of closing the achievement gap for students at a faster pace. Getting educators at each school level to examine their existing school systems and understand what it takes to implement RTI practices is a step towards creating readiness.

In summary, it is essential to take steps toward the development of a systemized, practical approach to implementing RTI. In preparation for such a system, elementary and secondary school teachers will need to make data-driven decisions in states across the country where RTI is a mandated approach in education. RTI is widely implemented as a prevention model and state mandates in education can affect how RTI processes are implemented across the country. Having access to new resources, training to use the resources, and collegiality between teams of colleagues across many school districts will help foster the success of RTI implementation processes and create new paradigms for learning.

Literature Review Related to Key Variables

RTI implementation can be a cumbersome process to implement at any grade level. Regan, Berkeley, Hughes, and Brady (2015), in a mixed method study, provided significant insights into the challenges elementary and secondary educators face with RTI implementation practices. One of the constructs Regan et al. mentioned that is consistent with the scope of this study is school initiatives that do not consider the perceptions and opinions of the people who must implement the change. Not addressing teacher concerns can be a barrier to successful implementation of the initiative. Other studies related to the constructs of this study include procedural implementation, managing time, and teacher collaboration. Procedural implementation as Regan et al. posited that educators in a focus group shared they had not monitored student progress and had no time to collaborate. Regan et al. considered these problems to be in the details of not being able to identify research-based practices to carry out the implementation and the opportunity to work with other professionals implementing the procedures. These concerns shared in the focus

group are consistent with this study in that it seeks to measure teacher concerns about collaboration.

A lack of guidance by human resource or standardized practice guidelines can cause more time to be spent trying to figure out what to do as opposed to implementing what needs to be done. Regan et al. (2015) support the use of guidance for those implementing RTI and agree that it is difficult to implement practices without it. Changes in educational practices can sometimes influence the way new innovations are implemented in school environments. Without the use of standardized guidelines, more time may be spent on planning than is necessary. Managing time is evidently a problem in RTI implementation.

Collaboration with other school professionals on RTI implementation is another related construct and requires time. Professional development sessions enable teachers to come together to discuss various school-related issues. Matherson and Windle (2017) posited that teachers want immediate strategies when engaging in professional development to meet the needs of their students. What they deem most important is learning both theory and practice and the ability to apply learned techniques in the classroom. This relates to what Regan et al. (2015) referred to as problems in trying to identify research-based practices to carry out the implementation. Regan et al. identified a lack of time for planning and collaboration to be a significant barrier to completing work related to RTI.

Ways in which researchers approached the problem are different in scope. RTI is a routine practice in U.S. schools. However, RTI and its purposes are different in other countries. There are differences in school systems and how the RTI functions within

those systems. For example, RTI in the U.S. includes clear definitions about its definition, the duration of services, and the scope of services provided to students struggling academically (Bjorn, Aro, Koponen, Fuchs, & Fuchs, 2016). In Finland, special services in education are defined by a multi-professional evaluation that includes the perspectives of teachers, special needs teachers, and parents. There is no formal diagnosis needed to receive special education services. RTI is deemed an effective early intervention approach to fostering student academic progress. However, both special education and other teachers use different instruction methods and have no specific accountability. Thus, their system of accountability is predicated upon trust and the responsiveness of each professional to the field of education.

One of the weaknesses that often occur with RTI is its implementation practices. Although it has gained popularity, there is a lack of consistent policy and defined criteria used in the implementation process (Bineham, Shelby, Pazey, & Yates, 2014; Sanger et al., 2012). Literature related to RTI has no clearly delineated processes or standardized models (Bineham et al., 2014). A holistic perspective on RTI could be a solution that outlines the thought of what works for one district might work for all. Intervention with planning and commitment can be the key ingredient that benefits school districts across the country (Sanger et al., 2012). Some districts may be more knowledgeable about practices than others. However, it is important to find out more about standardizing practices and then sharing them to make them work across the country. The U.S. can take a few tips from the UK government that funded a network of 13 Special Educational Needs Regional Partnerships throughout England and made training a priority among local authorities working with students (Clench & King, 2015, p. 62). The UK

government introduced practical examples to benefit all districts across the country through online training that addressed intervention. According to Clench and King, the establishment of regional steering groups proved to be a way of creating sub-groups that addressed the training priorities. Although funding ended for the project, local authorities were proactive in keeping it going because of its value to teachers. This example of continuous professional development for staff needs could be used as a paradigm for RTI practices.

The literature justified how implementing RTI practices collaboratively can benefit teacher communities and relates to this study through the investigation of teacher concerns on collaboration. More recently, informal online learning communities evolved for professionals and networks of people wanting to learn new things in their lives (Evans, 2015, p. 31). The advent of technology and its implications for practice affects professional learning as well. Learning can occur anywhere and among any group of people with goal-oriented directives centered on the use of technology. Teaching and learning often become a lifelong process for many people. A more formalized approach to learning occurs when discussing classroom practice, but people engage in learning at any point in their lives. Learning in physician environments stay well connected to a process of acquiring new knowledge (Ghosh, 2013, p. 72).

The rationale for the selection of the variables is justified by what King and Lemons (2014) posited as a need for RTI implementation in middle and high school and its lack of evidence to support successful implementation at the secondary level. The research question in this study addressed the concerns of middle and high school teacher RTI practice concerns that support what King and Lemons refer to as practitioner

perceptions. They describe a continuous development of secondary-level RTI practices across grade levels and its necessity. The variables present in this study may help extend research in this area by determining differences in raw scores on the SoCQ between middle and high school teachers.

Studies related to the key independent and dependent variables align with the Isbell and Szabo (2014) study that focused on the concerns secondary school teachers had about RTI. They used the SoCQ to quantitatively measure the levels of concerns of participants implementing RTI. The study determined that teacher levels of use of RTI had modest increases across three different intervals for the stages used in the SoCQ. Isbell and Szabo posited similar to Regan et al. (2015) that a lack of consideration towards the concerns and attitudes of those expected to implement change can lead to failure. Identifying perceptions of educators may help lead to successful implementation.

Interpreting whether there are significant differences between middle school 6-8 grade and high school 9-12 teacher practice concerns in the context of procedural implementation, managing time, and teacher collaboration can help explain why general education teachers struggle with RTI implementation. The goal of RTI is to strengthen general education so that all students benefit from research-based instruction before placement in special education (Hollenback & Patrikakou, 2014). With that goal in mind, establishing standardized practices for general education teachers to implement RTI, putting timelines in place to monitor their practices, and creating collaborative work environments that build practice skills may help accomplish this goal.

Further review and synthesizing of the literature related to the research question in this study lead to research about school administrators across the country lending their

management support to institute PLCs. However, there is still much work to be done. School principals realize that people are fundamentally social in nature and use the PLC platform as a means to access and share information (Lalor & Abawi, 2014, p. 77). Some districts even want to institutionalize PLCs as a vehicle for collaboration and collegial support. Lalor and Abawi pointed out that such institutionalization takes the form of a regular practice attended by teachers for 45-minutes per week. Although lateral collegial support is real, top-down support is necessary to sustain professionals working in these communities. In this era of accountability, the establishment of PLCs should be for the purpose of maintaining accountability. PLCs are platforms for teachers to work interdependently to identify students' learning needs (Thessin, 2015, p. 15). Although Lalor, Abawi, and Thessin agreed there is socialization involved with PLCs, the need to support teachers while engaged in the platform and document their performance is important. Thessin writes that it is a quick fix for teams of teachers to meet and discuss falling student achievement results. Lalor and Abawi leaned more to creating a culture that is subjective in nature but may not improve student outcomes. It may be necessary to have both. However, administrator, teacher, and student relationships need to be integrated into PLCs and a method of documentation that shows progress.

Action research is a research methodology helping groups of people as parts of a community solve problems. Everyone that PLCs impact both individually and collectively must work to develop and improve skill levels (Bleach, 2013, p. 370). Much of RTI is process driven and its practices should cause educators to reflect upon the same thing. Determining the needs for any program sets the path on how to undertake the process to get to the destination. Reflection about current actions should direct program

efforts for the future. Changes in education are ongoing. Bleach pointed out that educational reform has a long history. Tyack and Cuban (1995) referred to educational reform as a recycling process. That is there is a way of doing the same thing in a different way. In this 21st century, traditional learning paths may not meet the needs of students with Individualized Education Plans (IEPs). Teachers must meet the educational needs of a diverse student body with a multiplicity of development, emotional, and socio-cultural disorders (Di Gennaro, Pace, Zollo, & Aiello, 2014). Action research is a good way to sustain a knowledge-creating system as reform continues to evolve according to Bleach. There is much similarity in Bleach's system and the infrastructure proposed by Di Gennaro et al. to maintain practice levels within a system. In many cases, implementation occurs without practice guidelines in place that increases teacher understanding along the way. The focus should be on teacher competency with the necessary supports. However, teachers also need to know when their skills need updating and can share this information within communities of practice. PLCs should be developed to design, implement, and update training for quality improvement and peer assessment (Dittmar & McCracken, 2012, p. 163). Dittmar and McCracken also pointed out the effectiveness of increased satisfaction with teaching practices when teacher quality is intact. Investing in innovative programs in public education can promote rigorous learning for teachers through advanced technology.

Summary and Conclusions

Major Themes in the Literature

In this chapter, I reviewed the literature on research pertaining to major themes about the lack of criteria used in RTI practices and the effects professional development

could have for educators expected to implement RTI (Bineham et al., 2014). The literature pointed to continuous professional development (CPD) in many fields, lifelong learning synonymous with CPD, and recognition of mandates that existed in the area of education without practice guidelines. The absence of legislated guidelines to direct RTI implementation at any school level refutes the necessity for educators to collaborate across school levels. King and Lemons (2014) findings supported elementary educators' use of RTI (76.2%) more than secondary school educators (44.7%). They also posited that little evidence existed to guide RTI practices at the secondary level. To increase implementation practices at the secondary level, King and Lemons indicated that practitioners should be provided with ongoing comprehensive support.

Another theme identified in the literature is communication practices between teams of educators who implement RTI in their various school districts. Isbell and Szabo's (2014) research supported improving communication between teachers at different school levels. Understanding teacher concerns about RTI practices concerns can help the initiative become more successful and lead to making better data-driven decisions about the mandate.

Summary of What is Known in the Discipline

Although RTI mandates are clear regarding national policy in education, states still grapple with issues associated with RTI (Prewett et al., 2012). Mandates are in place to follow for the benefit of public education, but we do not know if some states developed practice guidelines as a result of having to implement national mandates. States continue to implement national policy with no unified models for RTI implementation (Ehren, 2013). Many districts appear to enforce mandates set by the

federal government without any practice guidelines in both RTI and PLC. These practice learning communities can add value to education as a way to build teacher competence levels.

When individuals interact with each other through communities of practice, learning can be a resourceful exchange. Denning (2014) posited that the Internet is an organic system that humans interact with that enhances their capabilities. Technology use through communities of practice by teachers may help them interact and share collaborative intelligence (p. 29). Placing people in communities of practice is what Kennedy (2011) wrote is more efficient than individual continuing professional development (CPD). People bring different mores to a group that sometimes promotes the growth of a community when this information is shared.

Through a network of human intelligence, teachers can collaborate to develop communities of practice. When discussing the digital age, it is necessary to consider networks of people. According to Denning (2014), digital machines are displacing less productive workers in many jobs. Denning writes that use of machines help industries to stay relevant in a digital age. Education can be the vehicle through which students and teachers are ushered into increased skill performance and better social skills. It is similar to what Kennedy (2011) refers to as the "triple lens framework" (p. 25). While teachers need to progress in their skill development, it is not necessary to do it in isolated classroom environments. Kennedy promotes a culture of collaboration sometimes in pairs or small groups, so people do not feel overwhelmed by large groups. Developing Professional Learning Communities (PLCs) in an online environment can help network

groups of teachers. The use of PLCs can further become standardized methods for multiple communities across the country.

Twenty-first-century learning challenges affect everyone in education, and new infrastructures for standardized practices in professional development environments may be helpful for practitioners in the field. Our society evolved over time into a competitive, industrialized society (Kyndt, Govaerts, Claes, Marche, & Dochy, 2013, p. 315). Education and its practices may need to keep pace with society as it continues to evolve. New developments in education practices often require people to obtain additional training. Using standardized practices for professionals' work to bolster student achievement may be one of the ways to change professional development in general education. Workplace learning through professional development may become the paradigm that helps teachers collaborate more in educational practices. Technological infrastructures that meet these learning challenges as well as engaging the actions of stakeholders involved in these practices can help promote development (Govaerts & Baert, 2011, p. 547).

Contemporary challenges can be dealt with in PLCs informally in the workplace between educators. When trying any new initiative such as RTI implementation, data used from informal PLCs in schools can substantiate how to build better infrastructures for future professional development. According to Kyndt et al. (2013), learning intentions should be studied which provides for a better way to look at and evaluate informal structures already in existence. Govaerts and Baert (2011) indicated that making opportunities available for employees to learn as part of their professional development is a win-win situation. What is most important is to see standardized practices in

professional development that aid RTI implementation for teachers in schools across the country. Acclimating teachers to the system at the onset may help build policy development for contemporary learning and standardized practice issues.

Minimal standards, when adhered to, can bring value and levels of competence to any area of practice. Professional psychologists report formal continuing education to be an effective tool for growth (Neimeyer, Taylor, & Orwig, 2013, p. 100). In both education and psychology, there should ethical standards accepted by professionals in the fields to pursue professional development as an accountability measure. Neimeyer, Taylor, and Orwig submitted that the area of psychology favors mandated continuing education. Stedman and Schoenfeld (2011) also reported the acceptance of models in education that assess competence and evidenced by various conferences that focus on the concept. Regardless of the discipline, it is important to identify the components to use when implementing practices in a field to get the desired outcome.

Song, Kim, Chai, and Bae (2014) pointed out that to remain competitive knowledge-sharing and innovative practice plays a significant role. Summarizing what is not known in the discipline related to RTI is the struggle with the implementation of virtual classroom practices. Buxton, Burns, and Muth (2012) pointed to the need to find successful delivery models when schools shift from traditional to virtual classrooms. Song et al. emphasized the importance of knowledgeable workers and their ability to create knowledge and willingness to share it with others. On the other hand, Buxton et al. recognized the motivation levels of learners in a more formal traditional setting. There is an abundance of virtual practices with many online education models. It is important to find a balance between the two by prioritizing them in order of importance. It is

important to know what the field is trying to accomplish within certain timeframes that maximizes benefits to the educational system.

Gap in the Literature

This study fills a gap in the literature by determining the extent to which middle school teacher RTI practice concerns differed from high school teacher RTI practice concerns when measured by the Impact Stage of the Stages of Concern Questionnaire. I researched differences in teacher concerns in middle and high school toward RTI practices using the Impact Stage of the Stages of Concern Questionnaire. The primary way the study closes the gap in the literature is by measuring teacher concerns about collaboration, managing time, and teacher roles to determine any differences. The results would help develop collaborative relationships between middle and high school teachers.

According to Johnson and Smith (2011), RTI implementation is not just a technical approach but a cultural shift that is also required to build tolerance. The study may help contribute to building a foundation for 21st-century capacity building needed by both middle and high school teachers that forge working relationships. In addition, it promotes sharing of different RTI practice concerns in education to build collaborative teacher relationships that assist diverse student populations in middle and high school. The study extends knowledge in the discipline with the development of practice guidelines for teachers implementing RTI at the middle school level that supports next level thinking as students move on to high school. Knowledge-sharing and standardized RTI practices in middle school should seamlessly pass to progress monitoring for teachers in high school.

Transitional Material to Connect the Gap

Perhaps RTI has been misjudged and not enough information is known about its implementation processes. Lipson and Wixson (2012, p. 112) noted the research focus should be on the inner workings of successful approaches and how they can be applied to RTI. Testing has its place. However, measurement-driven approaches capture only a one-dimensional view of student performance and fall short on practicality (O'Reilly, Sabatini, Bruce, Pillarisetti, & McCormick, 2012, p. 163). According to O'Reilly, "results from the National Assessment of Educational Progress (NAEP) show 34% of fourth- grade students read below basic reading levels" (p. 162). Similarly, Lipson and Wixson pointed out a lack of understanding on the part of teachers to employ specific features of interventions that promote successful teaching and learning. There is a long way to go to fuse teacher-student interactions with an effective assessment to produce a solid instructional program in public schools. There are so many different components of RTI that it is difficult to focus on only one.

RTI is a tiered approach with each layer representing a need for intervention for the learner. That is RTI has a much broader scope beyond the struggling student that encompasses the gifted and talented as well. Johnsen, Parker, and Farah (2015, p. 226) indicated the conceptual model of RTI spans the spectrum of both struggling students and those with gifts and talents. Although students with gifts and talents might also have a disability, opportunity to work within the framework can expand the scope of their talents with the necessary modifications Johnsen et al. This is a more dynamic approach to RTI according to Gustafson, Svensson, and Falth (2014, p. 27) where the layers of instruction

are more individualized. It is the tertiary level of RTI where the gifted and talented student can benefit from the multilevel system of support.

There is a fertile opportunity for educators to use technology as a means of gaining access to resources for system support by sharing open exchanges of ideas and experiences in online communities (Booth, 2012, p. 1). Denning (2014) posited that the internet is an organic system that humans interact with that enhances their capabilities. Seizing the opportunity to utilize these innovative approaches to knowledge-sharing between teachers also connects the gap in the literature that are further detailed in chapter three.

In education, the pendulum continues to swing that makes many uncertain about what needs to be accomplished on either side or what is in the middle. Ockerman, Patrikakou, and Hollenbeck (2015, p. 161) referred to the shift from student-centered to instructional factors that influence student learning. Getting people to work together is the challenge that must be accomplished. The premise of RTI's framework is data-based decision-making that pulls general and special education teachers and their families together (Swindlehurst, Shepherd, Salembier, & Hurley, 2015, p. 9). The operative word again is collaboration throughout the chapter. Collaboration between all school professionals is a recognized approach to meeting the need of students with disabilities who share similar goals to addressing the mental health needs of students (Sosa & McGrath, 2013). Getting an understanding of assessment in RTI among all school professionals is what is needed to make system changes. This study has implications for change in RTI implementation practices by determining the extent to which there are differences in middle school and high school teacher RTI practice concerns that can help

build collaborative communities of practice toward RTI.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to determine whether there were differences in RTI practice concerns among middle school and high school teachers when measured by the Impact Stage of the SoCQ. I performed a one-way ANOVA to compare 6-8 grade middle school teachers to 9-12 grade high school teachers on each survey question. The intent of the study was to examine differences in teacher RTI practice concerns between middle and high school teachers. The potential significance of the study is that it may provide useful knowledge for middle school and high school general education teachers seeking to develop collaborative communities to improve education practice and standardize RTI implementation between these school levels.

This chapter includes details about the independent and dependent variables used in the design of the study and how researchers have applied them to the school environment. Information is presented about the targeted teacher population and the strategies and procedures I used for teacher recruitment and participation. A description of the existing instrumentation used in the study, the SoCQ (George et al., 2006), is presented and information provided on its reliability, internal consistency, and validity with several samples and 11 innovations (American Institutes for Research, 2017; George et al., 2006). I provide an overview of the procedures I used for statistical analysis and the calculation of the raw scores from the Impact Stage of SoCQ. This information is followed by a description of the instrumentation and the operationalization of constructs for each variable. A discussion of threats to validity is followed by a discussion of ethical

procedures. As I note in the "Research Design and Rationale" section, a quantitative study best served the present research in that constructs were separate and could be statistically measured and analyzed to yield results that contribute to positive social change.

Research Design and Rationale

The research design for the study was quasi-experimental. I used a one-way ANOVA to determine if there were significant differences in raw scores on the dependent variable-teacher concerns from one group (middle school) to a second group (high school). The study was quantitative in nature. I used the Impact Stage of the SoCQ (George et al., 2006) to measure middle school and high school teacher RTI practice concerns toward RTI implementation. The independent variable in this study was school level with two levels: middle and high school. The dependent variable was teacher concerns toward RTI practices. The design and structure of the research was a static-group comparison consisting of two heterogeneous groups. This design was summarized where X represented the treatment (manipulation of the independent variable and O was the testing. The subjects were randomly selected in their established areas of teaching and their grade levels. Therefore, the established groups were math, science, language arts, and social studies by grade levels.

There were minimal time restraints to conduct data collection consistent with the design of the study. The study's design required me to e-mail subjects with an online survey. The link in the e-mail allowed subjects to open the survey and respond to ten questions. Subjects clicked the submit button at the end of the survey to transmit their responses to Survey Monkey. It was not necessary to use reserve participants in this study

for others who might drop of out of the study for unforeseen reasons. This study's design was conducive to measuring the concerns of teachers who may be expected to implement change.

The choice of design for this study is consistent with previous surveys used in schools (George et al., 2006). Its use could, I believe, advance middle and high school teacher knowledge of RTI practices. According to Johnson and Smith (2011), there are differences in school structure in middle schools that make RTI look different operationally when implemented in middle schools. Students functioning in middle schools meet challenges that may be different from students in elementary schools (Dulaney, 2012).

Methodology

Population

The population for the study consisted of 872 general education teachers from a Northeastern U.S. county with a total of 27 school districts in the county. Each school district is an independent district, but all 27 districts are a part of the Northeastern U.S. county. I used snowball sampling to recruit teachers to the study whom I then divided into two groups. The groups were middle school teachers group (n = 17) and the high school teachers group (n = 14). I recruited as many participants as I could through e-mail recruitment. To save time, I considered obtaining a comprehensive e-mail list from MCH Strategic Data, a data services company that provide teacher email contact lists for e-mail campaigns. It was more cost-effective, I concluded to obtain subject email addresses through each respective school district website.

Sampling and Sampling Procedures

I contacted the Northeastern U.S. county Office of Education to obtain an e-mail distribution list of middle and high school principals in the district. This preliminary action notified principals of my intent to recruit teacher subjects in their respective schools. It was a courtesy communication to leadership to anticipate teacher recruitment in the district and recognize teacher time restraints. All solicitation materials to acquire study subjects included information about the nature and importance of the study along with its potential implications for the field of education. Specific procedures on how the sample would be drawn included identifying teachers through e-mail marketing lists. I provided a short e-mail invite letter via the Constant Contact technology platform, an e-mail marketing service, to each subject who expressed interest in participating in the study.

The sampling frame included general education teachers who agreed to participate, were able to understand the SoCQ, and had at least two years of teaching experience. There are categories of concerns among people that implement new innovations that researchers recognized in the development of the tool (George et al., 2006). These categories include the impact, task, self, and unconcerned stages. Over time, the instrument's development progresses toward seven stages that reflect these concerns (George et al.,2006). The Impact Stage of the SoCQ was best related to the research question in this study. Therefore, I adapted the instrument for fielding as an online questionnaire via the survey platform, Survey Monkey. The instrument included eight questions and was administered via a group e-mail distribution to all study subjects on the same day. The results for survey responses helped me to make comparisons and contrast

differences in concerns among middle and high school teacher groups on RTI implementation.

Snowball sampling was used to obtain a sample of 31 general education teachers in math, science, social studies, and language arts from a total population of 872. The teachers were placed into one of two groups by their teaching assignments. There were 17 middle school teachers and 14 high school teachers. The sample consisted of middle school teachers in Grades 6-8 in math, science, social studies, and language arts and high school teachers in Grades 9-12 in math, science, social studies, and language arts. One-way ANOVA was used to evaluate differences in raw scores on the dependent variable-teacher concerns of the Impact Stage of the SoCQ. Of the seven stages in the SoCQ, the categories of concern for the impact stage of the instrument best related to the research question in this study. Alpha levels at .05, indicating a willingness to accept a 5% chance of error in the statistical analysis and power at 0.95 representing a 95% chance of finding statistically significant differences when they exist. The effect size was set at 0.5. A Survey Monkey Sample Size Calculator was used to determine the appropriate sample size.

Procedures for Recruitment, Participation, and Data Collection

Almost all districts within the Northeastern U.S. county school district currently implement some form of RTI (NJPSA, 2015). The nature and details of the study appeared in a single paragraph of the invite and emailed to teachers to participate in the study. They responded back to the invite with their interests in participating by returning a completed survey. Once interested teachers were identified the SoCQ was emailed by

Survey Monkey to the teacher sample population. The final consent for participation was obtained through the receipt of a completed survey.

Demographics collected for the study included the number of years working as a teacher, grade level, and subject for middle and high school general education teachers. The accuracy of the subjects' email addresses was guaranteed by obtaining them from school district websites. Teachers with two plus years of teaching experience in middle and high school should have perspective about RTI and the benefits of such a study. The practical knowledge that teachers bring to the study by being on front lines of implementing approaches to RTI can increase the viability of its findings (Wixson & Valencia, 2011).

I drew participants using teacher email lists to draw a random sample. Utilizing this approach helped in a couple of ways: 1) the population was drawn from various school districts in the Northeastern U.S. county and can increase validity of the study through diverse participants that become involved in the study and 2) engaging with teachers in an online environment can create a future network of teachers interested in RTI that later advances work in the field. Once a network of interested teachers is in place, results of the study can be used as a give-back component for future work in other Northeastern U.S. county school districts. The foundational work for this study can become a stepping stone for future online learning around the topic of RTI. This study may contribute to the research in what Kuo (2014) discussed as the next generation of school personnel using computers to engage in advanced thinking and problem-solving.

Teachers learned about the nature of the study through an e-mail invite sent to the total teacher population. Information study participants received and procedures to carry

it out outlined how the study connects to middle and high schools. Data for the study were collected via an online survey using survey monkey. There were no other follow-up requirements after the submission of a completed survey.

Instrumentation and Operationalization of Constructs

I used an existing tool (the SoCQ, specifically the Impact Stage) to measure teacher concerns from survey responses (see Appendix A for a copy of the instrument as used in this study). The SoCQ is an appropriate instrument to use as it has been used previously to measure teacher concerns about different innovations. As George et al. (2006) noted, researchers have used the instrument in cross-sectional and longitudinal studies of 11 educational innovations.

The appropriateness of the tool in this study is the measurement of general education teacher RTI practice concerns toward RTI implementation in middle and high school. The instrument enabled the researcher to evaluate differences in raw scores between middle and high school teacher RTI practice concerns and draw conclusions about the differences between the teacher groups related to RTI implementation.

The SoCQ is a commercially published test and can only be used by submitting a Copyright Permission Request online to Southwest Educational Development Laboratory which owns the copyright. Distribution is controlled by distributing the tool only to those participants engaged in the research. I obtained permission from the Laboratory to use the published questionnaire and make changes only by replacing the word innovation with the specific name in this study – (RTI) that identifies the innovation.

The SoCQ is related to the present study through its investigation of teacher concerns using the impact stage of the questionnaire that focused on the concerns of

individuals involved in facilitating institutional change in school settings (George et al., 2006). George et al. indicated that these studies presented reliable evidence of the stages of concern when predicting teacher progress in response to change efforts. The current study focused on the Impact Stage of the SoCQ for middle and high school teacher concerns about RTI practices toward implementation strategies, programs, and collaborative practices.

The test creators ensured the reliability of the SoCQ by including an item only if it correlated higher to responses to other items measuring the same stage of a concern than with responses to items for other stages. The alpha coefficients for each of the seven stages reflect the degree of reliability among items on a scale in terms of overlapping variance (George et al., 2006). A stratified sample of 834 teachers and professors were exposed to the 35-item questionnaire in 1974. Two weeks later, the second sample of 171 completed the SoCQ. From that sample 132 completed and mailed in the retest data. According to George et al. without the use of such a diverse group it would not have been possible to obtain reliable estimates of the alpha coefficients.

The test developers investigated the validity of the SoCQ by examining how scores on the seven stages of concern scales relate to one another and to other variables. George et al. pointed out that intercorrelation matrix, judgments of concerns based on interview data, and confirmation of expected group differences and changes over time were used to investigate the validity of the SoCQ scores. The seven-point Likert-type tool used today is a valid instrument to assess teacher concerns about new programs and practices while measuring implementation in schools. In one such case, the validity of the tool was established using faculty from a single school that participated in a longitudinal

study of team teaching. According to George et al., teachers in the school moved from not teaming to the establishment of routine team teaching within a two-year period.

The SoCQ has been previously used and will help create better acceptance of the hypotheses in the scientific community. George et al. indicated that the SoCQ is a valid and reliable instrument to measure progress toward implementing new practices when gathering data using the tool and can be repeated for this study by other researchers performing a similar experiment. The use of public means through teacher email lists to recruit teachers increases the chance of diverse participants in the study across the Northeastern USA county school districts. The SoCQ measured teacher concerns about implementing new programs and practices in school settings. The scale was adapted to the RTI paradigm using the same questions to measure concerns about RTI practices of middle and high school general education teachers toward RTI implementation. Data for this study was obtained by public means solicited from the Northeastern USA County school district consisting of a heterogeneous sampling of middle and high school general education teachers that represented the general population.

The basis for the development of the survey instrument was to utilize an already published tool to draw conclusions about differences in raw scores between middle and high school teacher concerns toward practices about RTI implementation. The data collection point came from the impact stage of the SoCQ, an online survey given to middle and high school general education teachers using survey monkey that measured teacher concerns about RTI. The goal is to ensure the tool gathers data that is reliable and can be repeated by other researchers performing the same experiment.

Use of the SoCQ for this study without any modification helps reduce the threat to reliability and validity of the tool. The survey was distributed via email to two different teacher groups at the same time. There were no changes to the tool itself for either group to maintain validity and reliability of the instrument except the context of the RTI paradigm. This study sought to glean data on teacher concerns similar to what the tool was originally used to measure. That is concerns about new programs implemented in schools and the collaboration of middle and high school teacher groups on RTI implementation. The number of test questions was adjusted to a total of ten questions and the rating scale remained unchanged when it was administered to both teacher groups.

Dialogue important to the sample population and developing practical teacher expectations regarding RTI implementation is paramount. School professionals have sought ways to dialogue and collaborate since the 1970s on ways to meet the needs of students with disabilities (Sosa & McGrath, 2013). Additionally, Sosa and McGrath indicated a growing awareness about the need for school professionals to collaborate to be able to effectively implement interventions.

A reality-based construct in many Northeastern U.S. county schools, the aim of this study was to solicit general education teachers who are interested in the topic of RTI and their concerns toward implementation is the connection that teachers make to the study. A practical knowledge of what teachers currently observe in schools on a routine basis about RTI implementation is important to the study. Those study subjects that participated should be able to relate to the tool's construct and the responses measure what it was intended to do. The goal is to make legitimate inferences from the theory of

planned behavior construct as it relates to RTI. Through the lens of TPB, teacher concerns were measured toward RTI implementation and their intentions to collaborate with each other, manage their time, and evaluate teachers' roles as a means of determining whether teacher concerns influence teacher behaviors. Determining how teachers feel about the construct and capturing their concerns on the impact stage of the stages of concern questionnaire provided factually sound evidence with the use of a valid tool for measurement of teacher concerns. Measuring concerns using a Likert scale for purposes of differentiating highs and lows is a good measuring tool responsive to the variables it measures. Thus, generalizing about teacher concerns toward RTI implementation using the TPB construct can help advance practical application in the field by determining cause and effect related to implementing RTI in the district.

Using the impact stage of the SoCQ, I received data about teacher concerns toward RTI implementation. Based on previous research, "the advent of RTI implementation occurred in districts across the country over a decade ago" (O'Connor & Witter-Freeman, 2012, p. 297). This evidence pointed to many schools that may already have intervention criteria in place to support students struggling academically. This study's theory about the extent of the teacher concerns, whether positive or negative in relation to the raw scores and any differences that provided evidence of our measures. Differences in raw scores between teacher groups helped determine statistical significance and were able to help make inferences and draw conclusions from the data.

The tool itself is sufficient to answer the study's research question for the measurement of middle and high school teacher concerns. However, a basic working knowledge of intervention strategies used in school districts coupled with professional

experience of the sample participants helped determine the categories of questions to be used on the survey instrument.

The variables in this study include an independent and dependent variable. The independent variable to be manipulated for this study is school level with two levels: middle and high school and the dependent variable is teacher concerns toward RTI as measured by the impact stage of the SoCQ. The sample population consisted of 872 non-related, multiple grade-level, middle and high school general education teachers in math, science, social studies, and language arts. Middle school teachers comprised one group of 17 teachers and high school teachers comprised another group of 14 teachers in the study. The study measured teacher RTI practice concerns as the dependent variable on the impact stage of the SoCQ. I evaluated differences in raw scores on the dependent variable-teacher concerns toward RTI practices for middle and high school teachers using the impact stage of the stages of concern questionnaire. Participants in the study were asked to rate questions on a scale 0-7 by selecting one appropriate response to each question. The questionnaire consisted of an existing scale with 10 questions to yield optimal results. The subjects' items were added and a grand total for each subject created. ANOVA was used to evaluate differences in raw scores on the dependent variable-teacher concerns using the impact stage of the stages of concern questionnaire to ascertain if there were any significant differences in the raw scores of the two tested groups.

Data Analysis Plan

SPSS is the software that was used to complete the analysis. One-way ANOVA was used to test for significance of differences in raw scores between middle and high

school teacher groups. As a precursor to screening and cleaning data, I maintained a research journal for the collection of data as documentation during the data collection process. The journal contained variable names, coding schemes, labels for missing data, any values associated with the variables and documentation of any changes along the way that needed to be uploaded to SPSS. Unique identifiers such as participant email addresses were kept separate from the research data. The Constant Contact software used to recruit teachers for the study was password-protected. After identifying interested study subjects their names and email addresses were entered into a separate database in the Eventbrite system to create actual study subjects. Communication occurred with participants through this system from the beginning to the end of the research study. Although a journal was used, research data was kept in an online environment via a hard and thumb drive for backup.

An outline was created that detailed the analysis plan for the study. The plan consisted of step-wise procedures describing the requirements for the researcher at each stage of the research process. For example, the plan includes group names, a timeline for inclusion of all study participants, confirming the state of each participant, and other identifying information in a table format utilizing Microsoft Word. The plan also contains a note section. It guides my efforts when problems arise such as ensuring equal groups at the outset of the study, checking assumptions for the test analysis, and procedures to conduct for violation of assumptions. Knowing when to apply statistical principles to resolve discrepancies with the data is also part of the notes section. A good rule of thumb is to over-estimate the number of participants needed so that the appropriate number determined by The Survey Monkey Sample Size Calculator

represents the study participants. The excess member names and email addresses were kept in a smaller database labeled reserved members. In the event that participants are missing, it may become necessary to draw from the reserve members. It might also be a good idea to include the over-estimates in the sample population at the onset to ensure equal group populations.

Statistics were reported using ANOVA to evaluate differences in raw scores on the dependent variable-teacher concerns using the Impact Stage of the SoCQ for middle and high school teachers. The ANOVA tested for significant differences in raw scores when measured between groups on the same dependent variable. The research question for this proposal focused on determining the extent to which middle school and high school teacher raw scores differed about RTI practice concerns on collaboration, time management, and teacher roles when measured by the Impact Stage of the SoCQ.

The research question was as follows: To what extent do middle school and high school teacher raw scores differ on RTI practice concerns with regard to collaboration, time management, and teacher roles when measured by the Impact Stage of the SoCQ?

Null Hypothesis: H_0 – There are no significant differences in raw scores in middle school 6-8 grade and high school 9-12 grade teachers' RTI practice concerns when measured by the impact stage of the SoCQ.

Alternate Hypothesis: H_A – There are significant raw score differences in middle school 6-8 grade and high school 9-12 grade teachers' RTI practice concerns when measured by the impact stage of the SoCQ.

The results of the ANOVA test were considered statistically significant if the calculated *p*-value was =< .05. In this case, the null hypothesis would be rejected and the

alternative hypothesis would be accepted. If the calculated *p*-value is more than .05, the null hypothesis would be retained. If there are significant differences, the raw scores would indicate which group is bigger. From this, I was able to infer and discuss the influence of the independent variable.

Threats to Validity

The ability to make legitimate inferences from the TPB construct using an existing instrument to measure teacher concerns toward RTI is the goal in controlling external and internal validity in the study. Determining teacher RTI practice concerns about RTI implementation, using existing scales with established validity and reliability, and capturing their concerns from the impact stage of the stages of concern questionnaire provides evidence for validity. RTI is an existing intervention already used in schools across the country and teachers, through Intervention and Referral Service Committees (IR&S) in schools have practical experience in how to address issues related to RTI. An already established tool that has reality-based applicability to the TPB construct is at the heart of the matter. The tool is not being changed in any way but altered only to reflect a total number of 10 questions that were scored on a 7-point scale ranging between 0-7. At the lower end of the scale is 0 that expresses the irrelevance of the concern toward RTI practices. Between levels 1-2 of the scale concern was expressed that was not true at the time the person was taking the survey. At 3-4-5 concern toward RTI practices is somewhat true of the person taking the survey and between 6-7 concerns about RTI practices is very true at the time the person takes the survey. The goal is to capture all the elements of the construct in question and accurately gather responses about the extent of the concerns towards RTI practices. Additionally, drawing from a teacher population

throughout the Northeastern U.S. county should glean participants from different cultures that also help to make the questionnaire a valid tool.

In this study, history, maturation, selection, and mortality factors could have an impact on internal validity. Although only one measurement, it is difficult to ascertain the number of teachers in the Northeastern U.S. county school district familiar with RTI practices. However, the state does require its implementation. Maturation could play a role that jeopardizes internal validity in the time lapse between study subjects agreeing to participate and the test administration. The survey instrument was administered on the same day providing no change of heart in participating. Should this occur, there would be a lapse in time causing me to repeat the invite process. The best way to control for this is by sticking with the timeline specified in the invite instructions. There are weaknesses to a selection that can pose threats to internal validity in that both middle and high school teachers are within the same county. This can be best controlled for selection bias by randomly selecting teachers from across various school districts. Mortality presents an internal threat when study subjects who agree to participate drop out due to mortality. I do not anticipate mortality being a huge threat, but it must be planned for in the study. The minimum requirement of two years teaching experience could draw younger teachers to participate in the study. Getting responses back that stick to the timeline can help minimize the risk of mortality.

Ethical Procedures

I obtained approval for the study from Walden University's Institutional Review Board (IRB: 12-01-17-0281881) to ensure that I adhered to ethical procedures and that participants and the institution were well protected. I followed the research protocol

required by the IRB. All information about participants will remain confidential and will not be used for economic gain by any person or company involved.

Public means were used to recruit teachers for the study by going to each district's website to obtain the subjects' email addresses. There was no agreement or sponsorship letter required by the researcher because the data were obtained through public means to recruit teachers for the study. Confidentiality of the subjects was protected by using IRB-approved researcher-participant agreements for the collection of data. I protected personally identifiable information by using research identification codes that do not use names or social security numbers. To further protect confidentiality, I removed face sheets that have personally identifiable information, stored research data in locked cabinets, and destroyed recruitment records when no longer needed for research. No data was solicited from potential participants of the study before IRB approval. Informed Consent Forms from each participant was denoted after IRB approval once a completed survey was received. Completed copies of the surveys were stored in the cloud with a hard copy of each completed form in a file in my home office. All of these steps helped protect the anonymity of each subject.

In building a network of participants, it is expected that some will not follow through on the completion of the study. In this scenario, I expect to recruit in excess the number of teachers required for use in the study. These cases will be kept in reserve to predict cases of withdrawal or any other adverse effects that could affect the study.

All work for the study was carried out using my personal computers including a desktop and laptop. Both computers are password protected and remain in my possession especially the laptop when traveling. Under travel conditions, my laptop has keyed entry

to access the bag where it is transported. The initial step is to set up the existing Eventbrite or other email management technology platform account that is password protected where I am the only user and change passwords periodically for the security of the account. It allows me to create a simple invite to potential study participants that included information about the nature and importance of the study. Data for the study will be kept for a period of five years should the university or another professional entity requests the original data.

Summary

The method of inquiry for this study was quasi-experimental and quantitative in nature utilizing the impact stage of the SoCQ to evaluate differences in raw scores on teacher concerns about RTI practices in middle and high school. Teachers were broken down into two groups. A SoCQ was used as an online survey through survey monkey and emailed to each teacher based on the classification category of a middle or high school teacher. ANOVA was used to evaluate differences in raw scores between the two middle and high school teacher groups in math, science, social studies, and language arts to determine how much variance there is in the sample population.

Chapter 4: Results

Introduction

The purpose of this study was to determine if there were differences in RTI practice concerns among middle school and high school teachers when measured by the impact stage of the SoCQ. Responses from this quantitative study assessed the extent to which there were differences in middle and high school teacher raw scores on RTI practice concerns regarding collaboration, time management, and teachers' roles when they were measured using the Impact Stage of the SoCQ. Determining whether or not there were statistical differences in raw scores when measured by the Impact Stage of the SoCQ in middle school teachers Grades 6-8 and high school teachers Grades 9-12 RTI practice concerns was the goal of this study. In this chapter, I describe the implementation of the research design, threats to validity, analysis, evaluation, and summary of findings.

In this study, I examined differences in RTI teacher practice concerns between middle school 6-8 grade and high school 9-12 grade regarding collaboration, time management, and teachers' roles. I found limited research existed in the literature search beyond the elementary school level on the implementation of RTI practices. In conducting this investigation, I attempted to fill a gap in the research to guide efforts for RTI implementation in middle and high school. Without information on teacher concerns about differences between these two levels, general education teachers may not be able to share practice concerns that may be beneficial to RTI implementation in secondary schools. To address this gap, I researched the concerns of general education teachers using a survey. The study design was quasi-experimental. Study participants completed a

survey that told whether there were significant differences in concerns about collaboration, time management, and teachers' roles.

The research question for this study was, To what extent do middle school and high school teacher raw scores on RTI practice concerns differ with regard to collaboration, time management, and teachers' roles when measured by the Impact Stage of the SoCQ? The null and alternative hypotheses were, as follows:

Null Hypothesis: H_0 – There are no significant differences in raw scores in middle school 6-8 grade and high school 9-12 grade teachers' RTI practice concerns when measured by the Impact Stage of the SoCQ.

Alternate Hypothesis: H_A – There are significant raw score differences in middle school 6-8 grade and high school 9-12 grade teachers' RTI practice concerns when measured by the Impact Stage of the SoCQ.

This chapter is organized in a way that provides a general overview of the data collection process. I describe in a systematic way from beginning to end the time-frame associated with the data collection, and discrepancies in collecting data. I also report the baseline descriptive and demographic characteristics of the sample. The chapter concludes with a statistical analysis of the findings including tables and figures to illustrate the results as they pertain to this study.

Data Collection

Time-Frame

The time-frame for data collection was January 30 –to May 30, 2018. Initial e-mail invitations went out to possible study subjects. During that time, participants volunteered to take the survey, welcomed volunteers to invite others to participate as part

of my use of the snowball sampling technique. I reached out by e-mail to approximately 50 prospective subjects and asked them to send the questionnaire to others.

Recruitment and Response Rate

I initially planned to use an e-mail list that was to be purchased from MCH Data. When I began data collection, I determined that it was more cost-effective to obtain the subject e-mail addresses from the school district websites. Additionally, obtaining the e-mails from the district websites were more current because some reflected changes to marital status that otherwise would not have been obtainable from MCH Data. I submitted a Request for Change in Procedures to Walden University IRB and was granted approval on January 24, 2018.

The initial e-mail invitation included the informed consent and link for the survey. I sent the link to the survey to a total population of 872 subjects on January 30, 2018, via Constant Contact, an e-mail software database. There were 193 subjects who opened the invitation. Of those, three subjects completed the survey. I sent the e-mail reminder invitation with the survey link out again to the total population of 867 subjects. There was a reduction in the total population on February 20, 2018 that thee-mail reminder invitations were sent to because the subjects were no longer employed at the schools. The open rate for the reminder invitation was 489 subjects that saw the survey.

Discrepancies in Data Collection

Several unexpected issues arose during data collection. These included case sensitivities to first and last names in subject e-mail addresses causing many of them to bounce. Several of the subjects were listed on the district website but no longer employed in the school district. I had to input the correct e-mail addresses into Constant Contact so

they could be re-sent allowing each missing subject an opportunity to take the survey. A lot of time was spent inputting additional e-mail addresses into Constant Contact and re-sending the e-mail invitations. Personal outreach was necessary by e-mail to encourage participation that slightly extended the length of time proposed for the data collection process.

Although much effort went into trying to correct these issues associated with data collection the lack of response for completing the survey was too low. I determined further work with my committee was needed to rethink what I was trying to do, change the protocol to reflect the new actions, and seek approval from IRB to carry out these actions. Final documents approved by Walden University IRB for a change of protocol included a memo to district superintendents in the county where data was being collected. District superintendents who agreed to participate. District Superintendents agreed to send the survey to building principals in their district. The principals in turn sent the survey directly to study subjects. This part of the data collection process was not problem-free. Many of the schools experienced issues identifying the link in the informed consent to take the survey. Although I completed all the checks on my end to ensure the link was active before e-mailing to the schools, I was informed that the link once forwarded had been broken. Much follow-up by e-mail and in-person was needed to ensure that school secretaries sending the survey on behalf of principals understood what they were e-mailing and to which subjects within the school. This process increased the number to a total of 31 completed surveys.

Descriptive and Demographic Characteristics

A total of 31 volunteers participated in the study. Frequency statistics were conducted on all categorical demographic variables to describe the sample. There were three missing observations for the demographic questions. There were no incomplete responses to the survey questions. I obtained a total of 31 valid, completed questionnaires.

I examined the demographic data for the participants. The frequencies of the categorical demographic variables are presented in Table 1. Of the 31 participants, the sample represented a variety of experience in teaching: one indicated 2-3 years experience working as a teacher, one indicated 3-5 years experience, three indicated 6-10 years of teaching experience, eight indicated 11-15 years experience in teaching, 11 reported 16-20 years teaching experience, and seven indicated more than 20 years of teaching experience (see Table 1). The frequency of the categorical variable on grade levels was 17 participants from the middle school level Grades 6-8 and 14 participants from the high school level Grades 9-12. The last categorical variable for subject area taught by the participants taking the survey showed there were three missing observations, indicating eight mathematics teachers, five science teachers, three social studies teachers, and 12 language arts/English teachers.

Table 1

Demographic Characteristics

Variable	Level	Frequency (%)
Teaching experience		
	2-3 years	1 (3.2%)
	3-5 years	1 (3.2%)

	6-10 years	3 (9.7%)
	11-15 years	8 (25.8%)
	16-20 years	11 (35.5%)
	More than 20 years	7 (22.6%)
Grade		
	6^{th}-8^{th}	17 (54.8%)
	9^{th}-12^{th}	14 (45.2%)
Subject		
	Math	8 (28.6%)
	Science	5 (17.9%)
	Social Studies	3 (10.7%)
	Language Arts/English	12 (42.9%)

Representative Sample and External Validity

Based on the demographic data collected from the participants in this study my sample did bear some relationship to the general population. In terms of grade levels, 17 of the 31 participants (54%) indicated they taught middle school 6-8 grade while the remaining 14 (45%) indicated they taught high school Grades 9-12. This distribution is not significantly different from the approximately equal distribution of grade levels observed in the general population where there were non-significant differences between 6-8 grades and 9-12 grades.

Intervention Fidelity

Participants self-administered the survey after clicking on the link that directed them to the survey questions. The survey was implemented as it was intended (in terms of randomness) by Survey Monkey to randomly assigned groups. Communication delays by principals to share the survey with teachers prevented some participants from being a part of the study. The scores on the Likert-scaled SoCQ that were self-reported by participants quantified teacher concerns about implementing RTI. As stated in Chapter 1, the dependent variable teacher concerns were measured by the Impact Stage of the SoCQ

using the independent variable teacher grade level. There were no adverse events with serious consequences that affected the overall study.

Study Results

Statistical Methods

Frequency statistics were run on all categorical demographic variables to describe the sample. The assumption of normality for each survey question was checked using skewness and kurtosis statistics. If either statistic was above an absolute value of 2.0, then the continuous outcome's distribution was assumed to be non-normal. Levene's Test of Equality of Variances was used to assess the assumption of homogeneity of variance when comparing independent groups – teacher groups' middle school Grades 6-8 and another group high school Grade 9-12. One-way ANOVA analysis was used to compare the 6^{th}-8^{th}-grade teachers RTI practice concerns to 9^{th}-12^{th}-grade teachers RTI practice concerns on each survey question. Post hoc tests were conducted using Tukey's test when significant main effects were found. Means and standard deviations for each group were reported. Statistical significance was assumed at a Bonferroni-adjusted alpha value of 0.007 to account for experiment-wise error rates. All analyses were conducted using SPSS Version 22 (Armonk, NY: IBM Corp.).

To test my hypotheses, my data analysis plan called for a one-way analysis of variance (ANOVA) to compare the raw scores on teacher concerns about RTI between middle school and high school. The demographic characteristics of the sample are presented in Table 1. The assumptions of normality and homogeneity of variance were met for each survey question outcome. There were enough people in each group that it was a normal distribution and variances were approximately equal across groups.

One-way ANOVA tests were used to compare the 6th-8th and 9th-12th grade teaching groups on each survey question outcome. A non-significant main effect was found for Question 1, $F(1, 26) = 0.94$, $p = 0.34$, $\eta^2 = 0.04$, power = 0.15. There was not a significant difference between the groups for Question 2, $F(1, 28) = 0.05$, $p = 0.83$, $\eta^2 = 0.002$, power = 0.06. Non-significant main effects were found for all other survey questions: Question 3, $F(1, 29) = 0.07$, $p = 0.80$, $\eta^2 = 0.002$, power = 0.06, Question 4, $F(1, 28) = 0.05$, $p = 0.82$, $\eta^2 = 0.002$, power = 0.06, Question 5, $F(1, 28) = 0.01$, $p = 0.94$, $\eta^2 = 0.001$, power = 0.05, Question 6, $F(1, 29) = 0.99$, $p = 0.33$, $\eta^2 = 0.03$, power = 0.16, and Question 7, $F(1, 29) = 0.98$, $p = 0.33$, $\eta^2 = 0.03$, power = 0.16. Means and standard deviations for the ANOVA analyses can be found in Table 2.

Table 2

Comparative Descriptive Statistics for ANOVA Analysis of Middle and High School Teachers

Survey question	6th-8th middle school teachers	9th-12th high school teachers	*p*-value
Q1	1.59 (0.71)	1.91 (1.04)	0.34
Q2	1.56 (0.81)	1.50 (0.76)	0.83
Q3	2.00 (0.61)	1.93 (0.92)	0.80
Q4	2.00 (0.94)	2.08 (0.86)	0.82
Q5	1.69 (1.01)	1.71 (0.91)	0.94
Q6	1.71 (0.92)	2.00 (0.68)	0.33
Q7	1.88 (0.78)	2.14 (0.66)	0.33

Next, a series of ANOVA tests were conducted to test for significant main effects for teachers that had less than 16 years of teaching experience versus those that had over

16 years of experience. The statistical assumptions for each of these tests were tested and met. Therefore, one-way ANOVA tests were used for purposes of these comparisons. Similar to the grade level teaching analysis, non-significant main effects were not found for any survey questions: Question 1, $F(1, 26) = 0.15$, $p = 0.70$, $\eta^2 = 0.006$, power = 0.07, Question 2, $F(1, 28) = 0.001$, $p = 0.98$, $\eta^2 = 0.001$, power = 0.05, Question 3, $F(1, 29) = 0.40$, $p = 0.84$, $\eta^2 = 0.001$, power = 0.05, Question 5, $F(1, 28) = 0.53$, $p = 0.47$, $\eta^2 = 0.02$, power = 0.11, Question 6, $F(1, 29) = 1.95$, $p = 0.17$, $\eta^2 = 0.06$, power = 0.27, and Question 7, $F(1, 29) = 0.99$, $p = 0.33$, $\eta^2 = 0.03$, power = 0.16. Means and standard deviations for these findings are presented in Table 3

Table 3

Descriptive Statistics for ANOVA Analysis Based on Years of Teaching Experience

survey Question	< 16 years	> 16 years	*p*-value
Q1	1.80 (0.92)	1.67 (0.84)	0.70
Q2	1.54 (0.78)	1.53 (0.80)	0.98
Q3	2.00 (0.71)	1.94 (0.80)	0.84
Q4	1.92 (1.00)	2.11 (0.83)	0.57
Q5	1.85 (1.07)	1.59 (0.87)	0.47
Q6	2.08 (0.95)	1.67 (0.69)	0.17
Q7	2.15 (0.69)	1.89 (0.76)	0.33

Finally, the total score for the seven survey questions was calculated by summing the seven items together. Due to missing observations within the individual questions, the total scores for the sample could only be calculated for $n = 27$ participants. The total score was checked for normality and the assumption was met. For the comparison of grade level, a non-significant difference was detected, $F(1, 25) = 0.85$, $p = 0.37$, $\eta^2 = 0.03$, power = 0.14. For the comparison of teaching experience levels, a non-significant

main effect was also found, $F(1, 25) = 1.09$, $p = 0.31$, $\eta^2 = 0.04$, power = 0.17. Means and standard deviations for these findings can be found in Table 4.

Table 4

Descriptive Statistics for Total Score ANOVA Analysis

Predictor grade level	Level	*M* (SD)	*p*-value
	Grade 6^{th}-8^{th}	12.38 (3.76)	
	Grade 9^{th}-12^{th}	13.64 (3.04)	0.37
Teaching experience			
	<16 years experience	13.80 (3.50)	
	>16 years experience	12.35 (3.46)	0.31

Expectations, Results, and Statistical Significance

This section contains information about expectations of the study, results, and lack of statistical significance. I expected to get enough completed surveys back to be able to determine statistical differences if any were to be found in the sample population. I also expected to send an initial and reminder invitation to study participants to take the survey and receive enough to show an effect in the sample population. When a limited number of completed surveys were returned, a change in protocol seeking support from district superintendents/principals in the Northeastern U.S. county school district was another way of getting assistance with receiving more completed surveys. The TPB framework was used to predict teacher intentions about how they perceive their roles and sharing RTI implementation practices. I reasoned statistical differences would be detected between the grade levels in the sample that could help create a systemic approach to making data-driven decisions about RTI at the secondary level.

Literature supports RTI implementation in elementary schools but there is much less support in the literature about implementation at the secondary level (Bouck & Cosby, 2017). Data-driven decisions made by educators affect students at all levels. In this study, there were no significant differences in raw scores in middle school 6-8 grade and high school 9-12 grade teachers' RTI practice concerns when measured by the impact stage of the SoCQ. The study did not detect any significant differences with the obtained sample size. Demographic characteristics of the sample on teacher experience did show participants with 11-15 years experience was more concerned about developing working relationships with their own faculty as well as outside faculty. Data collection was impeded because the schools changed their process during the time of the study.

The schools did not properly facilitate the process for sending the surveys to participants. Communication delays by principals to share the survey with teachers prevented some participants from being a part of the study. RTI was not implemented at the schools as planned and school secretaries were left to administer the survey to participants and were unclear about which teachers to send the survey to and how to access the link to the survey.

The value of this study to future research can help peer scholars create sharing opportunities. This could encourage new directions for further studies. However, before undertaking any such studies future researchers should seek out larger sample sizes in order to test for meaningful differences in the outcomes.

Summary

In this study, I measured the extent to which there were differences in middle school teachers' Grades 6-8 and high school teachers' Grade 9-12 practice concerns when implementing RTI. I used the impact stage of a research instrument, the SoCQ to quantify the study using a Likert scale. I compared the raw scores on the questionnaire between middle school teachers and high school teachers and their concerns about implementing RTI.

The results of the study did not indicate significant evidence to support my hypothesis. There were difficulties in data collection that affected the sample size and the small effect did not achieve statistical significance. Subsequently, there were non-significant differences in teacher concerns between middle school Grades 6-8 and high school Grades 9-12 for all outcomes that measured concerns about collaboration, teacher roles, and time management. The categorical demographic variables used to describe the

sample did not have anywhere near enough observations to detect statistical significance between the grade groups or the experience groups.

Chapter 5 outlines in detail the findings of this study and what it means to secondary education. I also explore those questions on the research instrument that was closest to achieving statistical difference and where efforts can be focused in the future. Finally, I provide interpretations of the study's findings and offer insight into what they mean to RTI, general education, and teacher practices.

Chapter 5: Discussions, Conclusions, and Recommendations

Introduction

In this chapter, I reiterate the purpose and nature of the study, interpret findings, and discuss the rationale for conducting the study. A discussion about the results of the study illustrates why RTI has not received much attention in U.S. secondary schools (Bouck & Cosby, 2017). Included in this discussion are the social implications of the research and how educators might contribute to positive social change in the current U.S. educational system. In this chapter, I also review the limitations of the study and provide recommendations for specific areas of future research in secondary education. I conclude the chapter with a discussion about how this study has contributed to the research on the topic of RTI and its importance in public schools across the United States.

Review of Purpose and Nature of the Study

The purpose of this study was to determine whether there were differences in practice concerns among middle school and high school teachers. For this quantitative study, I used a quasi-experimental design with a one-way ANOVA to evaluate differences in raw scores on teacher concerns pertaining to RTI implementation. I used the Impact Stage of the SoCQ (George et al., 2006) to measure RTI teacher practice concerns regarding collaboration, managing time, and teacher roles in middle and high schools. I conducted this study to determine whether there were any significant differences in practice concerns between the two levels. I anticipated that study findings would be helpful to teachers at both levels in building collaborative working relationships to improve classroom practices.

The key findings of this study were that there were differences, but nonsignificant ones on seven questions that measured teacher practice concerns toward RTI implementation with regard to collaboration, managing time, and teacher roles between Grades 6-8 and Grades 9-12. I used a Likert scale that ranged between 0 and 7. Mean totals on each outcome averaged 1.59 with the highest mean score being 2.14. These scores all ranged on the lower end of 7.0 scales which means there was little to no practice concerns between participants at both levels toward RTI implementation. In the chapter, I provide further details about the outcomes of the study. Some of the survey responses were closer to showing a statistical difference than others. Later in the chapter, I present my thoughts about future research pertaining to these questions and how the research supports these efforts.

Interpretation of Findings

The results of this study contribute new knowledge to the field of education about RTI teacher concerns. As discussed in Chapter 2, more research was needed to determine the extent of secondary teacher concerns toward RTI implementation (Sanger et al., 2012). I used TPB (Ajzen, 2011) as a framework for my investigation of teacher intentions. My findings denoted nonsignificant differences between Grade 6-8 middle school teachers and Grade 9-12 high school teacher concerns for all outcomes. Specifically, the findings of this study show a low mean score for both grade levels toward teacher intentions to build collaborative relationships to implement RTI. Building collaborative relationships was one outcome of more concern to high school teacher participants than middle school teacher participants on the SoCQ but not enough to achieve statistical difference. As noted in Chapter 2, Regan et al. (2015) in their research

pointed out that school administrators often do not consider the feelings and opinions of teachers before beginning initiatives which can have negative effects on implementation. I addressed teacher concerns in the study to provide teachers with an opportunity to share their opinions about an initiative that has been around since 2004 (Arden, Gandhi, Edmonds, & Danielson, 2017).

Creating a platform for teachers to share practice concerns about RTI is important to building collaborative teacher relationships. Matherson and Windle (2017) in Chapter 2 of this study posited that teachers want immediate strategies when engaging in professional development to be able to meet the needs of their students. Avalos-Bevan and Bascope (2017) also support professional learning in both formal and less formal learning communities. Educators are becoming increasingly more responsible for their own professional development (Evans, 2015). My intent in conducting this study was to contribute to the body of knowledge on RTI practice concerns for which there was limited research (Mellard, Frey, & Woods, 2012).

Information about secondary teacher concerns toward RTI practices is scarce (Sanger et al., 2012). Using TPB I assessed individual teacher concerns about RTI practices between middle and high school teachers. Cooke and French recognized concerns about RTI teacher practices examined within the TPB framework was an individual's plan or intention to act. Therefore, it is an important predictor of behavior that will follow an individual's action plan. According to Medina-Sanchez et al. (2014, p. 2), intention begins the process of starting an action. This study contributes insight about actions related to the process of teacher collaboration. Adams and Forsyth (2013) found that trust between teacher colleagues, their exchange of ideas, and knowledge

development were important factors. Avalos-Bevan and Bascope (2017) suggested that more experienced teachers are not as concerned with improving their content knowledge and are more open to experimenting with new teaching forms and exchanging ideas with others in the process. This suggestion closely parallels the finding in this study that teacher participants with 11-15 years teaching experience were more concerned about developing working relationships with their own faculty as well as outside faculty.

Limitations of the Study

In Chapter 1, I reviewed the systematization of RTI at different levels in secondary education. It is important for middle and high school teachers to collect data and make data-driven decisions that benefit academically struggling students (Meyer & Behar-Horenstein, 2015). Using the RTI continuum, I wanted to contribute knowledge that would enable secondary teachers to share practices about RTI implementation. Viewing the characteristics of different grade levels and teacher concerns might demonstrate the improved planning and collaboration that is possible between middle and high school teachers which might lead to the use of more systematic processes in RTI implementation. Moreover, keeping RTI positioned as an important initiative in public education can benefit academically struggling students and create more defined teacher roles when implementing RTI.

Limitations of this study relate primarily to the limited sample size and limited funding. Despite many attempts to increase the size of the sample, I obtained a few responses from school district principals about their school's participation in the survey. The size of my original sample was $n = 232$ middle school teachers and 234 high school teachers as established by the power analysis performed before data collection. Providing

more of an incentive for teachers to take the survey, i.e., distributing gift cards in a nominal amount may have increased the number of participants taking the survey.

There were no significant concerns between Grade 6-8 middle school and Grade 9-12 high school teachers in the study for all outcomes. RTI, thus, appears not to be a primary concern of teachers based on study findings. Teachers may be preoccupied with other topics that could be of more concern. The schools did not properly facilitate the process for sending the surveys to participants. Communication delays by principals to share the survey with teachers prevented some participants from being a part of the study. The recent findings of Arden, Gandhi, Edmonds, and Danielson (2017) indicate continuing problems with the implementation of the RTI framework in the school context. That is, the mandate started in 2004 is not being implemented as it was intended (Arden et al., 2017).

The SoCQ is an instrument previously used by educators to measure concerns about new innovations (George et al., 2006). The instrument was a valid tool used to measure all outcomes. I selected a pre-existing tool used in the field of education to measure an innovation-RTI and it was administered to an appropriate population. Teachers are familiar with RTI because it is implemented in some form in secondary schools. The study is trustworthy because the results were very consistent. The findings of this study indicated a non-significant result per grade level group and by the outcome. The results of this study show little concern at the secondary level about RTI. Arden et al. purport the difficulty in measuring the impact of RTI without first implementing it.

Recommendations

The results of this study suggest that teachers are not deeply concerned with RTI but it is a topic worth striving to keep at the forefront of U.S. public education. In order to provide for the general welfare of students struggling academically in public schools, it is necessary to have concerned professionals in positions of influence to develop systematic processes related to RTI. I am hopeful to see these recommendations come to fruition in the U.S. public education system.

First, there is strength in mind when professionals collaborate because of the counsel that evolves from interacting with people who are different. Arden et al. (2017) encourage organizing systems to better maximize the successful implementation of RTI. It can only make the system better for the constituents it serves when professionals learn new information, apply it, and provide feedback to each other. In the Avalos-Bevan and Bascope (2017) study, teachers who were examined viewed collaboration as a source of learning and improvement. It would be worthwhile for researchers to concentrate on collaboration around the paradigm of RTI. However, before beginning such a study, it is important to think about new strategies toward collaboration that address a narrow gap in the literature. Given the difficulties in securing administrator consent, it may be best and most practical to bring together a committee of people to brainstorm about how to obtain a larger sample size. Using stakeholder relationships in the community, educational researchers may be able to procure a budget that includes an incentive to ensure that teacher professionals will actually participate in the study.

Second, it is wise, I believe to perform a preliminary pilot study on a small scale before undertaking a full-scale study. This knowledge will help researchers to predict an

appropriate sample size. It can also help researchers determine other factors of concern for teachers and other professionals.

Third, the results of this study on the demographic variable for the length of time teachers have worked in the profession showed teachers with 16-20 years experience (35.5%) and those with 11-15 years of experience (25.8%) to have the highest frequencies on this variable. I recommend using experienced teachers to create RTI roles in schools. It is time to create task forces within the school that perceive RTI as an intervention with an operational base that aids students that are struggling academically. According to Avalos-Bevan and Bascope (2017), experienced teachers are comfortable in the content knowledge and skills. Teachers with more experience are better candidates to mentor less experienced teachers.

Finally, there were low frequencies for teachers with less than 10-years experience in this study. Often, new teachers with specific requests for assistance bring their teaching ideas to sound out to their colleagues (Avalos-Bevan & Bascope, 2017). New teachers can also partner with more experienced teachers to discuss concerns about RTI implementation while more experienced teachers experiment with new teaching forms that emanate from teacher collaboration. They can be of benefit to one another. One group of new teachers will be able to generate ideas about what can be done with RTI. The other more experienced group of teachers can create the parameters that measure the reach for RTI ideas and their potential to work while determining how far to extend the reach of those ideas.

Implications

Implications for Organizational Change Practices

The opportunity to measure the extent to which middle school and high school teachers' practice concerns differed is a start to determining what teachers are most concerned within the general education classroom. New discussions about RTI are needed after this study. From an organizational perspective, the functionality of RTI is mandated by the government. To accomplish this in schools, Avalos-Bevan and Bascope (2017) indicated that a more student-centered approach to teaching allows teachers to share and learn through collaboration. It may be time to take a more interpersonal approach toward implementation. As researchers have noted, Tyack and Cuban (1995), there is much to be said about top-down policy. It may be time to work from the bottom up with documented teacher conversations that can pave the way for practical policy development that occurs at the classroom level.

Implications for Individual and Family Change Practices

The importance of getting to know parental struggles engages the school in the family structure. Open lines of communication should be re-established using different mediums to connect with students' parents. The family and student success at school are inextricably connected and difficult to view as a standalone institution (Loch, 2016). Loch further indicates that student achievement in association with their families is important to the school as a societal institution. It all points to relationships with students, parents, and community stakeholders.

Implications for Societal Change Practices

It is possible that resources can flow through the community to the school especially those that focus on community re-investment. Public schools are situated within the community in which they reside, and the community can play a role in how it interfaces with the school. The frequency of the demographic variable in subjects taught by teachers shows Language Arts/English (38.7%) and Math (25.8%) to be the highest among teachers who took the survey in this study. Bouck and Cosby (2017) indicated there is little information that exists about RTI implementation in secondary schools, particularly in mathematics. They further went on to discuss the possibilities that could exist when appropriate supports are provided for secondary students in mathematics. Working from the classroom level out to community stakeholders using research about mathematics education can help create buy-in that leads to building better resources for the school. It is important for school leaders to establish themselves by creating school-community relationships with stakeholders to create a policy that is associated with RTI.

According to Tyack and Cuban (1995), Americans celebrate innovation. There is a penchant for the new but a resistance to change. The SoCQ used in this study is a valid methodological tool that has been previously used in education to measure educator concerns about new innovations George et al. (2006). Yet the results of this study showed that it was difficult to ascertain middle and high school teacher concerns about RTI practices. At this juncture in educational reform, many changes are needed. RTI is framed in a theoretical approach using TPB that is supported with intentions that deliberately change behaviors and simultaneously affects practices (Ajzen, 2011). Educators have observed firsthand the problems faced by U.S. public school students on a routine basis.

Fervid educators and policymakers with a heart to reach children are needed in the U.S. educational system.

Many public education reforms can be the lessons of history that form the foundation that creates the pathway to move forward. Practice recommendations for the future should include entrepreneurial programs that embrace school-community partnerships. There is a multiplicity of resources that school leaders can take advantage of when instituting school programs. Bouck and Cosby (2017) postulate creating an RTI secondary mathematics program. One way to do this is to partner with banks in the community and create relationships with individuals that want to partner with schools. Public schools have to be ready to open the door to new and different opportunities. Engaging the intellect of these community stakeholders in the school process, getting them to serve on school committees, and creating policy from the grassroots level may be a practical way of finding out what works in public schools today. Math entrepreneurial programs between banks and schools can do several things: 1) creating a new platform resource for schools, 2) emphasizing planning and collaboration between two very different entities, and 3) helping students who struggle academically to build the skills they need in mathematics that will help move them along in the various tiers of RTI (Bouck & Cosby, 2017).

Conclusion

Although the research supports creating secondary mathematics RTI programs school leaders should be open to developing these programs in different subject areas throughout secondary education. Jacob, Sabzalian, Jansen, Tobin, Vincent, and LaChance (2018) advocated for a paradigm shift in the context of policy development. Public

education in a broader sense should be viewed through the lens of past reforms to further help transform public education. The caveat to all the practical implications and recommendations made throughout this study rest upon a supposition about – "who cares about 21st-century public education in the United States?" Those who care continue to do so in an attempt to save a generation of children that rely solely on public education for a better future.

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Appendix A

Stages of Concern Questionnaire

Name (optional): _____

The purpose of this questionnaire is to determine what people who are using or thinking about using various programs are concerned about at various times during the adoption process.
The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about various programs to many years' experience using them. Therefore, **many of the items on this questionnaire may appear to be of little relevance or irrelevant to you at this time.**

For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale.

For example:
This statement is very true of me at this time. 0 1 2 3 4 5 6 7
This statement is somewhat true of me now. 0 1 2 3 4 5 6 7
This statement is not at all true of me at this time. 0 1 2 3 4 5 6 7
This statement seems irrelevant to me. 0 1 2 3 4 5 6 7
Please respond to the items in terms of **your present concerns,** or how you feel about your involvement with **this** innovation. We do not hold to any one definition of the innovation so please think of it in terms of your own perception of what it involves. Phrases such as "this approach" and "the new system" all refer to the same innovation. Remember to respond to each item in terms of your present concerns about your involvement or potential involvement with the innovation.

Thank you for taking time to complete this task.

Measuring Implementation in Schools: THE STAGES OF CONCERN QUESTIONNAIRE
1. I am concerned about students' attitudes toward the innovation. 0 1 2 3 4 5 6 7
2. I now know of some other approaches that might work better. 0 1 2 3 4 5 6 7
3. I am more concerned about another innovation. 0 1 2 3 4 5 6 7
4. I am concerned about not having enough time to organize 0 1 2 3 4 5 6 7
myself each day.
5. I would like to help other faculty in their use of the innovation. 0 1 2 3 4 5 6 7
6. I have a very limited knowledge of the innovation. 0 1 2 3 4 5 6 7
7. I would like to know the effect of reorganization on my 0 1 2 3 4 5 6 7
professional status.
8. I am concerned about conflict between my interests and 0 1 2 3 4 5 6 7
my responsibilities.
9. I am concerned about revising my use of the innovation. 0 1 2 3 4 5 6 7
10. I would like to develop working relationships with both 0 1 2 3 4 5 6 7
our faculty and outside faculty using this innovation.
11. I am concerned about how the innovation affects students. 0 1 2 3 4 5 6 7
12. I am not concerned about the innovation at this time. 0 1 2 3 4 5 6 7
13. I would like to know who will make the decisions in the 0 1 2 3 4 5 6 7
new system.
14. I would like to discuss the possibility of using the innovation. 0 1 2 3 4 5 6 7

15. I would like to know what resources are available if we decide 0 1 2 3 4 5 6 7
to adopt the innovation
16. I am concerned about my inability to manage all that the 0 1 2 3 4 5 6 7
innovation requires.
17. I would like to know how my teaching or administration is 0 1 2 3 4 5 6 7
supposed to change.
18. I would like to familiarize other departments or persons with 0 1 2 3 4 5 6 7
the progress of this new approach.

0 1 2 3 4 5 6 7
Irrelevant Not true of me now Somewhat true of me now Very true of me now

Circle One Number for Each

19. I am concerned about evaluating my impact on students. 0 1 2 3 4 5 6 7
20. I would like to revise the innovation's approach. 0 1 2 3 4 5 6 7
21. I am preoccupied with things other than the innovation. 0 1 2 3 4 5 6 7
22. I would like to modify our use of the innovation 0 1 2 3 4 5 6 7
based on the experiences of our students.
23. I spend little time thinking about the innovation. 0 1 2 3 4 5 6 7
24. I would like to excite my students about their part in 0 1 2 3 4 5 6 7
this approach.
25. I am concerned about time spent working with nonacademic 0 1 2 3 4 5 6 7
problems related to the innovation.
26. I would like to know what the use of the innovation 0 1 2 3 4 5 6 7
will require in the immediate future.
27. I would like to coordinate my efforts with others to maximize 0 1 2 3 4 5 6 7
the innovation's effects.
28. I would like to have more information on time and energy 0 1 2 3 4 5 6 7
commitments required by the innovation.
29. I would like to know what other faculty are doing in this area. 0 1 2 3 4 5 6 7
30. Currently, other priorities prevent me from focusing my 0 1 2 3 4 5 6 7
attention on the innovation.
31. I would like to determine how to supplement, enhance, or 0 1 2 3 4 5 6 7
replace the innovation.
32. I would like to use feedback from students to change the program. 0 1 2 3 4 5 6 7
33. I would like to know how my role will change when I am using 0 1 2 3 4 5 6 7
the innovation.
34. Coordination of tasks and people is taking too much of my time. 0 1 2 3 4 5 6 7
35. I would like to know how the innovation is better than 0 1 2 3 4 5 6 7