EXPLORING GENERAL EDUCATION PRE-SERVICE TEACHERS’ LEVELS OF CONCERN REGARDING THE IMPLEMENTATION OF RESPONSE TO INTERVENTION

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Schools are increasingly challenged to respond to educational initiatives, implement accountability measures, and incorporate standards-driven curriculum changes introduced by laws such as the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004. IDEIA signified a shift in the field of education and intensified practitioners’ concerns about the identification and instruction of students with learning disabilities (LD). The revisions to IDEIA proposed alternative models for the evaluation and identification of students with LD, such as response to intervention (RTI). RTI is an educational framework that supports students at-risk for academic failure by focusing on preventative measures. As teachers’ roles evolve in response to innovations such as RTI, teacher preparation programs must adjust their focus and curriculum accordingly. A parallel mixed-methods design was used to explore 100 general education pre-service teachers’ levels of concern regarding the implementation of RTI based on the concerns based adoption model. The sample for the study integrated general education pre-service teachers enrolled in professional development schools (PDS) at two levels of candidacy, PDS1 and PDS2. Data collected was analyzed utilizing canonical correlation analysis (CCA), multivariate analysis of variance (MANOVA), descriptive statistics, and thematic analysis. Results explain general education pre-service teachers’ levels of knowledge had a negative relationship with the levels of concern, as these appeared to be higher due to teacher candidates’ lack of knowledge. Qualitative findings supported this statement. Contributions to the literature are presented and may guide teacher preparation programs as they assess the readiness of their pre-service teachers to effectively implement RTI.
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EXPLORING GENERAL EDUCATION PRE-SERVICE TEACHERS’ LEVELS OF CONCERN REGARDING THE IMPLEMENTATION OF RESPONSE TO INTERVENTION

Schools are increasingly challenged to respond to national and state initiatives, such as high-stakes testing, accountability, increasing student diversity, and collaboration with families. The enactment of No Child Left Behind (NCLB; 2002) intensified the roles and responsibilities for stakeholders in the field of education by focusing on these topics. Pressures arising from NCLB for accountability and high-stakes testing continue to be a major concern for many (Neal & Schanzebach, 2010). Similarly, the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA; 2004) presented challenges for states, school districts, and teachers by introducing revisions to the process of identifying students with learning disabilities (LD). The term “learning disability” describes a condition where academic difficulties exist in conjunction with fundamental cognitive deficiency related to basic psychological processes (Kavale, Spaulding, & Beam, 2009). The revision, known as Response to Intervention (RTI), is an educational framework that focuses on prevention and interventions founded on research-based practices that support students who are at risk for failing. Students are supported by using high quality instruction and intervention, screening tools, and progress monitoring as methods of early identification (Fuchs & Fuchs, 2006; Fuchs, Fuchs, & Compton, 2004; Fuchs, Mock, Morgan, & Young, 2003).

RTI evolved from concerns about the identification of students with LD using a discrepancy model. Prior to RTI, the IQ-achievement discrepancy method was utilized as the primary means of identifying LD. For students to be identified as having a LD, they had to manifest a severe discrepancy between their intellectual ability (i.e., IQ), and their achievement (Kavale & Spaulding, 2008). Use of the discrepancy method generated considerable debate in
the field of education and over the years became one of its most controversial topics (Fuchs & Fuchs, 2006). Many researchers suggest the discrepancy method was a *wait-to-fail* approach where students with possible LD endured years of academic failure before being identified and delivered appropriate special education services (Chamberlain, 2009; Fuchs & Fuchs, 2006).

The discrepancy method was also challenged because of its inability to distinguish between a student’s low performance in a content area and a specific learning disability (SLD) (Fuchs et al., 2003). Fletcher, Coulter, Rechly, and Faughn (2004) explain the ineffectiveness of using an IQ test for the identification of LD as being due to the lack of a solid theoretical background. Most importantly, use of cognitive measures, such as IQ tests, has proven to be questionable with some populations, especially students from culturally and linguistically diverse backgrounds. The measures were said to have failed to provide educators with information to implement equitable and appropriate programming (Fletcher et al., 2004).

IDEIA (2004) called for change in the identification of students with LD focusing on the utilization of alternative methods of identification, prevention, and support, prior to an evaluation for possible LD. IDEIA does not provide an explicit definition of RTI; however, it states school districts “may use a process that determines if a child responds to scientific, research-based intervention as a part of its identification” of specific learning disabilities (20 U.S.C. §1414 (b) (6)). In defining RTI, the National Center for Response to Intervention, which was created in 2009 to assist educators, policymakers, administrators, teachers and researchers in meeting the challenges of RTI, states:

Response to Intervention integrates assessment and intervention within a multi-level prevention system to maximize student achievement and reduce behavior problems.

With RTI, schools identify students at risk for poor learning outcomes, monitor student
progress, provide evidence-based interventions and adjust the intensity and nature of those interventions depending on a student’s responsiveness, and identify students with learning disabilities (National Center for Response to Intervention, 2009, p.3)

Since its introduction, RTI’s foundational components (evidence based practices, screeners, progress monitoring, data driven instruction) have been researched (Fuchs & Vaughn, 2012; Hollenbeck, 2007; Stuart, Rinaldi, & Higgins-Averill, 2011). Fuchs and Vaughn (2012) explain that well-implemented classroom based instruction may lead to the reduction of students requiring supplemental interventions and the reduction of special education referrals and placements. Additionally, the authors note an improvement in the implementation of progress monitoring over the past decade and suggest it has guided and improved instruction.

Extensive research regarding the implementation and effectiveness of RTI has been produced in the last 10 years (Fuchs & Vaughn, 2012). One consistent finding is that teacher preparation is key to effective implementation and positive student outcomes related to RTI (Compton et al., 2012; Denton, 2012; Fuchs, Compton, Fuchs, & Davis, 2008; Gerber, 2005; Gersten et al., 2008; Vaughn et al., 2009). Zirkel (2011) suggests there is a lack of uniformity in the implementation of RTI. The author explains school districts and states are often confused about the manner in which RTI should be implemented. A third significant finding regarding RTI is that stakeholders on multiple levels (state, district, and school) are seeking to determine their roles in its operationalization (Berkeley, Bender, Peaster, & Saunders 2009; Zirkel, 2011). The current study explores the concerns of one group of stakeholders, pre-service teachers.

Challenges in the Implementation of RTI

Bradley, Danielson, and Doolittle (2007) explain that the variation in RTI implementation is a result of individual conceptualization. As of 2009, only 15 of the 50 states
in the United States had established an RTI model of implementation (Berkley et al., 2009). The remaining states were in the developing stages or only provided guidance to school districts about implementation. Dupuis (2010) noted successful teacher implementation of RTI requires administrative support, time, and resources. A major concern for school districts is that teachers fully understand the components of the RTI framework when implementing academic intervention (McCombes-Tolis & Spear-Swerling, 2010).

RTI not only shaped the way students with LD were identified, its operationalization resulted in shifts in classroom arrangements and responsibilities of teachers. Prior to the introduction of RTI and other initiatives, such as inclusion, special education teachers had the primary responsibility of screening, assessing, and educating the majority of students with LD. According to Fuchs, Fuchs, and Stecker (2010) the roles of general and special education teachers have begun to blur. The blurring of roles is a result of increases in innovation that support an inclusive philosophy. Hilton (2007) explains that RTI significantly impacts how general education teachers instruct and manage their classrooms. Increased responsibilities associated with RTI and inclusive approaches may exacerbate the pressure teachers feel associated with the NCLB standards and goals. Conderman and Johnston-Rodriguez (2009) found that general education teachers felt negatively about their skills related to key components of RTI (assessment, progress monitoring). Similarly, teachers’ concerns are related to their lack of knowledge regarding the implementation of interventions and appropriate instruction (Greenfield, Rinaldi, Proctor, & Cardarelli, 2010). Greenfield et al. (2010) explain teachers’ challenges include determining the quality and quantity of evidence-based practices across time. The authors found teachers view themselves as the main stakeholders in the RTI reform but feel frustrated due to the components and challenges of implementation.
Concerns of Pre-Service Teachers

Changes in educational policies, systems, and instruction may lead to an increase in teachers’ concerns about their responsibilities (Kaplan, 2011). These concerns may be generated from shifts in theoretical frameworks, public policies, increased diversity in the classrooms, and instructional innovations (e.g., RTI). Emphasis on RTI, Positive Behavioral Interventions and Supports (PBIS), and other school-wide initiatives also broaden pre-service teachers’ responsibilities and duties (Tillery, Varjas, Meyers, & Collins, 2010). When expectations for educators increase, it is important to develop teachers’ base knowledge about such initiatives as early as possible (Hagger & Malmbert, 2011). In addition to addressing teachers’ concerns and needs, Tillery et al. (2010) explain the importance of teacher preparation programs presenting new concepts to their pre-service teachers.

General education pre-service teachers have concerns related to limited knowledge and preparation in many areas (Tillery et al., 2010). A recent study of pre-service teachers, revealed concerns about teaching strategies, planning and organization, behavior management, and collaboration. Sanholtz (2011) also found that pre-service teachers were concerned about working with diverse student bodies and their families. Another major area of pre-service teachers’ concerns is behavior and classroom management (Alvarez, 2007; Gunter & Jack, 1994; Rosen, Taylor, O’Leary, & Sanderson, 1990). Tillery et al.’s (2010) research found that pre-service teachers were unfamiliar with innovations such as PBIS and RTI. The authors recommend enhancing teacher preparation in the areas of behavior management, pre-referral interventions, and working with students with diverse needs.

The concerns of general education pre-service teachers about the instruction of students with disabilities in general education settings is well-documented (Brownlee & Carrington, 2000;
Cook, 2002; Conderman & Johnston-Rodriguez, 2009; Rademacher, Wilhelm, Hildreth, Bridges, & Cowart, 1998). These findings are of concern because of the increased numbers of students with disabilities in the general education classroom. According to a recent report, 56.4% of all students with disabilities are included in the general education classroom for most of the day (i.e., 79% or more of the time), an increase of 13% from two decades ago (U.S Department of Education, 1996; 2012). As a result there is a need for general education teachers (and pre-service teachers) to possess knowledge about effectively educating this population, including those with LD (U.S. Department of Education, 2012).

Theoretical Framework

Changes in the identification of students with LD regulated by IDEIA (2004) created an increase in the use of RTI. Fuchs and Fuchs (2006) note the growing popularity and utilization of RTI among practitioners. New regulations have created changes for a variety of stakeholders. For example, general education teachers are asked to gather information that might not have been previously required. Principals are encouraged to develop school-wide systems for the implementation of RTI. Even the role of the special education teachers has changed as a result of RTI due to the increase of collaboration with general education teachers and the provision of supports and interventions for students at risk (Fuchs & Fuchs, 2006). As RTI transforms the identification process, it is beneficial to understand the components of RTI and the changes it has initiated for all stakeholders. Burns (2007) expressed the importance of observing and understanding the beliefs, behaviors, and attitudes of those who implement the innovation in order to sustain the desired change. Similarly, Holloway (2003) noted teachers’ attitudes, behaviors, and beliefs must be observed to make the change effective. Because teacher preparation programs are instrumental in shaping the foundation of practitioners’ philosophies
and methods, it is important to explore the impact initiatives such as RTI have on pre-service teachers (Denton, Vaughn, & Fletcher, 2003). In order to better understand and explore this phenomenon, this study will base its theoretical foundation on the Concerns Based Adoption Model (CBAM; Hall & Hord, 2011) (see Figure 1).

Figure 1. Concerns based adoption model theoretical framework. Adapted from Measuring Implementation in Schools: The Stages of Concern Questionnaire (p. 1), by A.A. George, G. E. Hall, and S. M. Stiegelbauer. Austin, TX: SEDL. Copyright 2013 by the SEDL. Reprinted with permission.

CBAM is based on the measurement, description, and explanation of the process of change experienced by teachers or pre-service teachers when implementing a new innovation or practice. CBAM is based on the theoretical assumption that change is an ongoing process in which personal experiences affect the effectiveness of an innovation (Hall & Hord, 2011). Throughout CBAM, change is viewed as a process a personal experience that involves growth in skills and feelings and can be facilitated by interventions that are directed toward the innovation and its stakeholders (Hall & Hord, 2006). CBAM is a multi-part model which includes three components: Stages of Concerns framework, Levels of Use, and the Innovation Configuration. The Stages of Concerns (SoC) framework will be utilized as the focus for this study.
The SoC assesses practitioners’ feelings regarding the changes observed during the implementation of the innovation at different stages of completion (Hall & Hord, 2011). The framework has four categories -- Unrelated, Self, Task, and Impact -- which encompass the seven stages of concern (Unconcerned, Informational, Personal, Management, Consequences, Collaboration, and Refocusing; see Figure 2). According to CBAM, a practitioner who is at Stage 0, Unconcerned, has little knowledge or interest regarding the change (or innovation). Stage 1 (Informational) is the stage at which the practitioner is interested in learning more about the innovation (e.g., RTI) and its implementation. Stage 2 (Personal) frequently reflects the concerns about the practitioner’s own ability to implement the change and possible personal costs. Stage 3 (Management) begins when the individual starts to experiment with the innovation and the concerns are more focused on logistics of the implementation. Stage 4 (Consequences) is focused on the impact of change on the student. Stage 5 (Collaboration) concerns are related to the interest of working with others to improve the implementation of the innovation for the benefit of the student. Finally, Stage 6 (Refocusing) focuses on making major adjustments to the innovation.

CBAM conceptualizes these stages as a developmental progression in which practitioners implementing change or innovation have certain concerns across all stages at different points (Kaplan, 2011). According to Horsley and Loucks-Horsley (1998), the CBAM SoC is primarily useful in improving professional development among practitioners. The literature suggests identifying the concerns of pre-service teachers helps provide direction for targeted professional development and enhancement of teacher preparation programs (Fuller, 1969; McFarland, 1998; Robichaux & Guarino, 2012). As stated by Conderman and Johnston-Rodriguez (2009), it is essential that pre-service teachers are knowledgeable and prepared to implement innovations,
such as RTI, in order to provide better educational outcomes for students who are at risk of failing. Although literature focused on the identification of teachers’ concerns regarding an innovation has been presented, a gap within the literature exists regarding pre-service teachers’ levels of concern regarding the implementation of RTI.

**Figure 2.1. The Stages of Concern About an Innovation**

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<td>Refocusing</td>
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<td>5</td>
<td>Collaboration</td>
</tr>
<tr>
<td>4</td>
<td>Consequence</td>
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<td>3</td>
<td>Management</td>
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<tr>
<td>2</td>
<td>Personal</td>
</tr>
<tr>
<td>1</td>
<td>Informational</td>
</tr>
<tr>
<td>0</td>
<td>Unconcerned</td>
</tr>
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*Figure 2. Stages of concern framework. Adapted from *Measuring Implementation in Schools: The Stages of Concern Questionnaire* (p. 8), by A.A. George, G. E. Hall, and S. M. Stiegelbauer. Austin, TX: SEDL. Copyright 2013 by the SEDL. Reprinted with permission.*
CBAM has been widely researched in several multiple educational contexts as well as in many countries. Research regarding practitioners’ levels of concern has supported the theoretical background of CBAM’s SoC for several decades (Hall & Hord, 2011). Research has focused on practitioners’ levels of concern regarding innovations such as technology (e.g., Bresnitz, Ross, Hall, & Stiegelbauer, 1998; Hope, 1997; Yuliang & Huang, 2005), inclusion (e.g., Pedron & Evans, 1990), mathematics curriculum (e.g., Christou, Eliophotou-Menon & Philippou, 2004), and school psychologists’ implementation of RTI (e.g., Kaplan, 2011).

Tunks and Weller (2009) studied teachers’ levels of concerns regarding a mathematical innovation. Utilizing qualitative data analysis, the authors found teachers’ concerns changed throughout the different stages of concern as the study progressed. In addition, their perceptions and beliefs changed as the process of implementation advanced.

Dunn and Rakes (2011) focused on pre-service teachers’ (n = 185) levels of concern about learner-centered education. Results suggested pre-service teachers were unconcerned and uninterested (levels 0-2), as measured by the SoC questionnaire regarding innovative practices. Dunn and Rakes (2011) suggest teacher preparation programs utilize the assessment of these concerns to enhance pre-service teachers’ preparation on skills and knowledge regarding innovations.

Landon (2010) studied teachers’ levels of concern when implementing RTI utilizing a regression analysis. Half of the teachers surveyed indicated concerns at the management level (Stage 3) and a third at the informational level (Stage 2) regarding the implementation of RTI (n = 120, p < .01). The findings assist in the understanding of teachers’ concerns related to the adoption of RTI. The results suggest teachers scored at lower levels of the SoC framework as they began the adoption process of RTI. Landon’s (2010) study confirms the relationship
between teacher concern and the use of RTI, which assists in strengthening current and future innovations as they pertain to teachers and students.

New approaches, innovations, and ideas are continually implemented to improve student outcomes. While practitioners experience change continually, each individual experiences and reacts to changes in a different way. As a result, these experiences and reactions shape the implementation of these ideas and innovations. In order to explain this phenomenon, this study will focus on the CBAM SoC as it is consistently and widely used when researching the impact of innovations on individuals (George, Hall, & Stiegelbauer, 2006).

Purpose of the Study

The growing body of literature focused on teachers’ levels of concern provides support for the impact that teacher preparation programs have on the successful implementation of innovations. The knowledge, skills, and dispositions of teachers are formed during their university teacher preparation programs (Denton et al., 2003; Senne, 2005). Denton et al. (2003) explain pre-service teachers’ philosophy, skills, and methods obtained during the teacher preparation program are directly connected with student outcomes. The authors suggest teacher preparation programs must undergo reform in order to better prepare pre-service teachers to understand and apply instructional models to assist students with specific LD (SLD). McCombes-Tolis and Spear-Swerling (2010) explain the necessity of concepts and practices involving RTI for pre-service teacher preparation. The identification of pre-service teachers’ concerns provides the opportunity to enhance teacher preparation programs through targeted professional development (Fuller, 1969; McFarland, 1998; Robichaux & Guarino, 2012). As presented as the foundation of the CBAM framework, Fuller (1969) supports pre-service teachers’ concerns impact on change in educational settings.
Other studies show teachers’ concerns regarding the implementation of RTI greatly impact the effectiveness of the innovation (Dutton-Tillery, Varjas, Meyers, & Smith-Collins, 2010; Greenfield et al., 2010; Stuart et al. 2011). According to Stuart et al. (2011), teachers’ (n = 26) self-efficacy was greatly impacted after components of the RTI framework were successfully implemented over two years. The authors explain teachers’ shifts in views regarding their roles in schools were enhanced by the implementation of RTI. The literature suggests teachers’ concerns, beliefs, and attitudes positively change, when they are supported by their administration and better prepared through professional development (Greenfield et al., 2010; Spear-Swerling & Cheesman, 2012; Stuart et al., 2011). In relation to the implementation of RTI, teacher preparation is key to effectiveness (Vaughn et al., 2009).

The purposes of this study are to: a) investigate the levels of concern of pre-service teachers regarding the implementation of RTI, b) explore the factors that influence pre-service teachers’ levels of concern regarding the implementation of RTI, c) explore the differences in levels of concern regarding RTI between pre-service teachers at different levels of candidacy and type of certification, and d) investigate the pre-service teachers’ greatest concerns regarding the implementation of RTI. The study is designed to answer the following research questions:

1. What are the levels of concern of general education pre-service teachers regarding the implementation of RTI?

2. What is the relationship between background variables (e.g., level of RTI knowledge, attitude toward the implementation of RTI, amount of training) of general education pre-service teachers and their rated areas of concern (e.g., unconcerned, informational, personal, management, consequence, collaboration, and refocusing) regarding the implementation of RTI?
3. To what extent do elementary pre-service teachers and middle school pre-service teachers differ on the rated areas of concern regarding the implementation of RTI?

4. To what extent do pre-service teachers in Professional Development School 1 (PDS1; partial student teaching) and pre-service teachers in PDS2 (i.e., student teaching) differ on the rated areas of concern regarding the implementation of RTI?

5. What are general education pre-service teachers’ greatest concerns regarding the implementation of RTI?

Method

Research Design

A parallel mixed-method research design was utilized in order to better understand the factors influencing pre-service teachers’ levels of concern regarding the implementation of RTI. The study explored differences in levels of concern regarding RTI between pre-service teachers at different levels of candidacy and type of certification, and investigated the pre-service teachers’ greatest concerns regarding the implementation of RTI. A web-based questionnaire was constructed for the collection of quantitative data among all participants. Simultaneously, as a separate component of the study, two focus group interviews were conducted in order to provide in-depth qualitative data. Approval from the Institutional Review Board (IRB) was obtained prior to conducting the research study.

The rationale for utilizing a mixed methods research design was to strengthen the results by utilizing the fortitude of both quantitative and qualitative data analyses (Teddlie & Tashakkori, 2009). The design provided inferences from the quantitative and qualitative results, integrated as a meta-inference. Although data from the survey and the focus groups were
collected and analyzed separately, the findings were brought together in order to yield a more detailed analysis of the same phenomenon.

Participants

An a priori power analysis was conducted to select the number of participants for the study (Cohen, Cohen, West, & Aiken, 2003; Stevens, 2009). According to Stevens (2009), a moderate to large sample will provide strong power. Stevens (2009) suggests using at least a moderate sample size (n = 100) to detect about 67% of the canonical correlations. Unlike multiple regression, a sequential testing procedure supported by Mendoza, Markos, and Gonter (1978) can consider cases with varied sample sizes (i.e. 25 to 100) to provide significant canonical correlations. A total of 302 pre-service teachers from a large university accredited by the National Council for Accreditation of Teacher Education (NCATE) in the Southwest part of the United States were targeted to participate in this study.

All pre-service teachers were enrolled in the last two semesters of their teaching preparation programs while the study was conducted. Participants were enrolled in the Professional Development School (PDS) experience. The professional development model is a year-long experience that emphasizes practical application of content knowledge learned during the preparation program (Darling-Hammond, 1994). Students in PDS1 spent two days a week in a public school setting. Students in PDS2 returned to the same school the following semester for five days a week. The sample for the quantitative strand of the study included 100 general education pre-service teachers, or a total of 33% response of the total targeted sample. Within this sample, 49 participants were enrolled in PDS1 and 51 participants were enrolled in PDS2 (i.e., student teaching). Participants in the qualitative strand of the study were self-selected from the two homogenous groups, PDS1 (n = 6) and PDS2 (n = 8). Homogenous groups were
purposefully selected as PDS2 pre-service teachers have more practical experience than those in PDS1 (Morgan, 1998). Homogenous purposeful selection of participants is one manner in which purposeful sampling is conducted (Patton, 2000). The selection criteria for participants was based solely upon enrollment in either PDS1 or PDS2 and not based on any other factors such as age, race, ethnicity, or gender.

Measures

Two separate measures were used to secure data for the proposed study. The first measure was a 53-item questionnaire. The web-based questionnaire was divided into three parts and gathered pre-service teachers’ demographic data, background knowledge about RTI, and information about their stages of concern regarding implementation of RTI. Part I of the survey included demographic questions—area of certification (elementary school education, middle school education), and PDS enrollment (PDS1, PDS2). The purpose of the demographic questions was to provide quantitative data to make comparisons between group differences.

The second part of the questionnaire (Knowledge of RTI) was developed by Kaplan (2011). It was originally designed to assess school psychologists’ knowledge, attitudes, and amount of training in RTI. Kaplan (2011) reported alpha coefficients of .83, .82, and .75 corresponding to each section (i.e., knowledge, attitudes, and amount of training of RTI). With the authors’ permission, the questionnaire was modified to meet the needs of the current study (W. Sanchez, personal communication, January 31, 2013). This portion of the questionnaire included 15 questions with 5-point Likert scale responses.

Finally, Part III, Stages of Concern Questionnaire (SoCQ; George et al., 2006) sought to obtain pre-service teachers’ levels of concern regarding the implementation of RTI. The SoCQ has been widely utilized to assist researchers and practitioners in understanding and evaluating
innovations as they develop and support professional development (George et al., 2006). In a study of pre-service teachers’ concerns of learner-centered beliefs, Dunn and Rakes (2011) reported alpha coefficients ranging from .67 to .88 from stages 0 to 6 accordingly. The section of the questionnaire included a 7-point Likert scale with 35 questions to observe pre-service teachers’ levels of concern regarding the implementation of RTI.

As modifications were made to the original instruments, the validity for the newly created instrument was sought. A review of the literature provided a rationale for changes made to the original instruments. Experts in the field of teacher preparation and RTI (n = 3) reviewed the questions to ensure they corresponded with integral concepts of RTI. The group of experts consisted of faculty at accredited universities with ten or more years of expertise in the field of education. Modifications were made based on experts’ feedback in order to adjust wording of the questions and their order. The feedback provided by the experts was incorporated within the limitation allowed by the authors of the original instrument. A pilot study with pre-service teachers (n = 31) not participating in the study was conducted to observe reliability of the measures.

Qualitative data was secured through two focus groups using a semi-structured questionnaire. The two focus groups were conducted to seek comprehensive information about pre-service teachers’ greatest concerns regarding the implementation of RTI. The questions were formulated for open-ended responses based on information gathered from the literature. Questions that were used in the focus group are included in the Appendix B.

Data Collection Procedures

Students in PDS1 were recruited through their weekly methods course (e.g., mathematics, social studies, science). The researcher explained the study and sought participants via
Blackboard Learn email (course web platform). The email invitation (see Appendix B) included a letter of consent with detailed information regarding the study and confidentiality. Those accessing the letter of consent had the choice of participating or exiting the questionnaire (see Appendix B). If the pre-service teachers chose to participate in the study, they followed a direct link to the web-based questionnaire. Similarly, PDS2 participants were recruited through a common course and a letter sent through their course Blackboard email. For both groups, follow-up reminders and invitations were sent at the end of the first and second weeks of the study’s introduction. Head (2009) suggest incentives are often used to encourage participation. Therefore, the pre-service teachers participating in the web-based questionnaire were offered an opportunity to participate in a drawing for a chance to receive one of four Visa gift cards. Selection of the winners was made randomly and winners were notified via electronic mail.

Qualitative data was collected by the researcher and an assistant through two focus groups. The focus groups consisted of six PDS1 and eight PDS2 participants and lasted 44 and 49 minutes, respectively. The meeting was conducted in a conference room on the university campus. An assistant/recorder was selected from the doctoral program at the university based on her expertise and knowledge on research about focus groups and the topic. Consent for participation forms (see Appendix B) were collected prior to the beginning of the meeting. Incentives were provided in the form of a light meal during the focus group meeting and $10 gift card for each participant (Head, 2009). The meetings were recorded utilizing a digital recorder.

Data Analysis

A mixed-method approach was utilized by the researcher to answer the research questions in a comprehensive manner. For the quantitative strand, demographic data collected from the questionnaire was given an appropriate value and coded accordingly (e.g.,
dichotomous: \( PDS1 = 1 \) and \( PDS2 = 2 \). Descriptive statistics were used to obtain information about the pre-service teachers’ demographics (e.g., means, standard deviations, frequencies). Data collected from the remainder of the web-based questionnaire were given an appropriate value based on each Likert scale. Continuous and categorical variables were analyzed accordingly. A reliability analysis using Cronbach’s alpha determined the reliability of the survey to be in the excellent range at .91, and for the two main sections (i.e., Knowledge of RTI and Stages of Concern Questionnaire), the alpha coefficients were at .79 and .92, respectively (\( n = 100 \); Litwin, 1995). Data were analyzed utilizing Statistical Package for the Social Science (SPSS) 21 Predictive Analytic Software and R statistical software.

A canonical correlation analysis (CCA) was conducted in order to analyze the relationship between background variables regarding Knowledge of RTI (IV) and the pre-service teachers’ levels of concern according to the SoC framework (DV). CCA was selected because it limits the probability of committing a Type I error (Thompson, 1991). According to Sherry and Henson (2005), a CCA provides a broader technique which examines variables that have multiple causes and effects closely related to the reality of human behavior. In this case, CCA was conducted to examine the relationship between two sets of variables: (a) pre-service teachers’ knowledge of RTI and (b) pre-service teachers’ stages of concerns (see Figure 3). All assumptions (e.g., multivariate, sample size, multicollinearity) were tested during the analysis. Results are further explored in sections below.
Finally, a multivariate analysis of variance (MANOVA) was conducted to analyze the differences in stages of concern (DV) regarding the implementation of RTI (IV) between groups (i.e., elementary versus secondary education, attending PDS1 versus PDS2). These statistical analyses were conducted in conjunction rather than analyzing them in isolation to enhance the relationship between several criterion variables (Bray & Maxwell, 1985).

For the qualitative strand, data collected from the focus groups were examined by thematic analysis using NVivo 10 Research Software. The primary researcher and two assistant researchers identified themes. Thematic analysis assisted the researcher in uncovering pre-service teachers’ challenges and concerns regarding the implementation of RTI in a more in-depth manner. According to Braun and Clarke (2006), thematic analysis allows for organization and rich detail of the data collected. Themes were formulated and identified as key components
in relation to the fifth research question. A deductive approach was utilized as theoretical interests have already been formulated and supported by the literature.

A parallel mixed analysis of the data was conducted. The results of both quantitative and qualitative questions were considered in answering the research questions in a holistic manner. Although the two strands of analysis were conducted separately, inferences of the results were integrated to form meta-inferences (Teddlie & Tashakkori, 2009). This method provided answers to interlocking questions in the research.

Results

A parallel mixed-method research design was utilized in order to better understand the factors influencing general education pre-service teachers’ levels of concern regarding the implementation of RTI. Quantitative, qualitative, and mixed-methods results are detailed below.

Quantitative Findings

Results from the Stages of Concern Questionnaire. Research question one asked, “What are the levels of concern of pre-service teachers regarding the implementation of RTI?” Quantitative results explaining general education pre-service teachers’ levels of concern according to the SoCQ were secured and analyzed according to the guidelines of George et al. (2006). Overall results revealed general education pre-service teachers’ highest levels of concern about the future implementation of RTI to be in the Unconcerned, Informational, and Personal Stages (i.e., 75%, 75%, and 76% respectively; n = 100; see Figure 4). According to George et al. (2006) respondents in the Unconcerned Stage show a great lack of interest and engagement regarding the innovation (i.e., RTI). The Informational Stage explains the respondents’ needs to learn more about RTI (e.g., what the innovation is, how it will be used, and what results it may show). Fuller (1969) explained that the Personal Stage indicates self-
centeredness explained by an individual’s concern about how the innovation may affect him/her. In other words, general education pre-service teachers showed low levels of interest and engagement in the implementation of RTI. These results suggest they may exhibit high levels of information and knowledge seeking about RTI. Similar findings were reported by Dunn and Rakes (2011) about pre-service teachers’ levels of concern related to learner centered instruction.
Figure 4. General education pre-service teachers’ levels of concern about RTI according to the Stages of Concern Questionnaire.

**Relationship between Knowledge of RTI and Stages of Concern.** Research question two asks, “What is the relationship between background variables of general education pre-service teachers and their rated areas of concern?” A CCA was conducted using the fifteen variables related to knowledge of RTI as predictors of the seven stages of concern to evaluate the multivariate shared relationship between the two synthetic sets of variables. After a component analysis was completed on each set of variables (i.e., predictor and dependent variables), it was observed that only 7 of the original 22 variables were considered to be more parsimonious to the
main constructs with a ratio of 14 participants to one variable (Stevens, 2009). The relationship between the two sets of variables (i.e., predictor and dependent variables) was negatively correlated (Wilks’s Lambda ($\lambda$) = .016 criterion, $F(105, 508.57) = 1.585, p<0.05$). Wilks’s $\lambda$ in the full model, indicated that 98.4% of the variance was explained between the predictor variable set (Knowledge of RTI) and the criterion variable set (Stages of Concern) in the full model (see Table 1). Simply put, the less knowledge general education pre-service teachers have about RTI, the higher the levels of concerns they have regarding the implementation of RTI.

A more in-depth analysis of the data revealed that general education pre-service teachers viewed RTI as an important aspect of their teaching. This is supported by the weight of the variable which explains 76.4% of the predictor synthetic variable (i.e., Knowledge of RTI). The weight for the dependent variable (i.e., Stages of Concern) is mainly obtained from the Collaboration stage with 53.1%. In conclusion, general education pre-service teachers may perceive knowledge of RTI as an important aspect of their teaching, and if knowledge is low, concerns about the implementation of RTI may increase. Specifically, the Collaboration stage may be primarily affected by the lack of pre-service teachers’ knowledge. Additionally, presence of multicollinearity within the Knowledge of RTI and the SoC variants (GPA, $\beta > 1$) was not evident, as the intercorrelations measured less than .80 (Nimon, Henson, & Gates, 2010; Stevens, 2009).
### Table 1. Canonical Solution for Knowledge of RTI Predicting Stages of Concern for General Education Pre-Service Teachers

<table>
<thead>
<tr>
<th>Function 1*</th>
<th>Variable</th>
<th>Coef</th>
<th>$r_s$</th>
<th>$r_s^2$ (%)</th>
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<td>-.421</td>
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<tr>
<td>cba</td>
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<td>-.348</td>
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<td>prog</td>
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<td>-.220</td>
<td>4.8</td>
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<tr>
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<td>-.253</td>
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<tr>
<td>implebp</td>
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<td>-.196</td>
<td>3.8</td>
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<tr>
<td>knowlepb</td>
<td>-.024</td>
<td>-.300</td>
<td>9</td>
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<td>-.112</td>
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<td>-.351</td>
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<td>$R_c^2$</td>
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<td>-.365</td>
<td>13.3</td>
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</tbody>
</table>

Note: *n = 100; Coef = standardized canonical function coefficient; $r_s$ = structure coefficients; $r_s^2$ = squared structure coefficient; rti through conf = Knowledge of
Comparison between Groups. Research question three asks, “To what extent do elementary pre-service teachers and middle school pre-service teachers differ on the rated areas of concern regarding the implementation of RTI?” A 2X7 MANOVA examined the differences between elementary pre-service teachers (n = 75) and middle school pre-service teachers (n = 25) (IVs) regarding the seven rated areas of concern regarding the implementation of RTI (DV). The results of the analysis show no statistical difference between groups with regard to the areas of concern (F[7, 92] = 1.452, p = .194, Wilks’s λ = .111; see Figure 5).

Similarly for research question four, “To what extent do pre-service teachers in PDS1 and pre-service teachers in PDS2 differ on the rated areas of concern regarding the implementation of RTI?” a MANOVA was conducted to explore the differences on the seven rated areas of concern regarding the future implementation of RTI (see Figure 6). The results yielded a non-statistical significance between the PDS1 (n = 49) and PDS2 (n = 51) groups (F[7, 92] = 1.750, p = .107, Wilks’s λ = .133).

According to the results for both MANOVAs, it can be concluded that pre-service teachers’ concerns regarding their future implementation of RTI do not differ due to their level of candidacy, PDS1 or PDS2 (experience) or type of certification sought (elementary school or middle school). Non-statistical differences between groups may be due to the small sample population of all groups and confounding variables.
Figure 5. General education pre-service teachers’ levels of concern about RTI according to the Stages of Concern Questionnaire. Comparison between type of teaching certification.
Qualitative Findings

The primary researcher along with two assistant researchers analyzed transcribed files utilizing the constant-comparison method to obtain themes (Charmaz, 2000). Constant comparison focuses on participants’ views and perceptions of reality, rather than focusing on the researchers’ perceptions of the participant’s views. Thematic coding was validated using a group-to-group validation process (Morgan, 1997). After an independent review of the transcripts by the three researchers, seven major themes emerged for both focus groups. Teacher Focus referred to comments related to teachers' responsibilities, roles and collaborations. Student needs were observations related to academic and behavioral needs of students. Concerns
described comments made about lack of information/knowledge about RTI or its implementation. *Documentation* encompassed participant descriptions about documentation related to RTI (assessment, RTI folders, paperwork, etc.). *Experiences* described actual experiences shared by the pre-service teachers related to RTI (e.g., attended meeting, professional development, etc., during their PDS1, PDS2 or personal experiences). *Training* was coded when comments focused on training, university courses or professional development, in the past, present or future. Finally, *Understanding of RTI* described comments related to knowledge, understanding or misunderstandings about RTI. Only the results related to the thematic code *Concerns* will be discussed as it relates to research question five, “What are pre-service teachers’ greatest concerns regarding the implementation of RTI?”

Two overarching categories emerged which encompassed the *Concerns* theme. These categories allowed for a more comprehensive explanation of the theme. The first overarching category, concerns about self, includes pre-service teachers’ reservations about their ability to implement RTI as well as their preparation and depth of knowledge about the method. The second overarching category was concerns about the RTI process based upon their experiences in public schools. Within this overarching category several subcategories arose: (a) ability to implement RTI, (b) preparation and depth of knowledge, (c) teacher behavior, (d) teacher attitude toward working with students with challenges, (e) identifying and meeting students’ needs, and (f) parental engagement (see Figure 7).
Concerns about Self. General education pre-service teachers in PDS1 and PDS2 were concerned about themselves (self) and their future implementation of RTI. Most participants expressed feeling confident about understanding the overall purpose of RTI, their role as general education teachers, and the support needed from their future administration. However, the participants voiced concerns about their ability to effectively apply RTI in real-life settings. For example, a student in PDS1 stated, “My most fearful thing going into the school is that I don’t know how to implement it.” Another PDS1 participant noted, “I think we all kind of know the basics of RTI, and I think that we can kind of identify things through samples and observation…but I think at least for me, when we’re talking about implementation, I’m thinking about moving through the tiers and things like that is what I don’t feel as confident about because personally, I only recall really getting a pretty solid training in one class.” Similarly, a PDS2 participant expressed concerns about self and implementation with the following
comments, “I’m worried about what am I going to do once I know what level they’re on, because I know that if 50% of the kids I have are yellow and red kids, which would be like Tier II, Tier III interventions, then the others are green, so they don’t need as much intervention, or a different intervention … So, I’m just worried about how do I implement all the intervention that they need as one person with 20-plus children?”

In general, PDS2 participants expressed deeper levels of concern based on their experiences in public schools. Their concerns were more detailed; for example, they were able to describe their concerns related to the specifics of RTI (assessment, documentation, Tier I, Tier II). Participants in the PDS2 focus group also communicated their uncertainties about time management, assessment, communication with parents and other professionals, and differentiation of instruction for students in special education, “I think that we do have a good introduction to it, but we still don’t have all of the [knowledge about]…, I guess, documentation and paperwork, and just that [knowledge of the] whole system.”

Participants were also concerned about themselves (self) related to their depth of knowledge of RTI. From a PDS1 participant, “There’s only one class that I really remember dealing and talking about it at length, and, unfortunately, I haven’t had the chance to sit in like Participant 4 and see teachers go through the RTI process.” Another participant commented, “What is RTI? What is that? And then like for me, y’all have lots to say about it. I don’t have anything to say about it because I have not seen practical use of this. I don’t remember that much from my course, and then I’m getting nothing in my practicum.”

An interesting observation made by the researchers was pre-service teachers in PDS1 had misunderstandings related to the RTI process. Some focus group participants related RTI to the evaluation of students with disabilities and not as an early intervention method for students at
risk of failing. Many participants wondered whether special education pre-service teachers received this type of preparation prior to graduating from the program.

**Concerns about the RTI process based on experience.** Both groups reflected on their PDS experiences related to RTI. Participants expressed concerns related to a need for collaboration between school personnel, teacher behavior related to students with diverse needs, identification of student for services, and the need to involve parents in the RTI process. For example, a PDS1 participant commented, “Just because they get put in RTI or they’re at a Tier III, we still have to collaborate with all the teachers that they work with, and I think sometimes that’s forgotten.” Another noted, “I’ve witnessed a lot of struggle with getting everyone, parents, teachers, and everyone else involved, on board. I think all teachers, all schools could benefit from a better understanding.”

Variance in teacher behavior related to RTI was discussed by the groups. Some participants attributed what they perceived as negative view to the teacher’s attitude, while other participants viewed negative behavior as a lack of proper training. ”But the challenge I see is the teacher not wanting to take the time to work with those [at-risk] students” vs. “Teachers could truly benefit from a better understanding of what RTI is. Especially I see a deficit between teachers who have been there for a long time, and use maybe different methods before RTI and might not be as familiar or have as much education on it, or those who think it is one thing and others think it’s another, maybe more district-wide and for all districts, education on RTI is needed”

Participants were also concerned about meeting the needs of their individual students “I’m working with younger age groups and my teacher runs into trouble with age and developmental levels, that they cannot assess . . . a student until they reach age eight to ensure
you are compensating for differences based on the developmental level of the student.”

Additionally, “I have heard a first grade teacher saying on multiple occasions, ‘We doing the RTI. We’re doing the paperwork, but we can’t get her any services. She’s just too young.’ ”

Finally, pre-service teachers expressed concerns about parental engagement in the RTI process in the area of identification, “I saw problems just getting parental support and agreement and having them on board. They say, ‘Well, my student doesn’t show these signs at home,’ or, ‘She talks fine at home to me’, ‘I don’t understand why you’re seeing these things.’ ” More specifically, participants noted parents’ concerns about the use of labels, “But parents tend to, from what I’ve observed in PDS, fear labels or titles being placed on their child, especially so early. They want to put it off. I feel like this negates the whole purpose of why RTI was created.”

Overall, the qualitative findings revealed that general education pre-service teachers expressed feeling unprepared for the real-life implementation of RTI. Similar to the themes that emerged from the work of Smith, Corkery, Buckley, and Calvert (2013) who studied teachers, the findings of this study suggest that pre-service concerns focus on understanding their specific roles as future teachers and their ability to teach varying levels and abilities.

Mixed-Methods Results

Qualitative and quantitative results were considered in constructing a meta-inference about the concerns of general education pre-service teachers related to their future implementation of RTI. According to Greene, Caracelli, and Graham (1989), a complimentary justification of mixed methods “seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from another” (p. 259). A meta-inference of the results
can be interpreted following the integrative framework suggested by Teddlie and Tashakkori (2009).

According to descriptive results, as well as the emergence of themes, general education pre-service teachers focused their concerns on involvement in the implementation of RTI, not understanding the aspects of this innovation, and feeling unprepared to effectively implement RTI in the near future. More in depth, pre-service teachers’ knowledge of RTI may be presented as low; therefore, their concerns are perceived as higher, as supported by the canonical correlation analysis (n = 100, p< .05) and thematic concerns presented (e.g., lack of preparation, understanding, and experiences of the implementation of RTI; see Figure 8).

A continuing theme throughout the PDS2 focus group meeting was the concern about the need for practical experiences with the implementation of RTI: “I feel like we have a good start with how to work with students with the RTI process, but I think we’re lacking in how to really put action to the RTI process.” In comparison, students in PDS1 remained hopeful to receive more training their final semester of student teaching. Although these differences were not observed in the quantitative data, qualitative analysis revealed a difference between the two focus groups (research question 4). It is important to note that the majority of participants believed their knowledge of RTI needed to improve.

In conclusion, an inference can be made that general education pre-service teachers’ concerns are operating in the Self (Unconcerned, Information, Personal stages) and not in the Task (Management stage) or Impact (Consequences, Collaboration, Reinforcement stages) categories of the SoC framework (Fuller, 1969). Figure 8 offers an illustration of how pre-service teachers’ concerns related to RTI may evolve. Knowledge, which in this study, was derived from pre-service teachers’ preparation program, independent reading, and professional development
generated concerns about RTI. Those concerns cause them to desire and seek more knowledge about the subject. Concerns were also generated through experiences in the form of practicum, classroom observations, and participating in the research study. As a result of these experiences pre-service teachers expressed the need for more extensive experiences related to RTI.
Figure 8. The relationship between knowledge, experiences, and pre-service teachers’ concerns.
Discussion

The purpose of this study was to explore general education pre-service teachers’ levels of concern regarding their implementation of RTI. Existing literature has examined teachers’ levels of concern about the implementation of RTI, but little has been written about pre-service teachers’ concerns related to the topic (Greenfield et al., 2010; Spear-Swerling & Cheesman, 2012; Stuart et al., 2011; Swanson et al., 2012; Tillery et al., 2010). Exploration of mixed-method results of this study has made several contributions to current literature concerning pre-service teachers’ concerns. Outcomes revealed concerns represented at the Unconcerned, Informational, and Personal stages in the Self category of the Stages of Concern framework. The Self category indicates individual concerns such as personal involvement and commitment with little or general awareness about the implementation of RTI. The concept of self-concern was also evident in the qualitative data provided through the focus group (see Figure 7). According to the literature, these concerns are observed in practitioners at beginning stages of implementing an innovation (Fuller, 1969; George, Hall, & Siegelbauer, 2006; Hall & Hord, 2011; Landon, 2010).

The lack of knowledge about the implementation of RTI may account for pre-service teachers’ increased concerns. Qualitative data provided in-depth information supporting self-reported quantitative data about the participants’ knowledge of RTI and its implementation. Many of the pre-service teachers’ concerns focused on being unprepared to implement RTI in a real-world setting, even after exposure to the innovation through PDS1 and PDS2. A study conducted by Spear-Swerling and Cheesman (2012) examining pre-service teachers’ (n = 142) knowledge about RTI showed that 52.1% were familiar with RTI models and 14.8% were not familiar at all with the model. The overwhelming majority, 66.9%, continue to struggle with the
implementation of RTI. Results from the current study support these findings, as participants in both focus groups expressed concerns about their lack of knowledge and experience with the implementation of the RTI model. This suggests a need for adaptation to the current curriculum and additional intentional practical experiences related to RTI. As supported by Watkins’ (1999) findings, higher levels of concerns are related to pre-service teachers’ lack of experience. The lack of pre-service teacher preparation could translate to feelings of inadequacy when teaching students with diverse needs once they exit their programs and enter their classrooms (Cavendish and Espinosa, 2013).

Although groups did not differ in levels of concern according to levels of candidacy (experience) or type of teaching certification sought (elementary and middle school), pre-service teachers in PDS2 expressed higher levels of knowledge about RTI due to their exposure during student teaching. A recurring theme throughout the study was pre-service teachers’ need for practical experience and knowledge about the implementation of RTI. Minimal knowledge about the purpose of RTI and its three tiers seemed to increase concerns in pre-service teachers in PDS1 and PDS2. According to Tillery et al. (2010), variation in teacher preparation programs and insufficient practical experience can cause a disconnect between theory and practice. Throughout the focus group meetings, pre-service teachers discussed the need for more practical experience to close this gap, preferably at earlier stages of their program. Overall results suggest that an increase in practical knowledge for pre-service teachers during their teacher preparation program could decrease the concerns implied in the study. Further research is needed in order to make appropriate recommendations to improve teacher preparation in a broader context.
Implications for practice

The current study enhances the literature focused on teacher preparation programs and RTI by providing several stakeholders (e.g., teacher preparation programs, school administrators and school systems) with the results of pre-service teachers’ levels of concern, knowledge, and attitudes toward the implementation of RTI. As noted by Robichaux and Guarino (2012), an important facet of teacher preparation programs is an understanding pre-service teachers’ levels of concern regarding the implementation of an innovation. It is critical that pre-service teachers’ foundational skills be aligned with current innovations. Explicit and direct instruction of the RTI process and its components must be included in the teacher preparation curriculum. It is recommended that teacher educators increase pre-service teachers’ practical experiences for each component of RTI (Cavendish & Espinoza, 2013), as well as the process and implementation of this innovation (McCombes-Tolis, & Spear-Swerling, 2010).

Similarly, school administrators and school systems must be aware of the critical need for first year teacher’s support and professional development for the successful implementation of RTI (Conderman & Johnston-Rodriguez (2009). According to Bartell (2004) first year teacher’s experiences have long-term consequences related to teacher effectiveness. First year-teacher mentorship is highly recommended by the literature as a support to increase teacher effectiveness (Hullsten, Pritzula, Ebanks, & Lai, 2009). Aside the support and provision of professional development by school administrators and the school systems, a specifically defined RTI process could reduce the concerns of general education teachers (O’Conner, 2007).

Findings from this mixed methods study extend the literature regarding novice practitioners’ levels of concern about the implementation of RTI, and the findings provide wider support for the use of the CBAM model to guide professional development for educators. Most
importantly, results of this study could potentially enhance curriculum development in teacher preparation programs that will better prepare pre-service teachers for implementation of future innovations.

**Limitations and Directions for Future Research.**

Certain limitations can be concluded from these analyses. The moderate range of the sample population obtained in the study could be considered a limitation (Stevens, 2009). It is also important to note that the sample was generated from a large metropolitan area in a southwest region of the United States, limiting generalization to pre-service teachers in this teacher preparation program. Potential biased introduced by self-selection on the qualitative strand of the study could potentially minimize generalizations made from the meta-inferences (Clark & Creswell, 2008). Prudence should also be considered when interpreting the results of the CCA due to possible suppressors in the Knowledge of RTI synthetic variable as well as the SoC synthetic variable. According to Nimon, Henson, and Gates (2010) suppressors can increase the predicted power of a canonical variate confounded within a set of variables. It is important to consider that other variables (e.g., practical experiences before and during PDS, experience outside university courses, personal readings) may also play a key role in general education pre-service teachers’ concerns regarding their future implementation of RTI. More extensive research in the area of pre-service teacher preparation and their knowledge, skills, and concerns about RTI should be taken into consideration.
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elementary educators in understanding and applying the terms, concepts, and practices associated with response to intervention in early reading contexts. *Journal of School Leadership, 21*, 360-389.


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TEN YEARS OF RESPONSE TO INTERVENTION: IMPLICATIONS FOR GENERAL
EDUCATION TEACHER PREPARATION PROGRAMS

Ten years have passed since the reauthorization of the Individuals with Disabilities
Education Improvement Act of 2004 (IDEIA) and the initial recommendation to utilize the
Response to Intervention (RTI) model. The consequence of the recommendation to implement
RTI provides implications for general teacher preparation programs that are significant, given
general educators increased responsibility for work with students at-risk for failing. General
education (GE) teachers are finding that their preparation may be insufficient related to
implementation of RTI. According to the literature, a general feeling of inadequacy on the part
of general education teachers exists when it comes to teaching struggling students and students
with diverse needs (Burns & Ysseldyke, 2009). The National Research Council (2010) found
teacher education programs are not meeting the demand of producing a sufficient supply of
competent educators to teach today’s at-risk students. Broad evaluations of teacher preparation
programs suggest future teachers are not well prepared to teach all students (Crowe, 2010).
Also, rapid growth in the area of new teaching practices makes it quite difficult for teacher
preparation programs and professional development programs to keep their curricula current and
up-to-date (Smith & Tyler, 2011). Specifically, the decision made by the educational reform of
IDEIA to present RTI as a preventative model for assisting students at risk has become quite
challenging for teacher preparation programs. Although a broad body of literature has been
generated around the concept and implementation of RTI, literature on the preparation of pre-
service teachers has been somewhat limited. The purpose of this systematic review of the
literature is to examine research focusing on the teaching, learning, implementation, and
evaluation of Response to Intervention in general education teacher preparation.
Changes in Policy

The reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA) proposed changes in the identification process for classifying students as having a learning disability (LD) (Bender & Shores, 2007). According to IDEIA (2004), learning disabilities are defined as:

A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia….

Select conditions and disadvantages are excluded from the definition of LD. Learning difficulties which are primarily the result of a hearing, visual, or motor disability, or emotional disturbance, intellectual disability, or due to cultural, environmental, or economic disadvantage do not qualify as LD. A specific learning disability (SLD) is having academic difficulties in conjunction with fundamental cognitive deficiency related to a basic psychological process (Kavale, Spaulding, & Beam, 2009).

IDEA 1997 was reauthorized in 2000 and again in 2004. Similar to the No Child Left Behind Act (NCLB; 2002), the reauthorization in 2004 specifically focused on the goal of having highly qualified teachers in every school (Lipsky, 2005). IDEA 2004 mandated a secondary option to the ability-achievement discrepancy model for identifying students with disabilities as different models could be implemented. This increased monies for researching new models, such as RTI, for use in inclusive settings. With No Child Left Behind and IDEIA 2004, RTI
moved beyond an exclusive special education focus to a broader general education intervention approach (Kavale & Spaulding, 2008).

As the law shifted away from the IQ-achievement discrepancy model, a more preventative model based on evidence-based interventions was needed to better assist students with learning difficulties (Bender & Shores, 2007; Fuchs & Vaughn, 2012). IDEIA (2004) included three recommendations to determine eligibility requirements for SLD (Yell & Drasgow, 2007). First, it recommended identification and early intervention utilizing universal screeners and interventions to prevent achievement and behavioral problems. Second, the Commission asked to simplify the eligibility process as some of the past methods (i.e., IQ tests) were presumed unreliable and unrelated to specific interventions. This second recommendation specifically addressed the *wait-to-fail model*. RTI changed the evaluation procedures for the identification of students with LD. The discrepancy model is defined as the discrepancy that exists between the estimated ability and the actual academic performance of a student. RTI has widely replaced the IQ-achievement discrepancy model due to its broad support from researchers and practitioners throughout the field of education. The RTI model incorporates these recommendations from IDEIA (Bender & Shores, 2007; Yell & Drasgow, 2007). The legislation recommended the new model focus on students’ response to research-based instruction and interventions. It also noted that the quality of instruction needed to be considered prior to determining eligibility for a possible LD and inappropriate instruction did not qualify a student to be eligible for LD (Yell & Drasgow, 2007). In 2006, updated regulations in IDEIA recommended the proper training of administrators and educators on specific federal guidelines with regard to the assessment of students for special education services as well as in the utilization of research-based interventions and models such as RTI (Yell & Drasgow, 2007).
Before recommendations made by the newly revised law, groundwork for a more appropriate manner to identify learning disabilities was constructed by implementing a framework based on responsiveness to instruction.

The Tiered Approach to Intervention

The groundwork for implementing a responsiveness to instruction framework began in the 1960s. However, the instructional innovation did not develop momentum until 1982 based on the efforts of Heller, Holtzman, and Messick (1982) after writing about the issue of disproportionality in special education. According to Bender and Shores (2007), RTI continued gaining support into the early 2000’s due to research on the assessment, interventions, and evaluations of students at risk of having learning disabilities within the field of special education (e.g., Fuchs, Mock, Motgan, & Young, 2003; Marston, Muyskenes, Lau, & Canter, 2003; Vaughn & Fuchs, 2003).

RTI is an educational framework that focuses on prevention and intervention based on research based practices that support students who are at risk of failing. This framework is commonly presented as a three-tier model (Fuchs & Fuchs, 2006). The National Center for Response to Intervention defines RTI as an integration of assessment and intervention within a multi-level prevention system to maximize student achievement and reduce behavior problems. With RTI, schools identify students at risk for poor learning outcomes, monitor student progress, provide evidence-based interventions and adjust the intensity and nature of those interventions depending on a student’s responsiveness, and identify students with learning disabilities. (National Center for Response to Intervention, 2009, p.3)
Evidence-based practices are implemented, student progress is monitored, and instruction is adjusted based on the student’s response to the intervention. Special considerations, such as native language and cultural background, must be made for students from culturally and linguistically diverse (CLD) backgrounds due to the inappropriate representation (National Center for Response to Intervention, 2009).

**Components of RTI**

According to the National Center for Response to Intervention (2009), the RTI framework consists of four major components: (a) universal screening, (b) progress monitoring, (c) multi-level prevention system, and (d) data-based decision making. As a combined model, these components aid in the identification of students at risk of failing by providing targeted and preventative intervention. The first component, universal screening, provides a brief assessment of the student’s current academic level to support at-risk status (National Center for Response to Intervention, 2009). Similarly, progress monitoring is a continuous evaluation of the student’s academic performance in order to quantify the rate of academic improvement. Progress monitoring also assesses the effectiveness of the instruction provided to the student. In order to make appropriate decisions associated with the student’s progress, educators must focus on student outcome data in order to drive their instruction and decisions at all levels of instruction. The use of data obtained from screening and progress monitoring provide education personnel with the information necessary for designating appropriate placement of students within RTI’s multi-level prevention framework (National Center for Response to Intervention, 2009).

**Multi-Tier Prevention System**

During Tier 1, all students within a school or grade level are provided with core instruction and are screened for any challenges experienced with the core curriculum. If the
student is not responding well to this instruction, small-group and more intensive research-based intervention is provided as supplemental instruction from core academic instruction. This is known as Tier 2. Finally, Tier 3 is the most intensive tier in which the students who are not responding to Tier 2 interventions are provided with individualized and intensive supplemental intervention (Elliot, 2008).

Throughout these tiers, student progress is monitored and interventions are evaluated and modified on an as needed basis, typically at the end of a short time period (e.g., six to eight weeks). Data drives which interventions each student receives as well as the decision about which tier the student should be placed in to maximize opportunities for success. If the student continues not to respond to interventions, a referral team of professionals within the school may refer the student for a special education evaluation. According to Wanzek and Vaughn (2011) one of RTI’s goals is to reduce inappropriate referrals to special education and misidentification of students with LD. Individualized interventions serve as a precursor to referral for assessment in special education. RTI’s systematic, multi-tiered intervention process entails the collection of data, individualized student instruction, and progress monitoring to determine the student’s strengths and weaknesses and assist with the identification of a specific learning disability (Kavale & Spaulding, 2008).

RTI Approaches

RTI can be implemented utilizing two approaches: the Problem Solving approach and the Standard Treatment Protocol. According to Fuchs and Fuchs (2006) at each level of the Problem Solving approach, the process is similar. Practitioners determine and analyze the degree of difficulty a student may be experiencing. Practitioners then design an intervention plan focused on a specific goal and conduct the intervention. The student’s progress is monitored and data
collected while the intervention is carried out over several weeks. After a few weeks of data collection, the team of practitioners evaluates and assesses the data collected and modifies the intervention, as needed. This process occurs within every step of the three tiers of RTI. The key component that drives the intervention is the data collected regarding the student’s responsiveness (Grimes, 2002). This approach differs from student to student, making the intervention individualized (Bender & Shores, 2007).

As an alternative method to the problem solving approach, the Standard Treatment Protocol focuses on the implementation of a fixed treatment and trial for students with similar difficulties (Fuchs & Fuchs, 2006). Contrary to the Problem Solving approach, transitioning between interventions is more natural between tiers (Bender & Shores, 2007). It also focuses on classroom instruction and interventions that are uniform rather than individual on every tier, differing from the Problem Solving approach which individualizes instruction for each student (Bender & Shores, 2007, Fuchs & Fuchs, 2006). If students are responsive to the intervention, they are considered to be remediated and no longer seen as possibly having a disability. Otherwise, they are provided a more intensive intervention and are moved through the tiers (Fuchs & Fuchs, 2006). After several weeks of intervention, the team makes a decision driven by the data to send the student for evaluation for possible disabilities.

Although both approaches are widely used in today’s schools, criticisms about the RTI model continue to exist. For example, the lack of a systematic approach to implement RTI has states, stakeholders, and educators confused on the steps and components of proper implementation (Berkeley, Bender, Peaster, & Saunders, 2009). The deficiencies of specificity in the implementation of assessments, evidence-based practices, and fidelity of implementation may produce confusion between school districts and states. According to Berkeley et al. (2009),
states are at different adoption levels of implementing RTI, with only 15 states fully implementing it, 22 developing the method, 10 providing guidance to stakeholders, and 3 not currently in the process of implementation. A final overall criticism is the lack of rigor placed on educators and schools on the fidelity of implementation (Berkeley et al., 2009). The authors suggest a more comprehensive professional development for general education teachers to increase knowledge and skills on the implementation of research based interventions, high-quality instruction, and collaboration with special education teachers.

Individualized interventions serve as a precursor to referral for assessment in special education. RTI’s systematic, multi-tiered intervention process entails the collection of data, individualized student instruction, and progress monitoring to determine the student’s strengths and weaknesses and assist with the identification of a specific learning disability (Kavale & Spaulding, 2008). Throughout the field of education, it is imperative to have the knowledge and skills to implement RTI and its systematic model components.

Research Presented in General Education Literature

Researchers have evaluated the effectiveness of implementation of RTI’s components in content areas, classroom practices, ongoing professional development, interventions at different tier levels, as well as teachers’ levels of concerns (e.g., Bradley, Danielson, & Doolittle, 2005; Conderman & Johnston-Rodriguez, 2009; Dupuis, 2010; Fuchs & Vaughn, 2012; Greenfield, Rinaldi, Proctor, & Cardarelli, 2010; Hilton, 2007). Fuchs and Vaughn (2012) explain the positive contribution RTI has made to the field of education over the past decade. Although the literature has supported the RTI model as a preventative and early intervention model to support students at-risk, the authors suggest guarded optimism because more in depth research should be undertaken in order to address gaps existing within the literature. In particular, gaps within the
literature should be addressed regarding teacher preparation programs and updating program curriculum (Smith & Tyler, 2011).

A recent review of the literature by Hazelkorn, Bucholz, Goodman, Duffy, and Brady (2011) sought to identify educators’ awareness of developments and practices associated with RTI as it is presented in the professional literature. The review’s article selection was based on publications between 2003 and mid-2008. A total of 128 articles were included in the systematic review of the literature. Articles were categorized by type of journal (e.g., special education journal, general education journal, speech and language journal, etc.). The results presented a wide picture of publishing avenues to disperse literature about RTI to educators. The most frequent publishing avenue for articles about RTI was through special education journals, followed by journals in psychology and journals in leadership or policy. Only eight of the 128 articles reviewed were published in general education journals, and six of the eight journals were focused on reading. Although the review included a thorough exploration of different presentations of RTI, the review did not include teacher preparation as part of their coding selection. However, the authors did include recommendations for teacher preparation programs and professional developments that help pre-service teachers understand all components of RTI based on the current literature at that time. In conclusion, it is important for literature in the area of teacher preparation to focus on RTI and its components.

Purpose of the Study

While confusion about teachers’ roles in the RTI process continues to be evident, it is important to address the fact that RTI is a general education initiative (Fuchs, Fuchs, & Stecker, 2010). General education teachers are at the forefront of delivery of instruction and implementation of research-based interventions at Tier I and Tier II levels of RTI
implementation. The common confusion about the role of general education teachers in the RTI process shines light upon the gap among research, policy, and practice and the need for enhancing professional development, teacher preparation, and peer-reviewed literature in this area (Berkeley et al., 2009; Marston, 2005). These needs lead to the assertion that those most responsible for the initial stages (e.g. general education teachers) are less likely to have engaged the research given its form of publication and due to generally being reported in special education journals (Hazelkorn et al., 2011). The purpose of this systematic literature review is to examine existing research focused on the teaching, learning, implementation, and evaluation of RTI on general education teacher preparation in peer-reviewed journals. The study is designed to answer the following research question:

1. To what extent does literature in the field of teacher preparation for general education teachers focus on Response to Intervention and its components?
   a. What are the highly rated (according to impact factor or general consensus by a panel of experts) general education peer-reviewed journals publishing in regards to Response to Intervention and its components?

Methods

Search Procedure

Database Search. A systematic review of the literature was conducted using Academic Search Complete, ERIC via Ebscohost, Educational Research Complete, JSTOR, Professional Development Collection, ProQuest, Psycinfo, Sage Journals Online, Taylor and Francis Online, and Google Scholar databases. The following descriptors: “pre-service teachers” AND “response to intervention” OR “RTI” AND “teacher preparation” were used and resulted in the identification of 354 publications (see Table 2). Table 2 shows the overall findings using the
combination of descriptors in a single search. Electronic searches were also conducted through professional associations’ databases. These professional associations include: the American Association of Colleges for Teacher Education, the Association of Teacher Educators, and the American Educational Research Association. The selection of the databases was made due to the wide-variety of articles stored in each database and the access of educational journals focusing on the topics of Response to Intervention, teacher preparation programs, and general education teachers. Articles that focused on special education were considered in order to build a comparison of both branches of the educational system.

Table 2

*Electronic Databases Selected to Search for Descriptors*

<table>
<thead>
<tr>
<th>Electronic Databases</th>
<th>Number of Articles Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Search Complete</td>
<td>5</td>
</tr>
<tr>
<td>Education Research Complete</td>
<td>4</td>
</tr>
<tr>
<td>ERIC via Ebscohost</td>
<td>14</td>
</tr>
<tr>
<td>Google Scholar</td>
<td>208</td>
</tr>
<tr>
<td>JSTOR</td>
<td>30</td>
</tr>
<tr>
<td>Professional Development</td>
<td>4</td>
</tr>
<tr>
<td>ProQuest</td>
<td>72</td>
</tr>
<tr>
<td>PsycInfo</td>
<td>0</td>
</tr>
<tr>
<td>Sage Journals Online</td>
<td>2</td>
</tr>
<tr>
<td>Taylor &amp; Francis Online</td>
<td>15</td>
</tr>
</tbody>
</table>
Hand Search. In an effort to identify additional reports relevant to this review, seven peer-reviewed journals in the field of general education and teacher preparation were also hand searched. The rationale behind the selection of these journals was grounded on each professional journal’s index factor rating, its support by a large professional organization, and/or indicated by a panel of experts in the field of education. The authors’ intent was to provide a wide-range of professional publications targeting an audience of teacher educators and general education practitioners. The journals selected were Journal of Teacher Education, Action in Teacher Education, Educational Researcher, Educational Forum, Teaching Education, and Teaching and Teacher Education (see Table 3). This hand search identified an additional 15 articles. Table 3 provides a more in depth categorization of articles found and index factor for each one of the peer-reviewed journals selected during the search.

Table 3

Peer-Reviewed Journals Selected to Search for Descriptors

<table>
<thead>
<tr>
<th>Peer-Reviewed Journals</th>
<th>Number of Articles Found</th>
<th>Index Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action in Teacher Education*</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Educational Researcher</td>
<td>0</td>
<td>2.931</td>
</tr>
<tr>
<td>Educational Forum*</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Journal of Teacher Education*</td>
<td>4</td>
<td>2.292</td>
</tr>
<tr>
<td>Teaching and Teacher Education*</td>
<td>3</td>
<td>1.322</td>
</tr>
<tr>
<td>Teacher Education and Special Education**</td>
<td>7</td>
<td>N/A</td>
</tr>
<tr>
<td>Teaching Education*</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Focus on General Education, ** Focus on Special Education; Impact Factors obtained from: 2011 Journal Citation Reports® (Thomson Reuters, 2012)
**Coding Procedures**

In order to conduct a content analysis of the articles selected, the following features of each report were coded by the researcher: (a) demographic information (i.e., author, journal, and year of publication), (b) participants of the study (i.e., pre-service teachers, in-service teachers, administrators, teacher educators), (c) type of study (i.e., quantitative, qualitative, interview of scholars, commentary), (d) purpose of the study (i.e., exploratory, recommendation, historical, literature review, program review), (e) grade level focus (i.e., elementary school, middle and/or high school, none), (f) certification program (i.e., general education, special education, other), (g) components of RTI addressed (i.e., progress monitoring, evidence-based practices, cultural competence, screening, data-based decision making, RTI overall). A second researcher coded the complete sample of variables with 92% reliability. A summary of the reports features was included on Table 4.

**Inclusionary criteria.** In order to better select appropriate articles for this review of literature, reports had to meet specific inclusionary criteria. First, the studies had to be conducted in the United States and reported in English. Articles not focused on the United States were excluded because RTI may be implemented, discussed, taught, or practiced differently abroad than in United States institutions of higher education. Their body of content must have focused on the preparation of pre-service teachers as they implement RTI or one of its components. Studies also had to be published between January, 2003, and May, 2013, in peer-reviewed journals and reference RTI in the title or abstract. The target audiences for these reports were elementary and/or secondary in-service teachers, pre-service teachers, and/or teacher preparation educators/programs. The initial selection procedure identified 354 articles that matched the three descriptors above, but once inclusionary criteria were evaluated (e.g., publication in a peer-
reviewed journal and publication dates between January, 2003, and May, 2013), only 14 articles were identified in the study for actual coding. Of these 14, it was concluded that three articles did not meet the appropriate criteria for the purpose of this study and were removed. Table 4 provides the list of all 10 articles and the journals in which they were published. It also includes the participants included in the study, the type of study, and its purpose. Table 4 also shows information on the grade level on which the research is focused. Finally, it includes the main RTI component which is discussed throughout the article or RTI as an overall topic.

**Data Analysis**

Analysis of the data was conducted by establishing frequencies of response as descriptive statistics for each one of the categories in the coding system. All categories were cross-checked by the author and the assistant researcher to further explore the results obtained. Results of the data analysis is presented below.
Table 4

*Articles Selected and their Characteristics*

<table>
<thead>
<tr>
<th>Study</th>
<th>Journal</th>
<th>Participants</th>
<th>Purpose of Study</th>
<th>Type of Study</th>
<th>Grade Level Focus</th>
<th>RTI Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCombes-Tolis &amp; Spear-Swerling (2011)</td>
<td>Journal of School Leadership</td>
<td>Teacher Educators*</td>
<td>Recommendation</td>
<td>Commentary</td>
<td>None</td>
<td>RTI Overall</td>
</tr>
<tr>
<td>Brownell, Sindelar, Kiely, &amp; Danielson (2010)</td>
<td>Exceptional Children</td>
<td>Teacher Educators**</td>
<td>Historical</td>
<td>Commentary</td>
<td>Elementary and Secondary</td>
<td>RTI Overall</td>
</tr>
<tr>
<td>Oitaba (2005)</td>
<td>Journal of Early Childhood Teacher Education</td>
<td>Teacher Educators*</td>
<td>Historical</td>
<td>Commentary</td>
<td>Elementary</td>
<td>Evidence-based Practices</td>
</tr>
<tr>
<td>Chamberlain (2009)</td>
<td>Intervention in School</td>
<td>Teacher Educators***</td>
<td>Recommendation</td>
<td>Interview of Scholars</td>
<td>Elementary and Secondary</td>
<td>RTI Overall</td>
</tr>
<tr>
<td>Study Authors</td>
<td>Journal/Publication</td>
<td>Target Audience</td>
<td>Study Type</td>
<td>Methodology</td>
<td>Sample Size</td>
<td>Setting</td>
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</tr>
<tr>
<td>Cavendish &amp; Espinoza (2013)</td>
<td>Advances in Special Education</td>
<td>Teacher Educators***</td>
<td>Literature Review</td>
<td>Qualitative (n = 22)</td>
<td></td>
<td>Elementary</td>
</tr>
<tr>
<td>Pugach &amp; Blanton (2012)</td>
<td>Journal of Teacher Education</td>
<td>Teacher Educators***</td>
<td>Exploratory</td>
<td>Qualitative (n = 3)</td>
<td></td>
<td>Elementary</td>
</tr>
<tr>
<td>Conderman &amp; Johnston-Rodriguez (2009)</td>
<td>Preventing School Failure</td>
<td>In-service Teachers***</td>
<td>Exploratory</td>
<td>Mixed Methods (Quantitative and Qualitative) (n = 46)</td>
<td></td>
<td>Elementary and Secondary</td>
</tr>
<tr>
<td>Harvey, Yssel, Bauserman, &amp; Merbler (2010)</td>
<td>Remedial and Special Education</td>
<td>Teacher Educators***</td>
<td>Program Review</td>
<td>Quantitative (n = 124)</td>
<td></td>
<td>Elementary and Secondary</td>
</tr>
<tr>
<td>Conderman, Johnston-Rodriguez, Hartman, &amp; Walker (2013)</td>
<td>Teacher Education and Special Education</td>
<td>In-Service Teachers</td>
<td>Program Review</td>
<td>Mixed Methods (Quantitative and Qualitative) (n = 64)</td>
<td></td>
<td>Elementary and Secondary</td>
</tr>
</tbody>
</table>

Targeted audience: * general teacher educators, ** special teacher educators, *** both general and special teacher educators
Synthesis of Findings

A total of 11 articles were initially selected for coding and analysis based on the search criteria. However, during coding, one article initially included was found to not be from a peer reviewed journal and was, thus, excluded, leaving 10 remaining articles (i.e., 3% of the total number of articles obtained in the search). Two of the ten were published in general education peer reviewed journals (i.e., 20% of the total number of articles selected for this study), four articles were published in special education journals, and the remaining four were published in other areas of education (e.g., leadership, reading, school failure, clinical school intervention, and a magazine). The majority of the articles focused on teacher educators as their audience (n=8). Only two focused on in-service teachers. The purpose of each article focused on recommendations (n=3), program review (n=2), historical (n=2), exploratory (n=2), and one review of the literature. Four out of the 10 articles that met the search criteria were written as commentaries. Others utilized mixed methodology (n=2), qualitative methods (n=2), one quantitative method, and interviews of scholars to present their results. Both elementary and secondary settings were the focus of five peer-reviewed write-ups, while four focused exclusively on elementary education. One did not include a specific grade level. Finally, the majority of the articles concentrated on RTI as an overall topic. Furthermore, cultural competence (n=3) and evidence-based practices were the main themes for the remaining publications.

General Education Peer-Reviewed Journals

The overall focus of this study involved the examination of teacher preparation literature regarding RTI. The search focused on highly rated peer-reviewed journals in the field of general education. Highly rated journals were identified based on the Thomson Reuter impact factor
which measures the frequency an article in a given journal has been cited during a particular time period (Thomson Reuters, 2013). In general, only 15 total articles were found to meet the descriptors during the literature search, compared to the 354 found in the broader search. Out of the 15 total articles, only one was utilized for this review of the literature as it met all search criteria. This article was published in the *Journal of Teacher Education* (Impact Factor: 2.292), which is considered to be one of the most highly rated journals for general education teacher preparation programs by a panel of experts in the field of education. All other highly rated journals specifically searched (e.g., *Action in Teacher Education, Educational Researcher* (Impact Factor: 2.931), *Education Forum*, and *Teaching and Teacher Education* (Impact Factor: 1.322) did not produce any articles according to the search descriptors. One reason for the lack of included articles from *Teaching and Teacher Education* was that it is an international journal and covers global topics, while this review focused solely on United States journals. Only one more general education journal met the criteria for the search but was not considered due to its narrowly targeted audience of early childhood educators. It is also important to note that none of the articles targeted pre-service teachers as the main audience but instead were geared toward teacher educators. By contrast, three articles included in this review of the literature were obtained from highly rated journals in special education (e.g., *Exceptional Children, Remedial and Special Education*, and *Teacher Education and Special Education*). According to Hazelkorn et al. (2011) this finding may have been due to the development of RTI by special educators.

**Teacher Preparation and Response to Intervention**

As increased attention is given to RTI in the field of education, teacher preparation programs should focus on tying assessment to instruction in order to prevent student academic failure (Hazelkorn et al., 2011; Heritage, 2007). As the majority of the articles about RTI
continue to target special education teachers, one of the greatest challenges of the implementation of RTI by general education teachers is general education teacher preparation (Bradley et al, 2007; Hazelkorn et al., 2011). Results of this study show general education pre-service teachers are not a commonly targeted audience for published literature on RTI and its components.

Findings from the study show the majority of the peer-reviewed journals which met the search criteria focused on teacher educators as their main participants or audience. McCombes-Tolis and Spear-Swerling (2011) conducted a qualitative study exploring syllabi from reading courses in teacher preparation programs. The targeted audience for this study was teacher educators, and the authors found a lack of preparation on RTI components (e.g., assessment, data-driven decision making). Recommendations made include an increase in practical experience for pre-service teachers in reading courses that incorporate RTI components, as well as increasing the topic coverage on RTI as a preventative method.

Similar to these recommendations, Chamberlain’s (2009) interviews with scholars in the field of education identified professional development for pre-service teachers regarding RTI as critical. More specifically, providing pre-service teachers with information about the actual implementation of RTI so they are better prepared to assist students at risk is needed. The focused audience for this study was once again teacher educators. Conderman and Johnston-Rodriguez (2009) agree with these recommendations, as their study found beginning general education teachers are in need of better preparation in RTI from teacher educators. By contrast, special education beginning teachers felt more comfortable with the implementation of RTI and its components. The authors feel it is key for teacher educators to relay the message to general
education pre-service teachers about how this model will be an important aspect of their everyday teaching (Conderman & Johnston-Rodriguez, 2009).

Finally, Harvey, Yssel, Bauserman, and Merbler (2010) conducted a study in which teacher educators were surveyed about current practices in institutions of higher education (IHE) with regard to inclusion. As a specific component of this study, RTI and its components were included. Although results showed positive attitudes exist regarding including inclusive practices in IHE’s courses, the authors suggested increasing instruction on RTI for pre-service teacher preparation. More specifically, Harvey et al. (2010) recommended providing more emphasis on all components of RTI (e.g., evidence-based practices, assessment, and collaboration) in order to bridge the gap between research and practice.

**Components of Response to Intervention and Teacher Educators**

As previously stated, literature searched throughout this study focused its attention on teacher educators as the main audience. It has also been observed through the exploration of the literature that although RTI has been the overall focus, recommendations to increase knowledge and practice for pre-service teachers about RTI’s components are important for pre-service teachers’ future implementation of RTI. For example, Cavendish and Espinosa (2013) included the recommendation for an increase of pre-service teacher preparation in culturally responsive interventions (CRI) and more collaboration between general and special education. The authors point out that collaboration between general education and special education pre-service teachers about implementing RTI should be an essential component of teacher preparation programs (Cavendish & Espinosa, 2013). Their advice is to not only provide knowledge-based instruction, but also practical experience about RTI implementation for pre-service teachers.
Klingner and Edwards (2006) provided an examination of culturally responsive interventions in their review of literature. In 2006, the research on this topic was limited and general education pre-service and in-service teachers were not very familiar with the concept of RTI. The authors suggested educators become more familiar with progress monitoring, assessment procedures, culturally responsive interventions, and the RTI process through their teacher preparation programs for pre-service teachers and through professional development for in-service teachers.

Otaiba (2005) focused on early childhood reading interventions based on the RTI model. The study found that although early childhood teachers are experts on early intervention and individualizing instruction in literacy, not all teachers have the skills necessary to implement evidence-based practices in the RTI process. The author suggests teacher educators must adapt coursework in order to provide practical knowledge and experience with RTI for pre-service teachers, noting the importance of experience and case-based learning activities. Emphasis on progress monitoring and assessment should be made for all early childhood teacher preparation programs.

More recently, an exploratory study focusing on content analysis of course syllabi and program documents examined CRI on three fully combined (i.e., general education and special education teacher candidates) teacher preparation programs (Pugach & Blanton, 2012). The purpose of their content analysis of these programs was to inspect the effectiveness of their components, especially CRI for students with diverse needs embedded within the RTI system. Although their goal was to observe CRI in each program, their findings did show that a focus on pre-service teacher preparation to implement assessment and evidence-base practices, showed positive effects on some components of RTI.
Literature of RTI focused on Special Education Teacher Preparation

Two articles found in the current search of literature focused specifically on special education teacher preparation programs. Although it was not the intent to explore articles geared toward special education, it is important to note comparisons and similarities between literature in general and special education. In 2010, Brownell, Sindelar, Kiely, and Danielson provided a view similar to the general education literature recommendations. Their commentary emphasizes the inadequate preparation for special education pre-service teachers on components of RTI. They suggest strong changes to existing preparation by asking programs to require special education pre-service teachers to become highly qualified in specific content subjects similar to general education pre-service teachers. Brownell et al. (2010) base their rationale on the fundamental knowledge of content needed for the instruction and assessment of students at risk when providing Tier 3 instruction to struggling students.

The second article focused on recent graduates from a special education preparation program and their perceptions of their training (Conderman, Johnston-Rodriguez, Hartman, & Walker, 2013). Positive feedback was received about the strong connection between content knowledge during their program and the practical experiences during that time. The special education pre-service teachers perceived a need to receive RTI instruction and practical experience with RTI during their teacher preparation program. For those reasons, recommendations for areas of improvement included the need for specific professional development in the area of RTI and each of its components.

Discussion

Almost ten years after IDEIA (2004) was reauthorized, the increased focus on the RTI model has become quite evident in educational literature (Hazelkorn et al., 2010). However, it
is important to note that more articles are being published in special education journals than in general education publications (Hazelkorn et al., 2010). RTI has caused the role between special education teachers and general education teachers to blur. Conderman and Johnston-Rodriguez (2009) explain that the paradigm shift between special education and general education in regard to the RTI process may not be as easy as expected, especially for teacher preparation programs. The continued misunderstanding about the specific responsibilities of special education and general education teachers concerning students at risk of failing is the result of a gap between research and practice. Located in the middle of both worlds (i.e., educational research and practice) are teacher education programs. Teacher preparation program attempts to increase pre-service teacher knowledge about the implementation of RTI, especially in general education have not been well established (Brownell et al., 2010; Hazelkorn et al., 2010; Klinger & Edwards, 2006; McCombes-Tolis & Spear-Swerling, 2011). Recommendations from the reviewed literature suggested enhancing teacher preparation programs in the area of RTI.

The current synthesis of literature suggests a gap in the presentation of RTI and its components targeting general education pre-service teachers. These findings are similar to other findings regarding the large difference between literature targeted for special educators rather than general educators according to Hazelkorn et al. (2010). The currently reviewed literature recommends enhancing pre-service teachers’ knowledge of and practical experiences with RTI during their teacher preparation programs, especially in-depth instruction on the implementation of all RTI components (Brownell et al., 2010; Chamberlain, 2009; Conderman & Johnston-Rodriguez, 2009; Conderman et al., 2013; Hazelkorn et al., 2010; Harvey et al., 2010; Klinger & Edwards, 2006; McCombes-Tolis & Spear-Swerling, 2011; Oitaba, 2005; Pugach & Blanton, 2012). Not only should teacher preparation programs enhance their focus on RTI, but peer-
reviewed journals should also increase their call for articles and publications targeting general education pre-service teachers in order to expand the literature on RTI and pre-service general education teachers.

**Limitations**

Several limitations are observed for the current synthesis of literature. The review’s identification of studies based on inclusionary and exclusionary criteria must be taken into consideration. All articles selected focused on pre-service teacher preparation on RTI and RTI components. Although the purpose of the review of literature was to obtain specific information about the literature targeting general education pre-service teachers, other articles were included due to the lack of literature targeting this population. The review of literature was based on very specific wording or descriptors that could be removed to broaden the search. Finally, the list of top general and special education journals are based on the opinion of a few scholars in the field of education in one southwestern university. Thus, the generalization of findings should be carefully interpreted.

**Implications for Practice**

For the past 10 years, extensive research has established the effectiveness of RTI for students at risk (Fuchs & Vaughn, 2012). As indicated by the literature, teacher preparation is key to the effectiveness of RTI as it relates to its implementation and positive student outcomes (Compton et al., 2012; Denton, 2012; Fuchs, Compton, Fuchs, & Davis, 2008; Gerber, 2005; Gersten et al., 2008; Vaughn et al., 2009). An ongoing concern is the deficiencies existing in teacher preparation programs’ instruction about RTI, especially those focusing on general education (Brownell et al., 2010; Hazelkorn et al., 2010; Klinger & Edwards, 2006; McCombes-Tolis & Spear-Swerling, 2011). These deficiencies are supported by the lack of literature and research in RTI targeting pre-service teachers. As recommended by Hazelkorn et al. (2010) and
the results of this study, the increase in literature to supplement the enhancement of teacher preparation programs focus on RTI is essential. Not only should teacher educators increase the coverage of RTI in their curriculum, they should also enhance all of RTI’s components with practical experiences (Cavendish & Espinosa, 2013; McCombes-Tolis and Spear-Swerling, 2011). To conclude, it is imperative for teacher preparation programs to continue the effort of enhancing their curriculum to incorporate innovative educational methods, as well as work to decrease the gap between research and practice with literature targeting pre-service teachers as the primary audience.
References


APPENDIX A

DETAILED METHODOLOGY
Research Design

A parallel mixed-method research design was utilized in order to better understand the factors influencing pre-service teachers’ levels of concern regarding the implementation of RTI. The study explored differences in levels of concern regarding RTI between pre-service teachers at different levels of candidacy and type of certification, and investigated the pre-service teachers’ greatest concerns regarding the implementation of RTI. A web-based questionnaire was constructed for the collection of quantitative data among all participants. Simultaneously, as a separate component of the study, two focus group interviews were conducted in order to provide in-depth qualitative data. Approval from the Institutional Review Board (IRB) was obtained prior to conducting the research study.

The rationale for utilizing a mixed methods research design was to strengthen the results by utilizing the fortitude of both quantitative and qualitative data analyses (Teddlie & Tashakkori, 2009). The design provided inferences from the quantitative and qualitative results, integrated as a meta-inference. Although data from the survey and the focus groups were collected and analyzed separately, the findings were brought together in order to yield a more detailed analysis of the same phenomenon.

Participants

An a priori power analysis was conducted to select the number of participants for the study (Cohen, Cohen, West, & Aiken, 2003; Stevens, 2009). According to Stevens (2009), a moderate to large sample will provide strong power. Stevens (2009) suggests using at least a moderate sample size (n=100) to detect about 67% of the canonical correlations. Unlike multiple regression, a sequential testing procedure supported by Mendoza, Markos, and Gonter (1978) can consider cases with varied sample sizes (i.e. 25 to 100) to provide significant canonical
correlations. A total of 302 pre-service teachers from a large university accredited by the National Council for Accreditation of Teacher Education (NCATE) in the Southwest part of the United States were targeted to participate in this study.

All pre-service teachers were enrolled in the last two semesters of their teaching preparation programs while the study was conducted. Participants were enrolled in the Professional Development School (PDS) experience. The professional development model is a year-long experience that emphasizes practical application of content knowledge learned during the preparation program (Darling-Hammond, 1994). Students in PDS1 spent two days a week in a public school setting. Students in PDS2 returned to the same school the following semester for five days a week. The sample for the quantitative strand of the study included 100 general education pre-service teachers, or a total of 30.2% response of the total targeted sample. Within this sample, 49 participants were enrolled in PDS1 and 51 participants were enrolled in PDS2 (i.e., student teaching). Participants in the qualitative strand of the study were self-selected from the two homogenous groups, PDS1 (n=6) and PDS2 (n=8). Homogenous groups were purposefully selected as PDS2 pre-service teachers have more practical experience than those in PDS1 (Morgan, 1998). Homogenous purposeful selection of participants is one manner in which purposeful sampling is conducted (Patton, 2000). The selection criteria for participants was based solely upon enrollment in either PDS1 or PDS2 and not based on any other factors such as age, race, ethnicity, or gender.

Measures

Two separate measures were used to secure data for the proposed study. The first measure was a 53-item questionnaire. The web-based questionnaire was divided into three parts and gathered pre-service teachers’ demographic data, background knowledge about RTI, and
information about their stages of concern regarding implementation of RTI. Part I of the survey included demographic questions—area of certification (elementary school education, middle school education), and PDS enrollment (PDS1, PDS2). The purpose of the demographic questions was to provide quantitative data to make comparisons between group differences.

The second part of the questionnaire (Knowledge of RTI) was developed by Kaplan (2011). It was originally designed to assess school psychologists’ knowledge, attitudes, and amount of training in RTI. Kaplan (2011) reported alpha coefficients of .83, .82, and .75 corresponding to each section (i.e., knowledge, attitudes, and amount of training of RTI). With the authors’ permission, the questionnaire was modified to meet the needs of the current study (W. Sanchez, personal communication, January 31, 2013). This portion of the questionnaire included 15 questions with 5-point Likert scale responses.

Finally, Part III, Stages of Concern Questionnaire (SoCQ; George et al., 2006) sought to obtain pre-service teachers’ levels of concern regarding the implementation of RTI. The SoCQ has been widely utilized to assist researchers and practitioners in understanding and evaluating innovations as they develop and support professional development (George et al., 2006). In a study of pre-service teachers’ concerns of learner-centered beliefs, Dunn and Rakes (2011) reported alpha coefficients ranging from .67 to .88 from stages 0 to 6 accordingly. The section of the questionnaire included a 7-point Likert scale with 35 questions to observe pre-service teachers’ levels of concern regarding the implementation of RTI.

As modifications were made to the original instruments, the validity for the newly created instrument was sought. A review of the literature provided a rationale for changes made to the original instruments. Experts in the field of teacher preparation and RTI (n = 3) reviewed the questions to ensure they corresponded with integral concepts of RTI. The group of experts
consisted of faculty at accredited universities with ten or more years of expertise in the field of education. Modifications were made based on experts’ feedback in order to adjust wording of the questions and their order. The feedback provided by the experts was incorporated within the limitation allowed by the authors of the original instrument. A pilot study with pre-service teachers (n = 31) not participating in the study was conducted to observe reliability of the measures.

Qualitative data was secured through two focus groups using a semi-structured questionnaire. The two focus groups were conducted to seek comprehensive information about pre-service teachers’ greatest concerns regarding the implementation of RTI. The questions were formulated for open-ended responses based on information gathered from the literature. Questions that were used in the focus group are included in the Appendix B.

Data Collection Procedures

Students in PDS1 were recruited through their weekly methods course (e.g., mathematics, social studies, science). The researcher explained the study and sought participants via Blackboard Learn email (course web platform). The email invitation (see Appendix B) included a letter of consent with detailed information regarding the study and confidentiality. Those accessing the letter of consent had the choice of participating or exiting the questionnaire (see Appendix B). If the pre-service teachers chose to participate in the study, they followed a direct link to the web-based questionnaire. Similarly, PDS2 participants were recruited through a common course and a letter sent through their course Blackboard email. For both groups, follow-up reminders and invitations were sent at the end of the first and second weeks of the study’s introduction. Head (2009) suggest incentives are often used to encourage participation. Therefore, the pre-service teachers participating in the web-based questionnaire were offered an
opportunity to participate in a drawing for a chance to receive one of four Visa gift cards. Selection of the winners was made randomly and winners were notified via electronic mail.

Qualitative data was collected by the researcher and an assistant through two focus groups. The focus groups consisted of six PDS1 and eight PDS2 participants and lasted 44 and 49 minutes, respectively. The meeting was conducted in a conference room on the university campus. An assistant/recorder was selected from the doctoral program at the university based on her expertise and knowledge on research about focus groups and the topic. Consent for participation forms (see Appendix B) were collected prior to the beginning of the meeting. Incentives were provided in the form of a light meal during the focus group meeting and $10 gift card for each participant (Head, 2009). The meetings were recorded utilizing a digital recorder.

Data Analysis

A mixed-method approach was utilized by the researcher to answer the research questions in a comprehensive manner. For the quantitative strand, demographic data collected from the questionnaire was given an appropriate value and coded accordingly (e.g., dichotomous: PDS1 = 1 and PDS2= 2). Descriptive statistics were used to obtain information about the pre-service teachers’ demographics (e.g., means, standard deviations, frequencies). Data collected from the remainder of the web-based questionnaire were given an appropriate value based on each Likert scale. Continuous and categorical variables were analyzed accordingly. A reliability analysis using Cronbach’s alpha determined the reliability of the survey to be in the excellent range at .91, and for the two main sections (i.e., Knowledge of RTI and Stages of Concern Questionnaire), the alpha coefficients were at .79 and .92, respectively (n = 100; Litwin, 1995). Data were analyzed utilizing Statistical Package for the Social Science (SPSS) 21 Predictive Analytic Software and R statistical software.
A canonical correlation analysis (CCA) was conducted in order to analyze the relationship between background variables regarding Knowledge of RTI (IV) and the pre-service teachers’ levels of concern according to the SoC framework (DV). CCA was selected because it limits the probability of committing a Type I error (Thompson, 1991). According to Sherry and Henson (2005), a CCA provides a broader technique which examines variables that have multiple causes and effects closely related to the reality of human behavior. In this case, CCA was conducted to examine the relationship between two sets of variables: (a) pre-service teachers’ knowledge of RTI and (b) pre-service teachers’ stages of concerns (see Figure 3). All assumptions (e.g., multivariate, sample size, multicollinearity) were tested during the analysis. Results are further explored in sections below.

Figure 3. Canonical Correlation Illustration

Finally, a multiple analysis of variance (MANOVA) was conducted to analyze the differences in stages of concern (DV) regarding the implementation of RTI (IV) between groups.
(i.e., elementary versus secondary education, attending PDS1 versus PDS2). These statistical analyses were conducted in conjunction rather than analyzing them in isolation to enhance the relationship between several criterion variables (Bray & Maxwell, 1985).

For the qualitative strand, data collected from the focus groups were examined by thematic analysis using NVivo 10 Research Software. The primary researcher and two assistant researchers identified themes. Thematic analysis assisted the researcher in uncovering pre-service teachers’ challenges and concerns regarding the implementation of RTI in a more in-depth manner. According to Braun and Clarke (2006), thematic analysis allows for organization and rich detail of the data collected. Themes were formulated and identified as key components in relation to the fifth research question. A deductive approach was utilized as theoretical interests have already been formulated and supported by the literature.

A parallel mixed analysis of the data was conducted. The results of both quantitative and qualitative questions were considered in answering the research questions in a holistic manner. Although the two strands of analysis were conducted separately, inferences of the results were integrated to form meta-inferences (Teddlie & Tashakkori, 2009). This method provided answers to interlocking questions in the research.
Questions for Focus Group

1. What is the purpose of Response to Intervention?

2. What role might you play in an RTI model as a future general educator?

3. How do you think your training as a pre-service teacher has assisted in your future role as a general education teacher implementing RTI?

4. Have you encountered challenges as pre-service teachers in regards to the implementation of RTI (e.g. during courses, during field experiences)?

5. What are the possible benefits or detriments of RTI?

6a. What type of training on RTI were you given prior to your field experience assignment as a possible future teacher of students with or without disabilities?

6b. What type of training on RTI were you given during your field experience assignment as a possible future teacher of students with or without disabilities?

6. What type of training on RTI do you think will be useful for pre-service teachers (like yourself)? Provided by higher education programs.

7. Do you have suggestions for training general education teachers to implement RTI?
Pre-Service Teachers and Response to Intervention Questionnaire

Sample Questions

Adapted from Kapplan (2011)

Part I – Demographic Information
What type of certification are you seeking?
   Elementary Education (EC-6)
   Secondary Certification (4-8) or (9-12)

Which semester of Professional Development School (PDS) are you currently attending?
   PDS 1
   PDS 2 (Student Teaching)

Are you currently working in a school (other than student teaching or field experience)?
   Yes
   No

Part II – Knowledge of RTI
How would you rate your knowledge of curriculum-based assessment?
   0- No Knowledge
   1- Low Knowledge
   2- Moderately Low Knowledge
   3- Moderate Knowledge
   4- Moderately High Knowledge
   5- High Knowledge
How would you rate your knowledge of implementing evidence based practices?

0- No Knowledge
1- Low Knowledge
2- Moderately Low Knowledge
3- Moderate Knowledge
4- Moderately High Knowledge
5- High Knowledge

Response to Intervention is an innovative approach to identify students at risk for failing.

1- Strongly Disagree
2- Disagree
3- Neither Disagree nor Agree
4- Agree
5- Strongly Agree

It is important for me that my school implements Response to Intervention.

1- Strongly Disagree
2- Disagree
3- Neither Disagree nor Agree
4- Agree
5- Strongly Agree

I think Response to Intervention is an important part of my future job.

1- Strongly Disagree
2- Disagree
3- Neither Disagree nor Agree
4- Agree
5- Strongly Agree
How many university courses have you completed in which Response to Intervention was discussed?

0
1
2
3
4
5 or more

How many university courses have you completed in which Curriculum-Based Assessment or other types of assessments were discussed?

0
1
2
3
4
5 or more

PART III: Stages of Concern

Part III of the Stages of Concerns Questionnaire can be found in George, Hall, and Stigelbauer’s (2006) Measuring Implementation in Schools: The Stages of Concern Questionnaire.

End of the Survey.

Please include your email address in the space below to participate in the raffle of four $25 gift cards (optional).

We appreciate your participation in this study. If you have any questions, comments, or concerns, please contact Brenda Barrio at Brenda.Barrio@unt.edu or Dr. Bertina H. Combes at Bertina.Combes@unt.edu. If you are interested in receiving a summary of the results please email Brenda Barrio. If you are interested in participating in a focus group related to this topic, please contact the researchers by following the link:
https://unt.qualtrics.com/SE/?SID=SV_9ZjgoaRtxkIf75
Dear Student,

We are conducting a research study investigating the levels of concerns of pre-service teachers (e.g. student teachers in PDS1 and PDS2) regarding the future implementation of Response to Intervention (RTI). We would like your input on this research topic.

If you are interested in participating, please complete the survey in the link provided below. Participants of the survey will be included in a raffle of four $25 Amazon gift cards.

Simply click on the link below, or cut and paste the entire URL into your browser to access the survey:
https://unt.qualtrics.com/SE/?SID=SV_2bDG0XcnNRdz20R

This will be a great opportunity for you to self-assess your concerns and knowledge regarding your future implementation of RTI, and also contribute to research in this area.

We estimate that it will take you approximately 35 minutes to complete the survey. We would appreciate your response within 2 weeks.

**Your input is very important to us and will be kept strictly confidential** (used only for the purposes of research for this project). Detailed information regarding the study and confidentiality can be found on the attached letter of consent.

If you have any questions or would prefer to complete a paper survey, please email me at Bertina.Combes@unt.edu or my student investigator at Brenda.Barrio@unt.edu.

Sincerely,

Bertina H. Combes, Ph.D.
Associate Professor
Educational Psychology Department
University of North Texas

and

Brenda Barrio, M. S.
Doctoral Candidate
Educational Psychology Department
University of North Texas
University of North Texas Institutional Review Board

Web-Based Questionnaire Informed Consent Notice

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Exploring pre-service teachers’ levels of concerns regarding the implementation of Response to Intervention.

Supervising Investigator: Dr. Bertina H. Combes University of North Texas (UNT) Department of Educational Psychology.

Student Investigator: Brenda Barrio, University of North Texas (UNT) Department of Educational Psychology.

Purpose of the Study: You are being asked to participate in a research study which investigate the levels of concerns of pre-service teachers (e.g. student teachers in PDS1 and PDS2) regarding the future implementation of Response to Intervention (RTI). The results of this study will provide evidence of the teacher preparation program’s effectiveness of preparing pre-service teachers for the future implementation of RTI. The outcomes will assist the program to enhance, improve, and/or continue the effort to prepare pre-service teachers for their future roles as classroom teachers.

Study Procedures: You will be asked to complete an online survey that will take about 35 minutes of your time.

Foreseeable Risks: No foreseeable risks are involved in this study

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but we hope to learn more about the teacher preparation program’s effectiveness of preparing pre-service teachers for the future implementation of RTI. The outcomes may assist the program and the field of teacher education to enhance, improve, and/or continue the effort to prepare pre-service teachers for their future roles as classroom teachers.

Compensation for Participants: Participants of the web based survey will have the option to provide their e-mail address at the end of the survey to be included in a raffle of four $25 Amazon gift cards. The raffle will be conducted a week after all surveys have been collected and the winners will receive notification of the award within two weeks of the end of data collection. All data will be collected by May 1st, 2013.

Procedures for Maintaining Confidentiality of Research Records: Any information collected from the participants will be handled only by Dr. Combes and Brenda Barrio. There will not be any personal information about the participants including names, social security numbers,
addresses, phone numbers or student identification numbers. The confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

Questions about the Study: If you have any questions about the study, you may contact Dr. Bertina H. Combes at 940-565-2628 (Bertina.Combes@unt.edu) or Brenda Barrio at 940-565-4646 (Brenda.Barrio@unt.edu).

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants’ Rights:

Your participation in the survey confirms that you have read all of the above and that you agree to all of the following:

· Dr. Bertina H. Combes and/or Brenda Barrio have explained the study to you and you have had an opportunity to contact him/her with any questions about the study. You have been informed of the possible benefits and the potential risks of the study.

· You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.

· Your decision whether to participate or to withdraw from the study will have no effect on your grade or standing in any UNT course.

· You understand why the study is being conducted and how it will be performed.

· You understand your rights as a research participant and you voluntarily consent to participate in this study.

· You understand you may print a copy of this form for your records.

● I Agree to Participate
● Click here to exit the study
Title of Study: Exploring pre-service teachers’ levels of concerns regarding the implementation of Response to Intervention.

Supervising Investigator: Dr. Bertina H. Combes, University of North Texas (UNT) Department of Educational Psychology.

Student Investigator: Brenda Barrio, University of North Texas (UNT) Department of Educational Psychology.

Purpose of the Study: You are being asked to participate in a research study which investigates the levels of concerns of pre-service teachers (e.g. student teachers in PDS1 and PDS2) regarding the future implementation of Response to Intervention (RTI). The results of this study will provide evidence of the teacher preparation program’s effectiveness in preparing pre-service teachers for the future implementation of RTI. The outcomes will assist the program in enhancing, improving, and/or continuing their effort to prepare pre-service teachers for their future roles as classroom teachers related to RTI.

Study Procedures: You will be asked to participate in a focus group meeting that will take approximately 90 minutes. The location of the conference room will be at a neutral place within the university (e.g. classroom or conference room).

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but we hope to learn more about the teacher preparation program’s effectiveness for preparing pre-service teachers for the future implementation of RTI. The outcomes may assist the program, and the field of teacher education, in developing appropriate curricula for pre-service teachers around RTI.

Compensation for Participants: Participants will be provided a light meal during the focus group discussion and a $5 Starbucks gift card after their completion of the focus group meeting.

Procedures for Maintaining Confidentiality of Research Records: Any information collected from the participants will be handled only by Dr. Combes and Brenda Barrio. No personal information about the participants including social security numbers, addresses, phone numbers
or student identification numbers will be collected. The confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

Questions about the Study: If you have questions about the study, you may contact Dr. Bertina H. Combes at 940-565-2628 or Brenda Barrio at 940-565-4646.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants’ Rights:

Your participation in the survey confirms that you have read all of the above and that you agree to all of the following:

- Dr. Bertina H. Combes and/or Brenda Barrio have explained the study to you and you have had an opportunity to contact them with questions about the study. You have been informed of the possible benefits and the potential risks of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- Your decision whether to participate or to withdraw from the study will have no effect on your grade or standing in any UNT course.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You understand you may obtain a copy of this form for your records.
APPENDIX B

COMPLETED/UNABRIDGED RESULTS
A parallel mixed-method research design was utilized in order to better understand the factors influencing general education pre-service teachers’ levels of concern regarding the implementation of RTI. The study explored differences in levels of concern regarding RTI between pre-service teachers at different levels of candidacy and type of certification, and investigated the pre-service teachers’ greatest concerns regarding the implementation of RTI. A total of 100 general education pre-service teachers comprised the population sample for the study. Quantitative, qualitative, and mixed-methods results are detailed below.

Quantitative Findings

**Results from the Stages of Concern Questionnaire.** Research question one asked, “What are the levels of concern of pre-service teachers regarding the implementation of RTI?”. Quantitative results explaining general education pre-service teachers’ levels of concern according to the SoCQ were secured and analyzed according to the guidelines of George et al. (2006). Overall results revealed general education pre-service teachers’ highest levels of concern about the future implementation of RTI to be in the *Unconcerned, Informational*, and *Personal Stages* (i.e. 75%, 75%, and 76% respectively; n=100; see Figure 4). According to George et al. (2006) respondents in the *Unconcerned Stage* show a great lack of interest and engagement regarding the innovation (i.e. RTI). The *Informational Stage* explains the respondents’ needs to learn more about RTI (e.g. what the innovation is, how it will be used, and what results it may show). Fuller (1969) explained that the *Personal Stage* indicates self-centeredness explained by an individual’s concern about how the innovation may affect them. In other words, general education pre-service teachers showed low levels of interest and engagement in the implementation of RTI. These results suggest that they may exhibit high levels of information and knowledge seeking about RTI. Similar findings were reported by
Dunn and Rakes (2011) about pre-service teachers’ levels of concern related to learner centered instruction.

Figure 4. General Education Pre-Service Teachers’ Levels of Concern about RTI according to the Stages of Concern Questionnaire.

**Relationship between Knowledge of RTI and Stages of Concern.** Research question two asks, “What is the relationship between background variables of general education pre-service teachers and their rated areas of concern?” A CCA was conducted using the fifteen variables related to knowledge of RTI as predictors of the seven stages of concern to evaluate the multivariate shared relationship between the two synthetic sets of variables. After a component
analysis was completed on each set of variables (i.e., predictor and dependent variables), it was observed that only 7 of the original 22 variables were considered to be more parsimonious to the main constructs with a ratio of 14 participants to one variable (Stevens, 2009). The relationship between the two sets of variables (i.e., predictor and dependent variables) was negatively correlated (Wilks’s Lambda ($\lambda$) = .016 criterion, $F(105, 508.57) = 1.585, p<0.05$). Wilks’s $\lambda$ in the full model, indicated that 98.4% of the variance was explained between the predictor variable set (Knowledge of RTI) and the criterion variable set (Stages of Concern) in the full model (see Table 1). Simply put, the less knowledge general education pre-service teachers have about RTI, the higher the levels of concerns they have regarding the implementation of RTI.

A more in-depth analysis of the data revealed that general education pre-service teachers viewed RTI as an important aspect of their teaching. This is supported by the weight of the variable which explains 76.4% of the predictor synthetic variable (i.e., Knowledge of RTI). The weight for the dependent variable (i.e., Stages of Concern) is mainly obtained from the Collaboration stage with 53.1%. In conclusion, general education pre-service teachers may perceive knowledge of RTI as an important aspect of their teaching, and if knowledge is low, concerns about the implementation of RTI may increase. Specifically, the Collaboration stage may be primarily affected by the lack of pre-service teachers’ knowledge. Additionally, presence of multicollinearity within the Knowledge of RTI and the SoC variants (GPA, $\beta > 1$) was not evident, as the intercorrelations measured less than .80 (Nimon, Henson, & Gates, 2010; Stevens, 2009).
<table>
<thead>
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<th>$r_s^2$ (%)</th>
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<tr>
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<tr>
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<td>stage 6</td>
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Note: $^a n = 100$; Coef = standardized canonical function coefficient; $r_s = $ structure coefficients; $r_s^2 = $ squared structure coefficient; rti through conf = Knowledge of
RTI variables; stage = Stages of Concern raw scores; *variables selected after component analysis from Knowledge of RTI and Stages of Concern constructs

After testing the hierarchical arrangement of functions for statistical significance, it was concluded that the full model (Functions 1 through 7) was statistically significant. The researchers also concluded that after being tested in isolation, Function 2 had a high residual variance explained and was taken into consideration. It was later found that Function 2 was not statistically significant $F(84, 446) = 1.142, \ p = .200$. Therefore, given the $R^2_c$ effects for each function, only the first function (Function 1) was considered important for this study.

Finally, a canonical commonality analysis was conducted in order to understand the unique effect identified in each variance within an observed variable and how much common variance is observed to a group of variables (Nimon et al., 2010). Nimon et al. (2010) explain commonality analysis presents a comprehensive depiction of the CCA results that can inform the reader in a more theoretical manner. In this case, the commonality analysis provided for the synthetic variable explains that raw5 (i.e. Stage 5) explains the most unique variance with 27.47% (see Table C.1).

Table C.1

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Comparison between Groups. Research question three asks, “To what extent do elementary pre-service teachers and middle school pre-service teachers differ on the rated areas of concern regarding the implementation of RTI?”. A 2x7 MANOVA examined the differences between elementary pre-service teachers (n=75) and middle school pre-service teachers (n= 25) (IVs) regarding the seven rated areas of concern regarding the implementation of RTI (DVs). The results of the analysis show no statistical difference between groups with regard to the areas of concern (F[7, 92] = 1.452, p =.194, Wilks’s $\lambda$ = .111; see Figure 5).

Similarly for research question four, “To what extent do pre-service teachers in PDS1 and pre-service teachers in PDS2, differ on the rated areas of concern regarding the implementation of RTI,” a MANOVA was conducted to explore the differences on the seven rated areas of concern regarding the future implementation of RTI (see figure 6). The results yielded a non-statistical significance between the PDS1 (n = 49) and PDS2 (n = 51) groups (F [7, 92] = 1.750, p = .107, Wilks’s $\lambda$ = .133).

According to the results for both MANOVAs, it can be concluded that pre-service teachers’ concerns regarding their future implementation of RTI do not differ due to their level of candidacy, PDS1 or PDS2 (experience) or type of certification sought (elementary school or middle school). Non-statistical differences between groups may be due to the small sample population of all groups.
Figure 5. General Education Pre-Servicer Teachers’ Levels of Concern about RTI according to the Stages of Concern Questionnaire. Comparison between type of Teaching Certification.
Figure 6. General Education Pre-Servicer Teachers’ Levels of Concern about RTI according to the Stages of Concern Questionnaire. Comparison between Professional Development School Enrollment.
Table C.2

*Comparison of Levels of Concerns according to Professional Development School Enrollment*

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* Professional Development School: PDS 1 (n = 49), PDS 2 (n = 51); Dependent Variable raw 0-6 are equal to the Stages of Concern 0-6 respectively (p = .05)
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</tbody>
</table>

* Level of Certification: Elementary Education (n = 75), Middle School Education (n = 25); Dependent Variable raw 0-6 are equal to the Stages of Concern 0-6 respectively (p = .05)
Qualitative Findings

The primary researcher along with two assistant researchers analyzed transcribed files utilizing the constant-comparison method to obtain themes (Charmaz, 2000). Constant comparison focuses on participants’ views and perceptions of reality, rather than focusing on the researchers’ perceptions of the participant’s views. Thematic coding was validated using a group-to-group validation process (Morgan, 1997). After an independent review of the transcripts by the three researchers, seven major themes emerged for both focus groups. Teacher Focus referred to comments related to teachers’ responsibilities, roles and collaborations. Student needs were observations related to academic and behavioral needs of students. Concerns described comments made about lack of information/knowledge about RTI or its implementation. Documentation encompassed participant descriptions about documentation related to RTI (assessment, RTI folders, paperwork, etc.). Experiences described actual experiences shared by the pre-service teachers related to RTI (e.g. attended meeting, professional development, etc. during their PDS1, PDS2 or personal experiences). Training was coded when comments focused on training, university courses or professional development, in the past, present or future. Finally, Understanding of RTI described comments related to knowledge, understanding or misunderstandings about RTI. Only the results related to the thematic code Concerns will be discussed as it relates to research question five, “What are pre-service teachers’ greatest concerns regarding the implementation of RTI?”.

Two overarching categories emerged which encompassed the Concerns theme. These categories allowed for a more comprehensive explanation of the theme. The first overarching category, concerns about self, includes pre-service teachers’ reservations about their ability to implement RTI as well as their preparation and depth of knowledge about the method. The
second overarching category was concerns about the RTI process based upon their experiences in public schools. Within this overarching category several subcategories arose: (a) ability to implement RTI, (b) preparation and depth of knowledge, (c) teacher behavior, (d) teacher attitude toward working with students with challenges, (e) identifying and meeting student’s needs, and (f) parental engagement (see Figure 7).

**Figure 7. Subcategories of the Concerns Theme.**

**Concerns about Self.** General education pre-service teachers in PDS1 and PDS2 were concerned about themselves (self) and their future implementation of RTI. Most participants expressed feeling confident about understanding the overall purpose of RTI, their role as general education teachers, and the support needed from their future administration. However, the participants voiced concerns about their ability to effectively apply RTI in real-life settings. For example, a student in PDS1 stated, “My most fearful thing going into the school is that I don’t know how to implement it.” Another PDS1 participant noted, “I think we all kind of know the
basics of RTI, and I think that we can kind of identify things through samples and observation…but I think at least for me, when we’re talking about implementation, I’m thinking about moving through the tiers and things like that is what I don’t feel as confident about because personally, I only recall really getting a pretty solid training in one class.” Similarly, a PDS2 participant expressed concerns about self and implementation with the following comments, “I’m worried about what am I going to do once I know what level they’re on, because I know that if I have 50% of the kids are yellow and red kids, which would be like Tier II, Tier III interventions, then the others are green, so they don’t need as much intervention, or a different intervention … So, I’m just worried about how do I implement all the intervention that they need as one person with 20-plus children?” Additional comments from participants in PDS 2 included, “Will I get the proper training to know how to do this properly so my kids are on the right tier” and “It takes a lot of planning, and as a first-year teacher, I know that the load is going to be a lot more because you’re trying to figure everything out. So with intervention and everything [RTI], it’s just a lot.”

In general, PDS2 participants expressed deeper levels of concern based on their experiences in public schools. Their concerns were more detailed, for example, they were able to describe their concerns related to the specifics of RTI (assessment, documentation, Tier I, Tier II). Participants in the PDS2 focus group also communicated their uncertainties about time management, assessment, communication with parents and other professionals, and differentiation of instruction for students in special education, “I think that we do have a good introduction to it, but we still don’t have all of the [knowledge about]…, I guess, documentation and paperwork, and just that [knowledge of the] whole system.”

Participants were also concerned about themselves (self) related to their depth of
knowledge of RTI. From a PDS1 participant, “There’s only one class that I really remember
dealing and talking about it at length, and, unfortunately, I haven’t had the chance to sit in like
Participant 4 and see teachers go through the RTI process.” Another participant commented
“What is RTI? What is that?” And then like for me, y’all have lots to say about it. I don’t have
anything to say about it because I have not seen practical use of this. I don’t remember that much
from my course, and then I’m getting nothing in my practicum.”

An interesting observation made by the researchers was pre-service teachers in PDS1 had
misunderstandings related to the RTI process. Some focus group participants related RTI to the
evaluation of students with disabilities and not as an early intervention method for students at
risk of failing. Many participants wondered whether special education pre-service teachers
received this type of preparation prior to graduating from the program.

**Concerns about the RTI process based on experience.** Both groups reflected on their
PDS experiences related to RTI. Participants expressed concerns related to a need for
collaboration between school personnel, teacher behavior related to students with diverse needs,
identify student for services and the need to involve parents in the RTI process. For example, a
PDS1 participant commented “Just because they get put in RTI or they’re at a Tier III, we still
have to collaborate with all the teachers that they work with, and I think sometimes that’s
forgotten.” Another noted, I’ve witnessed a lot of struggle with getting everyone, parents,
teachers, and everyone else involved, on board. I think all teachers, all schools could benefit
from a better understanding.”

Variance in teacher behavior related to RTI was discussed by the groups. Some
participants attributed what they perceived as negative teacher to the teacher’s attitude, while
other participants viewed negative behavior as a lack of proper training. "But the challenge I see
is the teacher not wanting to take the time to work with those [at-risk] students” vs. “Teachers could truly benefit from a better understanding of what RTI is. Especially I see a deficit between teachers who have been there for a long time, and use maybe different methods before RTI and might not be as familiar or have as much education on it, or those who think it is one thing and others think it’s another, maybe more district-wide and for all districts, education on RTI is needed”

Participants were also concerned about meeting the needs of their individual students “I’m working with younger age groups and my teacher runs into trouble with age and developmental levels, that they cannot assess . . . a student until they reach age eight to ensure you are compensating for differences based on the developmental level of the student.” Additionally, “ I have heard a first grade teacher saying on multiple occasions, “We doing the RTI. We’re doing the paperwork, but we can’t get her any services. She’s just too young.”

Finally, pre-service teachers expressed concerns about parental engagement in the RTI process in the area of identification, “I saw problems just getting parental support and agreement and having them on board. They say, “Well, my student doesn’t show these signs at home,” or, “She talks fine at home to me”, “I don’t understand why you’re seeing these things.” More specifically, participants noted parents’ concerns about the use of labels “But parents tend to, from what I’ve observed in PDS, fear labels or a titles being placed on their child, especially so early. They want to put it off. I feel like this negates the whole purpose of why RTI was created.”

Overall, the qualitative findings revealed that general education pre-service teachers expressed feeling unprepared for the real-life implementation of RTI. Similar to the themes that emerged from the work of Smith, Corkery, Buckley, and Calvert (2013) who studied teachers,
the findings of this study suggest that pre-service concerns focus on understanding their specific roles as future teachers and their ability to teach varying levels and abilities.

Unabridged Concerns about Self Theme in PDS 1

Candidates’ Ability to Implement.

-process, but I think we’re lacking in really how to really put action to the RTI.

-but I don’t feel like I know as much on how to implement it.

-I feel like it’s hard to know that, but I feel like that’s kind of like my most fearful thing going into the school is that I don’t know how to implement it, and you never know what you’re going to see. You don’t know what kind of child you’re going to get or what that disability may include. So I feel like that for me where I feel most unconfident.

-about implementing it, I think we all kind of know the basis of RTI, and I think that we can kind of identify things through samples and observation and things that would possibly go into an RTI binder. But I think at least for me, when we’re talking about implementation, I’m thinking about moving through the tiers and things like that is what I don’t feel as confident about because personally, I only recall really getting a pretty solid training and one lass.

- My most fearful thing going into the school is that I don’t know how to implement it.

-I think we all kind of know the basis of RTI, and I think that we can kind of identify things through samples and observation…but I think at least for me, when we’re talking about implementation, I’m thinking about moving through the tiers and things like that is what I don’t feel as confident about because personally, I only recall really getting a pretty solid training in one class.

Candidate’s Preparation and Depth of Knowledge

-I think that we’ve learned a lot about in our classes and whatnot, but I didn’t really feel as confident in going into an RTI meeting, but as being in PDS I.

-there’s only one class that I really remember dealing and talking about it at length, and, unfortunately, I haven’t had the chance to sit in like Participant 4 and see teachers go through the RTI process.
Unabridged Concerns about RTI Process based on Experience Theme in PDS 1

Teacher Behavior

Need for Collaboration

- Just because they get put in RTI or they’re at a Tier III, we still have to collaborate with all the teachers that they work with, and I think sometimes that’s forgotten.

- I’ve witnessed a lot of struggle with getting everyone, parents, teachers, and everyone else involved, on board. I think all teachers, all schools could benefit from a better understanding.

- Teacher to remember that the do need to reach out to those other resources, possibly the principal or whoever their Special Ed resource person is or anything, and work with them instead of taking the whole burden, but while also staying involved throughout the whole process.

Teacher attitude toward working with students with challenges

- But the challenge I come around is the teacher not wanting to take the time to work with those students,

- A detriment to it would be the teachers’ beliefs about it, like participant states had said that’s definitely true. And also, if they agree with or disagree, which, I don’t know why you would disagree maybe your motivation to do it and the extra times it takes and the care of notice the students’ behaviors may not be there for some teachers. So that’s a detriment. But I really think that the purpose of it is beneficial. Its purpose is to benefit the student, to get the resources they need, the label they need.

- From what I’ve seen in my PDS I experience, and then any other field experience throughout my time at UNT I would say that teachers could truly benefit from a better understanding of what RTI is. Especially I see a deficit between teachers who have been there for a long time, and use maybe different methods before RTI and might not be as familiar or have as much education on it, or those who think it is one thing and others think it’s another, maybe more district-wide and for all districts, education on RTI I think is lacking.

Identifying and Meeting Student’s Needs

- I’m working with younger age groups and my teacher runs into trouble with age and developmental levels, that they cannot assess – or they cannot I guess – I don’t that I’m sure what is called, but they can’t say that a student has this certain disability or that they think there’s signs until they reach like age eight because of the developmental levels in your brain and they think maybe sometimes it’s just something that they’ll outgrow.
- but these students are still struggling and they’re still behind the getting further behind the further grades they go. The student was in second grade and so we had to wait for her eighth birthday to say that maybe she has a linguistic complex or something

- for observing in the field in first grade and teacher saying multiple occasions, “We doing the RTI. We’re doing the paperwork, but we can’t get her any services. She’s just too young.”

**Parental Engagement**

- another problem I saw there was just getting parental support and agreement and just having them on board ‘cause they say, “Well, my student doesn’t show these signs at home,” or, “She talks fine at home to me. I don’t understand why you’re seeing these things.” And so sometimes it could just be hard to get all that paperwork together and all your evidence in place to get your argument.

- But parents tend to, from what I’ve seen in my PDS I experience, fear label or a title put onto their child, especially so early. They kind of want to put it off. But I feel like that negates the whole purpose of why RTI was invented or created.

**Unabridged Concerns about Self Theme in PDS 2**

**Candidates’ Ability to Implement**

- I think it’s going to be interesting as a first-year teacher having to do that whole process and having a full binder of multiple kids. Like I would think I need more training. I’m seeing it, but I’m not actually doing it, everything step by step. So I don’t know if they provide training for that in the district.

- I wouldn’t say it’s a struggle. I think as a pre-service teacher, trying to figure out what that looks like having a speech therapist come in my classroom while I’m teaching, or any other student who has those kind of services coming into my classroom while I’m teaching and knowing how to I guess walk through that with my students and know that so some kids are going to be pulled out, but how do I grade their papers and how do I get everything documented for them, but they’re out of my classroom.

--or if they just throw you in, “Here’s your binder --”

- Will I get the proper training to know how to do this properly so my kids are on the right tier.

- Where do you start?

- I guess something else, even though I’m not middle school is like if I’m a reading teacher and I’m applying, what’s been decided in RTI, and the child’s being really successful in my classes, the science teacher also doing that. So it’s like if you’re in a group about this child, and one teacher is like, “Oh, this is really successful,” and the other teacher is, “His grades are poor,” how do we – what is –
-How do you teach to the whole?

-Yeah, the whole – exactly.

-That’s why I think it’s really important. I know I want to be in a district that really promotes collaborating with other colleagues and other – I just – especially as a first-year teacher.

-What to look for? How do you identify a student who needs to begin the RTI process? How do you go into an RTI meeting with everything you need in order to not look like a witch-hunt …How do you know what they’re like before they come into your class? Where are they before that?

-Yeah, what has the teacher in the grad level before done?
-I’m going to be on the sixth grade campus, so there’s not going to be anyone before me that I’m going to be able to talk to, so I won’t know where that child started once I receive them.

-Yeah, so that brings up an interesting point. Does that stuff follow that child as they go? I mean isn’t the K-through-5 stuff, shouldn’t it follow that student so should would be able to have access?

-It probably should, but the question is does it actually get there?
-And is it done correctly by the teacher before, or is it going to be like me who doesn’t even what the heck’s going on and so I don’t know.

-I’m worried about what am I going to do once I know what level they’re on, because I know that if I have 50 percent of the kids are yellow and red kids, which would be like Tier II, Tier III interventions, and then the other have is green, so they don’t need as much intervention, or a different intervention as in maybe they’re the GT investigation where they’re sitting there like, “I’m so bored, so I’m going to bang on the desk ’cause I’ve done all my work and I’m crawling under the desk. And then the other kids they’re like, they’re a blank stare because they don’t get it. So I’m just worried about how do I implement all the intervention that the they need as one person with 20-plus children?”

-I can put it in the computer and it looks great in the computer, but then when I’m having to –

-What do I do?

-that stresses me out

-Differentiating that instruction to reach all of those tiers. You don’t call them apps. I ______.

-Maybe just having enough time to do all the implementation that you really need to do.
-It takes a lot of planning, and as a first-year teacher, I know that the load is going to be a lot more because you’re trying to figure everything out. So with intervention and everything, it’s just a lot.

-I think it’s a Catch 22, which we’ve talked about this a lot in our classes. So providing services to students who need them, and then also differentiating instructions, then while also making sure our kids who are at level are still being successful in the classroom, because just because they don’t have anything considering RTI documented or put in practice, that doesn’t mean they still don’t need services.

–I don’t think any teacher going in first year feels like 100 percent confident, “I got this.” They say you are never prepared for your first day. Like you’re always learning. I don’t think any teacher can be fully prepared because they don’t know their students and they don’t know who’s going to be in their class. So…

– are things that I’ve seen, but until probably like a month ago, I didn’t actually know that it was RTI. I just saw the process. So don’t feel like that out of place.

- I think that we do have a good introduction of it, but we still don’t have all of the, I guess, documentation and paperwork, and just that whole system.

**Candidates’ Preparation and Depth of Knowledge**

-I was so confused about what the tiers were when I was in class, like, “What are these things? What do they mean?” But now I understand it, but before then, no.

-A crash course.

-I’m sure of our courses are talked about it, but who remembers –

-I would have loved to have an RTI course in PDS so I knew what I was getting into, rather than earlier in my college career.

-Yeah. We can’t – ’cause it’s hard to connect those dots _____ theory in practice, and then –

- Exactly. Yeah, so and you’re like, “What is RTI? What is that?” And then like for me, y’all have lots to say about it. I don’t have anything to say about it ’cause I have not seen any practical use of this, so I feel – so I don’t remember that much from my course, and then I’m getting nothing in my practicum.

-But that’s not your fault. That’s your mentor’s fault.

-A lecture.

-Yeah, we had maybe one or two lectures and maybe one or two courses. That’s about it.
-A few notes and some theories, never any – I keep losing words. Never any practice on the subject, just learning about it.

-I guess it’s kind of hard to understand until you can see it.

-There’s tons of letters to pick through an choose. The –

-So many acronyms.

-My teacher gave me a paper of what the RTI for the different grade levels first, this is what it – that’s about all.
-That’s more than I got.

Unabridged Concerns about RTI Process based on Experience Theme in PDS 2

Teacher Behavior

-Well, I know the teams talk horizontally, but then when you talk vertically, where do they come from if you’re in the upper grades and like Participant 6 was saying that if she’s the reading teacher and she doesn’t know how they do – but then on the flip side, if you’re the math teacher and they can’t read the question to problem solve and they can do the math skills, then should could talk to you, but then if you’re at a sixth grade campus, she can’t go and any lower, and just go across the hallway or down the hallway and say, “Hey, fifth grade teacher, they can’t read the question,” so it was going on, and if there’s no data in any of the RTI like programs, I don’t – that’s going to be really challenging, too.

-I’ve asked her certain things about stuff. “I don’t know. We don’t have any of that in here.” I don’t think that’s true, but according to her, we don’t have any – but you can see in the students that there are students there that would benefit from being looked at closely and monitored, and like you said, start making some – but I have seen nothing –

- I got to see how much of a challenge it would have been just for my mentor/teacher if she was flying solo, how much time she’d have had to spend on this RTI. ’Cause, for instance, I would have some of the Tier III kids in math or whatever, and I would pull them for a small group, and she would have a small group, and then here’d be other kids doing this. Just seeing how much time I had with the kids, how much time she had with her group, all that combined would have been a lot to handle.

-I think the general consensus is how are we going to fit all this work into the 24-hour day and how are we going to do that and implement it all in this in the class time period because it’s not like you can hold the kids over class. I think even just regular teachers, not first-year teachers, they have the same problem, too.

-Well, at my campus, it’s I believe almost 40 percent ELLs, so you’ve got your lower tiers, as they’ll call them. Then you’ve got your ELLs. Then you’ve got those middle tiers. And then
you’ve got your GT kids all in the same room, and you’ve got somehow figure out how am I going to access all of them, finding that time. It’s a daunting task. Just put two teachers in every room.

- I would admit that I struggle with how to implement RTI and use it effectively as far as assessment for maybe math and science goes and how you might handle the process differently and those deficiencies

- I feel like we have a good start with how to work with students with the RTI process, but I think we’re lacking in really how to really put action to the RTI process.

**Identifying and Meeting Student’s Needs**

And it’s been really good and really challenging. And I see the benefits of providing that service, but it also falls on the General Education to make sure that kid does not get left behind in the classroom while they’re receiving their services.

-And I think it’s practical to all ages who need that, definitely ’cause it’s not something that goes away.

- Especially middle school, when you only have the kid for like 45 minutes, and you’ve got to get the high and the lows.

-I don’t want to learn how to teach colors when I’m teaching eighth grade science. Yeah, I want to learn things that are going to help my kids success not matter how I high or how low they are.

**Parental Engagement**

No comments

**Mixed-Methods Results**

Qualitative and quantitative results were considered in constructing a meta-inference about the concerns of general education pre-service teachers related to their future implementation of RTI. According to Greene, Caracelli, and Graham (1989), a complimentary justification of mixed methods “seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from another” (p.259). A meta-inference of the results can be interpreted following the integrative framework suggested by Teddlie and Tashakkori (2009).
According to descriptive results, as well as the emergence of themes, general education pre-service teachers focused their concerns on involvement in the implementation of RTI, not understanding the aspects of this innovation, and feeling unprepared to effectively implement RTI in the near future. More in depth, pre-service teachers’ knowledge of RTI may be presented as low; therefore, their concerns are perceived as higher, as supported by the canonical correlation analysis (n=100, p< .05) and thematic concerns presented (e.g. lack of preparation, understanding, and experiences of the implementation of RTI; see Figure 8).

A constant theme throughout the PDS2 focus group meeting was the concern about the need for practical experiences with the implementation of RTI: “I feel like we have a good start with how to work with students with the RTI process, but I think we’re lacking in how to really put action to the RTI process.” In comparison, students in PDS1 remained hopeful to receive more training their final semester of student teaching. Although these differences were not observed in the quantitative data, qualitative analysis revealed a difference between the two focus groups (research question 4). It is important to note that the majority of participants believed their knowledge of RTI needed to improve.

In conclusion, an inference can be made that general education pre-service teachers’ concerns are operating in the Self (Unconcerned, Information, Personal stages) and not in the Task (Management stage) or Impact (Consequences, Collaboration, Reinforcement stages) categories of the SoC framework (Fuller, 1969). Figure 8 offers an illustration of how pre-service teachers’ concerns related to RTI may evolve. Knowledge, which in this study, was derived from pre-service teachers’ preparation program, independent reading, and professional development generated concerns about RTI. Those concerns cause them to desire and seek more knowledge about the subject. Concerns were also generated through experiences in the form of practicum,
classroom observations, and participating in the research study. As a result of these experiences pre-service teachers expressed the need for more extensive experiences related to RTI.
Figure 8. The Relationship between Knowledge, Experiences, and Pre-Service Teachers’ Concern

- Independent Professional Development
- Independent Reading
- Teacher Preparation Program
- Practicum/Student Teaching Experience
- Classroom Observations
- Research Participation

Concerns: 
- Concerns
- Concerns
- Concerns
COMPREHENSIVE REFERENCE LIST


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