# PERCEPTIONS OF PRE-SERVICE TEACHERS REGARDING THE RESPONSE-TO-INTERVENTION MODEL

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Abstract

A Response-to-Intervention (RTI) model of educational service delivery is a multi-tiered, preventative approach designed to meet the educational and behavioral needs of all learners. While the New York State (NYS) Department of Education has mandated the use of this model in grades K-4, the extent to which RTI competencies are taught within teacher training programs is unclear. Therefore, examination of pre-service teachers' perceptions of RTI knowledge and skills, as well as their perceptions about the amount of focus on RTI skills within training programs was conducted. Participants were recruited from NYS-approved undergraduate teacher training programs leading to certification birth to grade six. Results indicated that pre-service teachers hold a positive view of the RTI model. More specifically, respondents reported high levels of self-confidence in consultation and collaboration skills, combined with moderate levels of self-confidence in teaching and intervention skills. Assessment and data-based decision making skills, including interpretation of universal screening and progress monitoring data, identification of reading skill deficits, and selection of interventions were rated the lowest. Respondents rated higher levels of self-confidence related to the use of general teaching principles compared to knowledge of reading development or the selection and implementation of interventions for at-risk learners. Additionally, participants from TEAC-accredited programs reported significantly higher perceptions about the RTI model than those from NCATE-accredited programs. Lastly, participants seeking a dual certification (i.e., general and special education) reported receiving significantly greater focus on RTI concepts within the training program than respondents enrolled in programs leading to only general or special education certification. Implications for research and practice are provided.

Perceptions of Pre-Service Teachers Regarding the Response-to-Intervention Model

The Response-to-Intervention (RTI) model is an educational initiative that is gaining wide-spread acceptance in the field because it is grounded in educational law and the components of RTI are viewed as best practice. The RTI model of educational service delivery provides a multi-tiered, preventative approach for meeting the educational and behavioral needs of all students. Core components include: (1) culturally-responsive, evidence-based multi-tiered instructional practices; (2) universal screening of all students; (3) progress monitoring of students' response to instruction; and (4) data-based decision making (National Center on Response to Intervention, 2011). The New York State (NYS) RTI Guidance Document (2010) provides direction to school districts on how to design and implement effective RTI procedures. While each district can define the structure and components of the RTI model used, each RTI model must include: "…the criteria for determining levels of intervention to be provided to students, types of interventions, amount and nature of student performance data to be collected, and manner and frequency for progress monitoring" (p. 53). It is important for school districts to ensure that their staff is properly trained with the knowledge and skills to effectively implement the RTI components.

RTI is a methodological model which can assist school districts in meeting the expectations set forth in the No Child Left Behind Act (NCLB; Capital Region Board of Cooperative Educational Services [BOCES], 2010), and the Individual with Disabilities Education Improvement Act (IDEIA; Building the Legacy: IDEA 2004, 2006). NCLB and IDEIA are linked by the overarching goal of academic success for all students. NCLB mandates that schools utilize evidence-based teaching methods, and schools are held accountable for making adequate yearly progress (US Department of Education, 2004). IDEIA requires whole-

school instructional approaches, evidence-based reading programs, early academic interventions, as well as positive behavioral supports (Batsche, Elliot, Graden, Grimes, Kovaleski, Prasse, Reschly, Schrag, & Tilly, 2006).

In NYS, the RTI model of service delivery is utilized as a framework of instruction in grades K-4, as well as an alternative route to identifying a student with a learning disability. There are three tiers of instructional support, as outlined by Batsche, et. al. (2006). Tier 1 focuses on a strong core curriculum in the general education classroom setting and universal screening of all students' progress. Tier 2 provides supplemental, evidence-based, small-group interventions for students performing moderately below grade-level expectations. Tier 3 provides students with intensive, evidence-based, individual interventions for students significantly below grade-level expectations. Additionally, this model of service delivery also provides an alternative to identifying a student with a learning disability compared to the traditional ability-achievement discrepancy model. Given the complexity of skills needed to work effectively within an RTI framework, educators may benefit from the development of these competencies early in their professional development experiences, such as during pre-service teacher training.

Properly trained teaching staff begins at the pre-service level of professional development. While competency in teaching can be acquired through different avenues, research has demonstrated that pre-service teacher training is an effective way to develop teacher competencies (Darling-Hammond, Chung, & Frelow, 2002; Dunst & Raab, 2010). Teacher training programs manifest important pedagogical approaches conducive to effective learning including group participation, time to practice new skills, and ongoing feedback and coaching.

Additionally, the student teaching practicum allows young professionals to gain field-based experience with the support of a certified teacher.

Research on previous educational initiatives, such as mainstreaming and inclusion, has provided a baseline for understanding teacher attitudes and perceptions about the procedures and practices within a new initiative. Specifically, research has demonstrated that teacher training programs can have a positive impact on a young professional's attitude about new educational initiatives. When the strategies of the new initiative are embedded in training programs, teachers report a more positive attitude about the initiative (Wilczenski, 1991). Additionally, others have argued that teaching the essential knowledge and strategies that comprise educational initiatives, such as inclusive practices, within pre-service training is critical in positively affecting teacher efficacy levels, as well as general attitudes toward the initiative (Hsien, 2007). On the contrary, there have been studies that have indicated both pre-service and veteran teachers often do not feel adequately prepared for the changes faced with the implementation of new initiatives (Ganschow, Weber, & Davis, 1984; Kearney & Durand, 1992; Leyser & Abrams, 1986). Literature indicates mixed attitudes regarding preparedness to teach following past educational shifts. Those who feel more prepared, and, thus, more positive, are those teachers with a strong foundation obtained through their teacher training.

Regardless of the focus of the educational initiative, teacher training programs play a vital role in preparing young professionals with the knowledge-base about important educational initiatives. The experience gained within a teaching preparation program can have an impact on teachers' attitudes, perception of preparedness, perceived knowledge level, and amount of self-confidence in regards to implementing new education initiatives. Research has shown that a lack of knowledge, as well as negative attitudes and perceptions often leads to a low level of teacher

self-efficacy (Connard, Dill, & Hill, 1985; Hsien, 2007; Kratchowill, Volipansky, Clements, & Ball, 2007; LoRocco, & Murdica, 2009; Zigmond, Levin, & Laurie, 2001). However, teacher training programs that embed key component skills and strategies, such as those that embedded in the RTI framework, may enhance pre-service teachers' attitudes toward the RTI model, as well as feelings of competency in implementing RTI practices.

As a result of the RTI initiative, today's teachers are faced with many changes in professional skills and competencies, as well as changes in the structure and procedures within school systems. There has been a limited amount of research in regards to educators' attitudes and perceptions of the RTI model of service delivery. Nonetheless, one investigation of special education directors revealed that directors want teacher training programs to emphasize the RTI model and develop key professional competencies in these practices (Santosi, Goss, & Noltemeyer, 2011). The special education directors that participated in this study highlighted the importance of teacher training programs adequately preparing their students with the knowledge and skills to implement this model of service delivery in order to be effective teachers who can provide quality instruction. Within pre-service teacher training programs, young professionals can best learn the foundational knowledge and skills necessary to work effectively within an RTI framework. However, the magnitude of RTI competencies included in teacher preparation programs is unclear.

**Summary**

The goal for all teachers in today's education system is to facilitate academic success for *all* students. The RTI model of service delivery provides a methodological approach for meeting the educational needs of all students. Within this model, educators are responsible for providing an evidence-based general education curriculum, and then providing the appropriate level of

intervention supports to assist students who demonstrate an academic deficit. In order to put the RTI model of service delivery into action effectively, the components of the initiative and skill competencies may best be taught in pre-service teacher training programs.

There is limited research about the importance of teacher training programs in regards to preparing their students for the RTI model of service delivery. The general education and special education laws, NCLB and IDEIA, provide a venue for holding schools accountable so students can achieve academic success. Further, teacher training accrediting organizations often provide only global domains of professional skill development, rather than prescriptions of what to teach in training programs. However, research has demonstrated that teacher training programs are a venue in which pre-service teachers can learn professional competencies by receiving feedback, having hands-on practice and observing the modeling of behaviors. Therefore, the current investigation is warranted in order to explore how pre-service teachers feel about their preparedness to teach in an RTI framework.

## Literature Review

### A Response-to-Intervention Model of Service Delivery

The RTI model of service delivery may appear to be a new initiative; however, components of this framework have historical relevance and practice. Jimmerson, Burns, and VanDerHeyden (2007) stated, "Whereas the roots of RTI are discernable in a research base that stretches back over the last 30 years in the areas of behavior analysis, curriculum-based assessments, measurement and evaluation, and effective teaching, RTI remains today an evolving science of decision-making" (p. 7). Now, the techniques are coming together and forming a collaborative framework, which is the RTI model of service delivery. The National Center on Response-to-Intervention (2011) defines RTI as a multi-level prevention system, which includes screening and progress monitoring that leads to the ability to use data to make decisions. They also see the model as one that is culturally responsive and that utilizes evidence-based practices. All of these components, ideally, come together to lead to improved student outcomes.

There are several variations of the RTI model of service delivery; however, they all have the same core principles. Batsche, et al. (2006) described a set of core principles that highlight the key components of the RTI model of service delivery. First, the belief that all children can learn is prominent. Instruction is provided at different levels of support, but all students are provided instruction in an evidence-based core curriculum. Second, early intervention is central to the model. Essentially, it is easier to remediate smaller problems than wait until a skill deficit is very large and difficult to remediate. Third, a multi-tiered model of service delivery is important to meet the needs of all students at their varying skill levels. Fourth, using a problem-solving, data-based approach to decision-making is a way to enhance effective changes in instruction based on student progress. Fifth, it is imperative that school districts use evidence-

based interventions and instruction models that have been proven to be effective. Along with using evidence-based instructional approaches, it is important that teachers also use proper teaching methods such as, active engagement, explicit instruction, scaffolding instruction, feedback, etc. Sixth, monitoring student progress is a way to know if a particular intervention is working. Completing regular progress monitoring can let an educator know if the student is making gains, and also provide enough information to tell if the intervention is not working for that particular student. Seventh, in an RTI framework, instructional changes are made based on a review of student performance data. This can include, but is not limited to, benchmark assessment or universal screening data, progress monitoring data, and curriculum-based assessments. A combination of these instructional, data-based decision making procedures, and assessment practices form the foundational strategies of the RTI model of service delivery.

The RTI framework is presented differently by research centers, school districts, and other educational entities. Kovaleski (2007) described three phases of instruction which highlight the multi-tiered processes of an RTI model of service delivery, focusing on academic achievement. The first phase is the Benchmark Phase. The objective of the Benchmark Phase is to have scientifically valid, evidence-based, core-curricula in all general education classrooms and universal screening for *all* students. The second phase is the Target Phase. This phase provides instructional support services for students when they do not respond sufficiently to the level of benchmark instruction. In this phase, a problem-solving team will work to customize academic interventions for each child, which may include “push-in” and/or “pull-out” services. Lastly, the third phase is the Ongoing Support Phase. The Ongoing Support Phase is for students who require extensive amounts of time and intense services to reach the desired level of

proficiency. During this phase, a comprehensive assessment is often necessary to determine the presence of learning disability and to help plan for the provision of long-term services.

**RTI Components within Federal Educational Law**

On a national level, for the first time in the history of educational law, the federal general education and special education laws explicitly mandate academic success for all students. The laws address the incorporation of evidence-based curricula and interventions, as well as varying levels of support so that students can succeed academically.

**General education law.** In 1965, the Elementary and Secondary Education Act (ESEA) was passed under the presidency of Lyndon B. Johnson within the "War on Poverty" initiative. This act provided equal access for financially disadvantaged school districts to allow equal access to education for students from disadvantaged backgrounds. The law also established high standards and measures of accountability for districts. The No Child Left Behind Act (NCLB, Fagan & Wise, 2007) is the current revision of ESEA (1965). NCLB is based on four pillars, which include: (1) stronger accountability for results, (2) more freedom for states and communities, (3) proven education methods, and (4) more choices for parents (US Department of Education, 2004). Districts need to show evidence of Adequate Yearly Progress (AYP), which is defined as, "the minimum level of performance that school districts and schools must achieve to comply with the No Child Left Behind Act" [Capital Region Board of Cooperative Educational Services (BOCES), 2010]. When schools are able to demonstrate AYP, it is an indication that the teachers are meeting the educational needs of most students. A goal of NCLB is to hold districts accountable for the learning that takes place within their walls.

The RTI model of service delivery is a paradigm shift that addresses these expectations of NCLB. As previously mentioned, under NCLB, schools need to demonstrate adequate student

progress. Batsche, et. al., (2006) outlined ways in which the RTI model meets these needs. It requires teachers to use an evidence-based general education curriculum to meet the needs of both general and special education students. Additionally, when a student is experiencing difficulty, teachers must identify the skill deficit, and provide scientifically-based interventions congruent with the skill deficit. While a student is taking part in an intervention to improve their skills, student performance levels are collected in order to make informed educational decisions about instruction for the individual. As students show growth through these interventions, data is generated indicating how a district is making AYP, which is a requirement through NCLB. Overall, as the students benefit from the evidence-based curriculum and intervention, and as individual student growth is identified, data is generated about how well a district is providing individual student access to the general education curriculum, as well as student progress (pp. 34-35).

**Special education law.** In 1975, the Education for All Handicapped Children Act (EAHCA), or Public Law 94-142, was passed by Congress. This law made districts accountable to provide educational and related services to all students with disabilities. EAHCA has been reauthorized multiple times and significant changes have taken place with the reauthorization in 2004. The act is currently called the Individuals with Disabilities Education Improvement Act (IDEIA, 2004). This reauthorization facilitated the inclusion of RTI language within the law. Batsche, et al., (2006) stated that this reauthorization focused on, "…providing incentives for whole-school approaches, scientifically-based early reading programs, positive behavioral interventions and supports, and early intervening services to reduce the need to label children in order to assess the learning and behavioral needs of such children" (p. 17). The terms

"scientifically-based" and "intervention services" overlap with the vocabulary that is used when discussing the RTI model of service delivery.

IDEIA (2004) requires students to have access to quality instruction and interventions which are identified as being scientifically-based. When identifying if a student has a disability, the district first needs to determine that the student had access to quality instruction. If a student is experiencing academic difficulty, the district can decide to use the ability-achievement discrepancy to identify a learning disability or they can review data to see if a student is responding to scientifically-valid interventions. Both IDEIA and the RTI model of service delivery encourage early intervention with students so they do not become frustrated with the learning process, and do not have to 'wait to fail.' Batsche, et. al., (2006) reported:

> Local education agencies may now use up to 15% of their IDEA allocation to develop and implement coordinated early intervention education services for students who are not receiving special education services, but require additional academic and behavioral support to succeed in the general education environment (p. 18).

Identifying students who are experiencing academic difficulties early in their education will allow districts to implement interventions to help mediate the area where the student is struggling. Utilizing this funding source will allow districts to provide assistance to students to see if they respond to interventions before referring them to special education for an evaluation.

**Impact of federal laws on educators.** With each revision of educational law, the focus of mandates has changed. In previous versions, special education mandates were often focused on within-child disabilities and educational eligibility. However, the more recent reauthorizations provide greater focus on factors outside of the child, such as environmental and instructional approaches to effective instruction. Instead of focusing on issues of eligibility, the

new laws provide more focus on the provision of effective instructional practices (Batsche, et al., 2006). Fagan and Wise (2007) noted that these laws have "begun to blur the boundaries between regular and special education and to emphasize services based on need and not just categorical eligibility" (pp. 54-5). With the line between regular and special education becoming more ambiguous, all teachers have a more complex teaching role. With RTI implementation, teachers provide progressively more intensive interventions prior to referring a student for an eligibility evaluation. They are responsible for collecting and analyzing screening and progress monitoring data to determine student progress. Additionally, they are required to work collaboratively with data-based decision making teams to ascertain the effectiveness of the intervention, to determine the need to move between tiers of instruction, and to determine the necessity of a comprehensive psycho-educational evaluation.

**RTI in New York State.** The NYS Education Department's Guidance Document on RTI provides districts with guidelines in order to implement the RTI model of service delivery, as of October 2010 (The University of the State of New York, The State Education Department, 2010). This document describes RTI as a process whereby:

> When students are identified through screening, progress monitoring or other on-going assessment procedures as not making sufficient or satisfactory progress, the school's multi-tier service delivery model provides a range of supplemental instructional interventions with increasing levels of intensity to address these needs (p. 12).

The Guidance Document outlines three tiers of service delivery. Tier 1 is comprised of a strong core curriculum in the general education classroom. Instruction should be of high quality, based on research, and provided to all students in the general education classroom. Highly

qualified teachers should differentiate instruction to meet the diverse needs of learners. The curriculum must be aligned to NYS Learning Standards and grade-level performance indicators. Lastly, instructional decisions must be based on a formative assessment process.

Tier 2 services will be provided when the appropriate instructional methods and science-based core curriculum is being implemented, and a student is identified as not meeting the baseline standards of performance. Tier 2 is put in place to support students who fall below the average level of academic performance. As outlined in the Guidance Document (2010), Tier 2 is defined as, "…typically a small group (3-5) of students who are provided supplemental instruction. This supplemental instructional intervention is provided in addition to, and not in place of, the core instruction provided in Tier 1" (p. 13). Tier 2 is where interventions are put in place and the students are progress monitored regularly to see if the intervention is working for them by displaying academic improvements. The supplemental instruction is enough for some students to be able to reach the benchmark goal for their grade level and time of year. However, for students who do not show measurable academic improvement after receiving Tier 2 intervention, or students who need more intensive help from the start, Tier 3 is the next level of service delivery.

Tier 3 provides students with intensive supports for academic achievement. Interventions can be provided as supplements to the core curriculum in Tier 1, or can be supplanted as a highly intensive core program designed specifically for struggling learners. Additionally, in Tier 3, interventions include groups of one to two students, weekly progress monitoring, longer periods of time with the intervention specialists, and the students are instructed by an individual who is highly skilled in that particular area (p. 14).

Within NYS, the three tier model was developed to meet the needs of students at all levels. It is important to understand that the tiers are intended to be fluid, so individual students can move between the tiers as necessary. While it is customary for students to move up the tiers as the need for more supportive services is determined, students should also move down the tiers as learning takes place and skill acquisition becomes more automatic.

**RTI and learning disability identification**. NYS also allows districts to use the RTI model as a way to determine if a student has a learning disability (Batsche, et. al., 2006). The traditional model of identifying a student with a disability relies on finding a discrepancy between their ability and achievement levels. This can be determined by combining results from norm-referenced testing and input from a multi-disciplinary team. The RTI model of service delivery is an alternate way of identifying a student with a learning disability. A student's response to the core curriculum and evidence-based interventions is an indication of how they are performing in comparison to a grade-level benchmark standards. One indicator of a learning disability occurs when the difference between the student's functional academic *level* (i.e., score on curriculum-based assessment probe) is measurably lower than the expected performance level for the grade-level and time of year. Additionally, the *rate* at which the student is learning and making academic gains is also considered in a learning disability evaluation. A student may respond to the curriculum or an intervention, but they may do so at a rate that is slower than expected in comparison to their same age peers. Therefore, when a student's *level* of academic skill and *rate* of learning is significantly below same-grade peers, the student is displaying characteristics of a learning disability. Another factor that is taken into account is whether the student's lack of response to the curriculum or intervention adversely impacts their education indicating that they require a higher level of ongoing instructional support to be successful (pp.

28-9). Effective July 1, 2012, all school districts in NYS must have RTI procedures in place as part of its evaluation process to determine if a student in grades K-4 has a learning disability in the area of reading. (NYSED, 2009). Learning disability determinations for students in grades 5-12, or in areas other than reading, still require the use of a discrepancy model.

**Training Program Accreditation**

In addition to program approval which is required by state education departments, teacher preparation programs are typically accredited by either the National Council for Accreditation of Teacher Education (NCATE) or the Teacher Education Accreditation Council (TEAC). NCATE and TEAC are professional organizations that have delineated standards of training in which programs must adhere in an effort to meet training standards aimed at developing key competencies in teacher candidates.

**National Council for Accreditation of Teacher Education**. NCATE is one of the main accrediting bodies for teacher-training programs. A main function of NCATE is to review teacher training programs to determine that candidates are exiting the program with key teaching competencies.

> …NCATE's dual mission is accountability and improvement in education preparation. The NCATE accreditation process establishes rigorous standards for teacher education programs, holds accredited institutions accountable for meeting these standards, and encourages unaccredited schools to demonstrate the quality of their programs by working for and achieving professional accreditation (NCATE, 2010).

Under this type of accreditation there are Unit Standards which programs must abide by in order to receive accreditation. The NCATE Unit Standards were put in effect in 2008 and have remained in effect for seven years. NCATE uses a six standard tool to assess teacher

training programs. In the document entitled, *Professional Standards for the Accreditation of Teacher Preparation Institutions* (2008), it stated the goal of NCATE is to prepare future teachers to work effectively in a preschool through twelfth grade setting (p. 17). The standards for a teacher training program to be accredited through NCATE include items such as: candidate knowledge, skills, and professional dispositions; assessment system and unit analysis; field experiences and clinical practices, etc. These standards help ensure the quality of a program and its faculty. Due to the stringent nature of NCATE training standards, the accrediting body follows a more "prescriptive" set of standards. The NCATE-accredited teacher training programs often lack the flexibility to incorporate content and skill development in relation to new education initiatives.

Kearney and Durand (1992) have argued that NCATE regulations were not specifically written for the preparation of teachers in the era of the mainstreaming education initiative. The authors state that, "the need to reform these [field experience] and related areas (e.g., dual certification, field experience, teacher collaboration) has been proposed by several authors (e.g., Goodlad, 1984; Pugach, 1987) as a first step to improving the preparation of teachers in integrated classrooms" (p. 7). NCATE may want to consider making changes to professional training standards in order to best prepare pre-service teachers to work in a field that is constantly changing. Within NYS, NCATE has accredited 44 teacher training programs (*NCATE*, 2010).

**Teacher Education Accreditation Council.** The TEAC Guidance Document states that TEAC was founded in 1997 and:

> …[it] is a nonprofit organization dedicated to improving academic degree programs for professional educators, those who will teach and lead in schools,

pre-K through grade 12. TEAC's goal is to support the preparation of competent, caring, and qualified professional educators (TEAC, 2010).

Professional training standards outlined by TEAC provide guidance in the domains of training that must be followed in order to receive accreditation (TEAC, 2010). The three main standards for TEAC include: evidence of candidate learning, evidence of faculty learning and initiative, and evidence of institutional commitment and capacity for program quality. Again, these standards supposedly focus on minimum expectations of quality training programs. However, they do not explicitly outline the domains of knowledge and skills that are necessary for pre-service teachers to learn prior to graduation. The training standards of TEAC appear to allow for flexibility and interpretation of standards by the training programs. Within NYS, TEAC has accredited 24 teacher training programs (*TEAC*, 2010).

**Council for Accreditation of Educator Preparation.** As of July 1, 2012, NCATE and TEAC have dissolved their individual organizations and have reconstituted themselves under the one heading, entitled the Council for Accreditation of Educator Preparation (CAEP; Sawchuk, 2010). The importance of the two organizations coming together is to show a united front and raise the expectations for training and practice in the field of education. CAEP focuses on three aspects of teacher preparation, which include: content knowledge, clinical experience, and quality of teacher candidates (CAEP, 2010). The information from the CAEP website provided a detailed explanation of these three areas. The content knowledge portion of CAEP has a focus on pre-service teachers' understanding of the content knowledge they will be teaching, as well as progress monitoring students and using assessments to guide decision making within the classroom. The clinical experience is an opportunity to integrate what is learned in the classroom with a real life experience, as well as providing pre-service teachers the chance to

collaborate with veteran teachers. The clinical setting also gives the pre-service teachers an opportunity to engage in self-reflection and self-evaluation. Finally, the quality of teacher candidate portion of CAEP targets rigid recruitment and selection of pre-service teachers, as well as stringent entrance and exit qualifications. "CAEP is poised to raise the bar for teacher education with the goal of producing great teachers for every classroom" (CAEP, 2010). With CAEP as the new professional accrediting organization for teacher training programs, it is yet to be seen how this will impact the preparedness of pre-service teachers for new educational initiative shifts.

**Professional Development of Teachers**

The education that pre-service teachers obtain sets the foundation for them to be effective and successful within a classroom. Individuals can work towards obtaining teaching certifications through a number of pathways.

**Pathways for teacher certification.** Pre-service teacher training within an undergraduate degree program has been seen as an effective way to train professional educators (Darling-Hammond, Chung, & Frelow, 2002, p. 1). However, the high demand for teachers is opening more options to becoming a certified teacher. The traditional pathway for gaining teacher certification is through a bachelor program in a liberal arts college. However, in order to obtain permanent certification, educators in NYS must obtain a Masters degree. Darling-Hammond, Chung, & Frelow (2002) indicated that traditional pre-service teacher training programs leading to a bachelor degree are no longer the most utilized method to obtaining teaching certification. Alternative approaches to obtaining teacher certification include, Teach for America, Peace Corps, emergency credentialing, and transcript reviews. Positively, the authors found that individuals with a university-based teacher training program background felt

prepared to handle the challenges of the classroom, and the task of meeting the needs of every student, while individuals who pursued alternative certification pathways did not report feeling as prepared. This research suggests that there may be a benefit to gaining teacher certification through a traditional university-based training program rather than an alternative pathway.

Certifications for classroom teachers are issued in specific subject/grade titles. The Initial Certificate is the entry-level certificate for classroom teachers, and is valid for five years. The Professional Certificate is the advanced-level certificate for classroom teachers. It is continuously valid with completion of required professional development hours over a five-year period. The NYS Education Department (NYSED) provides guidelines to selecting a desired certification (Certification from Start to Finish, 2013). First, the pre-service teacher identifies the area in which they would like to be certified. This can include general categories such as Science, English/Language Arts, Mathematics, etc. These categories can also be differentiated further between general education and special education. Next, the pre-service teacher will select the grade level they would like to obtain certification. The options include: early childhood (birth to grade two); childhood (grades 1-6); middle childhood (grades 5-9); adolescent (grades 7-12); or all grades (pre-kindergarten to grade 12). The pre-service teacher's desired certification directs their course load and student-teaching practicum placement.

**Pre-service teacher training.** Pre-service teacher training has been seen as an effective way to teach professional educators (Darling-Hammond, et al., 2002, p. 1). The authors indicated that perceived preparedness to teach effectively depends on the teacher training program that the educator attended. The pre-service teachers that were interviewed who graduated from a university-based teacher training program indicated that they were prepared to handle the challenges of the classroom and meet the needs of every student (Darling-Hammond,

et al., 2002, pp. 8-9). This research suggests that a university-based training program prepares pre-service teachers for the teaching profession better than the alternate training pathways of preparations which include: substitute teaching, private school teaching, Peace Corps training, Teach for America, etc.

Along with didactic course instruction, teacher training programs also require the pre-service teachers to participate in practicum opportunities. In the university and practicum settings, it is important that the pre-service teacher receives feedback from faculty and on-site practicum supervisors in order to enhance their learning. These training programs also allow the pre-service teachers multiple opportunities to practice their skills. Based on a review of the literature, it appears as though teacher training programs best prepares pre-service teachers to work effectively within a classroom setting.

**Professional development.** Certified teachers are required to obtain continuing professional education hours over a five-year renewal period. Typically, professional development occurs as a one-day in-service training experience. Previous research indicates that one-day teaching models are not as effective as alternative learning experiences which include feedback and coaching (Dunst & Raab, 2010). Just like children in a classroom, the more actively involved a participant is with their own training, the more they will take away from the experience.

Once teachers are certified and working in the field, they should remain current with changes in professional practices. One way to accomplish this is to attend in-service trainings. The term “in-service” can mean many different things. It can be an effective way to teach information to individuals who are already practicing in the field of education. Conferences, workshops, and intensive on-site trainings are common approaches of “in-service” training

(Dunst & Raab, 2010). Participation, practicing skills, feedback, coaching, and repeated exposure are identified as the most important characteristics of "in-service programs" where the attendees gain the most knowledge (Dunst & Raab, 2010). Research has shown that "in-service" training can be an effective method to teach professional educators. However, the research by Dunst and Raab (2010) indicated that the most common model of one-day workshops, with no active participation, is not the most effective way to teach new information and encourage change within the classroom.

The benefit of an extensive in-service program is that educators can learn and receive feedback on their own job site. It would be important to have the professional development trainers on-site consistently. This may sound ideal. However, as Dunst and Raab (2010) stated, the reality is that there are usually one or two day conferences that are "in-service" trainings which have little to no active participation, role-playing opportunities, or feedback from trainers. Due to budget and time constraints, it would be challenging for schools to provide intensive on-site trainings.

Overall, it appears as though teacher training programs are currently the best avenue to teach future educators. In these programs, the pre-service teachers are given the opportunity to learn and practice skills at the university and practicum sites, as well as receive feedback to enhance their skill set. Therefore, teacher training programs are an ideal setting to provide instruction in the key RTI competencies.

**Attitudes, Skills, and Confidence Related to Educational Initiatives**

Teacher training programs provide an opportunity for pre-service teachers to foster a positive attitude about new educational initiatives. They provide an environment which is conducive to increasing their knowledge and skills, as well as efficacy to teach within the new

educational framework. The two educational initiative shifts that have increased the number of students with disabilities within the general education classroom were mainstreaming and inclusion. The literature that relates to these initiatives provides information about both pre-service and veteran teachers' attitudes and perceived levels of preparedness.

**Attitudes and perceptions about education initiatives.** Research with veteran teachers has demonstrated that special education teachers often have a more positive attitude towards mainstreaming and inclusion than general education teachers (Gans, 1985). Researchers argued that this finding may be due to the fact that special education teachers often feel more prepared to have exceptional students in their classroom (Gans, 1985). Similarly, the research conducted by Hsien (2007) also found that general education teachers were less optimistic about including students with disabilities into their classrooms than the special education teachers. The special educators reported feeling optimistic and positive about the inclusion initiative.

Additional studies have demonstrated that veteran and pre-service teachers do change their opinion about implementing mainstreaming and inclusion practices depending on their experiences. A study of veteran teachers stated that they were accepting of having students with learning disabilities in their classrooms; however, they would *prefer* not to have those exceptional students (Zigmond, Levin, & Laurie, 2001). Similarly, a study was conducted by Wilczenski (1991) to measure pre-service teachers' attitudes towards mainstreaming. The results indicated that the attitude towards these initiatives may be influenced by the amount of education a pre-service teacher may have received on inclusive practices. Overall, pre-service teachers who are exposed to inclusive concepts within their training program, hold generally positive attitudes about inclusion, but a lack of training may impact how prepared the teachers felt to incorporate these students into their classroom.

On the contrary to the articles discussed above, there are studies that demonstrate veteran and pre-service teachers may not have a positive outlook or may not feel prepared to teach within the framework of mainstreaming or inclusion. One study in particular, completed by Hudson, Graham, and Warner (1979), indicated that teachers possessed a less than positive outlook on mainstreaming and inclusion when it was being enforced within school systems (p. 61). The participants in this study reported feeling knowledgeable of the necessary skills to teach students with disabilities; however, they did not feel confident utilizing the skills within their classrooms. Also, it was reported within the article by Scruggs and Mastropieri (1969) that students who require more of the teacher's attention, or who are diagnosed with a severe disability, affected overall teacher willingness to educate students with disabilities in the general education classroom.

Both veteran and pre-service teachers have reported a lack of confidence in their ability to teach within the mainstreaming or inclusion initiatives. A lack of preparedness can be linked to the training that the individuals receive from their training program. A study done by Ganschow, Weber, and Davis (1984) addressed the need for state education agencies (SEA's) to keep up with educational shifts. Their research indicated that a large number of SEA's were delayed in changing certification requirements to match the changes that came with the mainstreaming initiative. The teacher training programs were not required to provide specific courses that would prepare pre-service teachers with the knowledge and skills to teach within a mainstreaming or inclusion setting.

New educational initiatives are challenging for teachers to adapt to, especially if the educators are not fully informed about them through their teacher training programs or their current school districts. When considering the perceived needs of a classroom teacher, a study

was conducted by Connard, Dill, and Hill (1985) which integrated the attitudes and perceived level of preparedness with both veteran and pre-service teachers. The findings of this research indicated that when there are exceptional students within classrooms, teachers found that they were lacking the time, support, and training necessary to effectively educate the exceptional students in the classroom. This perceived lack of preparation and support for implementation further explains why educators may have a negative attitude or perception about having exceptional students in their classroom. Leyser and Abrams (1986) reported that pre-service teachers who were completing their student teaching requirement were found to also feel unprepared and lacking the skill set that was required to correctly implement the education initiative of the time period.

With the reported lack of perceived preparedness, a study conducted by Kearney and Durand (1992) reported on the opinions of chairpersons of post-secondary education departments in regards to the educational shift of mainstreaming. It was stated that teacher training programs need to require additional coursework that will help to prepare pre-service teachers for educational initiative shifts. Additionally, it was stated that the pre-service teachers needed a supervised practicum setting where mainstreaming was taking place so they could gain a first-hand experience with the skills needed to integrate special education students into a general education classroom setting.

When a new educational initiative is in place, teachers need to be prepared with knowledge of current best practices so they can provide the high quality instruction. Preparing pre-service teachers with the knowledge and skill sets that are necessary to effectively implement an educational change in schools may be best taught in a teacher training program. These programs have the potential to provide pre-service professionals with training opportunities

which may result in confidence in their knowledge and abilities. Pre-service teachers in quality training programs should have discussions about new initiatives. The programs should also provide time for students to practice their skills and receive feedback at their program site, as well as at their student-teaching placement. Currently, the literature is limited in regards to how teacher training programs are preparing their students to teach in an RTI model of service delivery.

**Contextual understanding increases teacher self-efficacy.** The negative attitude towards shifts in educational initiatives appears to be a result of the lack of preparedness to teach utilizing a new framework and approach. Hsien (2007) supported the claim that pre-service teacher preparation has an impact on a teacher's self-efficacy toward specific educational initiatives. If veteran and pre-service teachers perceive that they are lacking the skills and understanding of an initiative, they are likely to experience a lower level of self-efficacy when they are expected to perform certain skills. Being enrolled in a teacher preparation program allows pre-service teachers the opportunity to learn about new initiatives and practice the necessary skills with guidance and feedback from the faculty. With past education initiatives, it was stated that, "the acquisition of essential knowledge and strategies in implementation of inclusive practices is critical during pre-service training, because it can affect teacher efficacy levels and their attitude toward inclusion" (Hsien, 2007, p. 53). Learning inclusive practices during a training program allows students to ask questions of professors and certified teachers in the field, as well as experiencing classroom environments that are inclusive settings. When pre-service teachers have a positive attitude towards an educational initiative and feel confident in their skills, this could result in positive outcomes for students and teachers.

Students in a teacher training program are required to participate in many different practical experiences, i.e. experiencing site visits in schools, shadowing current teachers, and being able to teach lessons. These experiences may help to increase one's confidence in one's own teaching skills. It is important for new teachers to enter the field with confidence in their teaching skills that they have gained throughout their training program. During their first year of teaching, new professionals will need supervision and assistance from veteran teachers in order to gain comfort in the general teaching role. Also, since the new professionals are coming into the field directly from a training program, they should be able to provide the veteran teachers with information about current best practices. This includes core concepts and skills related to new educational initiatives.

Educating pre-service teachers within the classroom and practicum experience may be the most effective way for pre-service teachers to learn and become comfortable with the core concepts and skills for a new educational initiative. The pre-service teachers' view of their skill set in regards to new education initiatives may negatively influence their ability to teach *all* of their students. The research by Hsien (2007) stated that general education teachers perceived special education teachers to be better prepared to teach in inclusive settings due to their specific training to support students with disabilities (p. 52). This is similar to the implementation of an RTI model. In addition to following the evidence-based core curriculum, teachers in an RTI model need to adapt the curriculum and classroom activities to match the learning needs of all students.

***Teacher efficacy and the RTI model of service delivery.*** An important factor of teacher efficacy is to be able to see improvement within the students themselves (Nunn, Jantz, & Butikofer, 2009, p. 217). If teachers are trained with the best practices approach to assist

students within their classrooms, there may be an increased chance to see positive changes within students' skill development. If pre-service and veteran teachers are expected to implement the RTI model of service delivery without being directly taught about the concepts and skills, they may experience a reduced level of self-efficacy when it comes time to implement the model in their own classroom (Kratchowill, Volipansky, Clements, & Ball, 2007, p. 624). One way to increase the pre-service teacher's understanding of the concepts and skills of an RTI model is to have them practice the RTI skills in practicum or internship settings (LaRocco & Murdica, 2009, p. 22). During a student teaching practicum, a pre-service teacher has the potential to be provided with the opportunity to experience the RTI model of service delivery. They may be given the chance to practice the skills and procedures relevant to the model. Those pre-service teachers who have had this experience may have a higher level of self-efficacy when they begin using the skills independently.

A high level of teacher efficacy is very important in an RTI model because the general education classroom is considered to be Tier 1, or the Benchmark Phase (Spear-Swerling, 2008, p. 275). The model requires the use of evidence-based curricula, positive teaching methods and benchmark assessments for the students in the general education curriculum. Teaching the RTI model of service delivery in teacher training programs may be an effective route to disperse the information and allow future teachers an opportunity to ask questions and practice these skills.

**Potential barriers to an RTI model.** Research by Sansoti, Goss, and Noltemeyer (2011) reported that the primary grade levels appear to be more suited to embrace the RTI model of service delivery than a secondary setting. This is due to the abundance of evidence-based interventions for primary grade students and more flexibility within scheduling for teachers and students at these grade levels.

Several barriers to implementation of the RTI model in the secondary grades have also been indicated by special education directors (Sansoti, Goss, & Noltemeyer, 2011). Global concerns included a need for more staff, role shifts by current staff members, constriction of school budgets, and scheduling conflicts. More specifically, the findings of the study identified four different barriers to implementing an RTI model in secondary school settings including, (1) systemic, (2) roles and attitude, (3) evidence-based practices, and (4) training and professional development.

Participants reported that secondary school systems are not set up to be conducive to an RTI model of service delivery (Sansoti, Goss, & Noltemeyer, 2011). A major barrier is the inflexibility of the students' schedules for intervention times, as well as teacher's schedules not allowing for specific RTI planning time. At the state level, participants indicated that there was a lack of specific strategies to implement the model, in conjunction with a lack of leadership and clarity. Veteran teachers at the secondary level are facing scheduling and administrative barriers which could hold them back from implementing the RTI model effectively.

The roles and attitudes of individuals within the school system were also seen as a barrier to implementing RTI in secondary schools. The participants from the study saw a need for principals to be leaders of the RTI implementation, a need for shared commitment among staff, and a need for curriculum directors to work together in an administrative role. The participants indicated that school administrators need to change their role, including special education directors, in order to effectively implement RTI practices.

A general barrier was noted regarding the usage of the evidence-based practices. The directors acknowledged that there are a limited number of evidence-based practices and interventions available for students at the secondary level (p. 15). There has been extensive

work to create evidence-based interventions for elementary level students; however, these participants are seeing a breakdown in the availability of resources for the secondary school level.

Finally, the training and professional development opportunities were also seen as a barrier to effective implementation. The participants stated that at an "in-service" training, the attendees increase their knowledge and skills. However, it was hypothesized that the utilization of a coaching model would be more likely to result in successful implementation (p. 15). The participants mentioned that training programs should emphasize the RTI model of service delivery and the school districts need to hire teachers that are prepared appropriately to help with the implementation of the model (p. 15).

The importance of quality teacher preparation programs to provide instruction and practicum experiences with opportunities to develop key RTI competencies was highlighted by the special education directors. They noted that having teachers that are trained and competent in the RTI model of service delivery would help their school districts transition into the implementation of RTI practices.

**Conclusion**

The RTI model of service delivery is currently a model of best practice to ensure all students have the opportunity for academic success. The model emphasizes the need for early intervention, evidence-based core curriculum and intervention implementation, progress monitoring, as well as data-based decision making processes. The RTI model aligns with the expectations set forth by NCLB and IDEIA in regards to districts requiring stronger accountability for student progress and giving all students access to instruction (Batsche, et. al., 2006).

In the past, the educational shifts of mainstreaming and inclusion were considered to be best practice within the field. As these shifts occurred, studies reported that veteran and pre-service teachers did not feel as though they were prepared to teach exceptional children within their classrooms. This perceived lack of knowledge negatively impacts educators' attitudes towards the models and their level of self-confidence in regards to the skills needed to manage an inclusion and mainstreamed setting.

The RTI model of service delivery requires teachers to be knowledgeable about many facets of learning. There are a number of skill areas where teachers need to be proficient in order to implement the model with integrity. Some of these skills include: implementing an evidence-based core curriculum, identifying specific areas of student needs based on universal screening data, identification and implementation of evidence-based interventions, progress monitoring procedures, and data-based decision making. Within each of these broad skills, there are a number of narrow skills that veteran and pre-service teachers need to feel confident to implement. Pre-service teacher training programs provide an ideal atmosphere that is conducive for learning about the RTI model and practicing these necessary skills. Therefore, the current study explored the perceptions of pre-service teachers regarding the RTI model of educational service delivery, their perceived knowledge and skills related to RTI processes, as well as perspectives related to how the RTI model was integrated into their teacher training programs.

**Current Study**

The purpose of the present study was to evaluate the perceived level of knowledge and skills related to RTI competencies of pre-service teachers within NYS. More specifically, the study examined pre-service teachers' attitudes about the RTI model, their perceived level of RTI

knowledge and skills, as well as the magnitude of inclusion of RTI constructs within the professional training program. Therefore, the following research questions are presented:

(a) To what extent do pre-service teachers believe that RTI is an effective model of educational service delivery?

(b) To what extent do pre-service teachers believe they are prepared with the key knowledge and skills to teach effectively within an RTI framework?

(c) To what extent do pre-service teachers believe the concepts and skills of RTI are embedded in teacher training programs?

(d) Do pre-service teacher's attitudes about RTI, perceived knowledge and skills, and perceived level of program preparation differ among trainees in NCATE- and TEAC-accredited programs?

(e) Do the attitudes, perceived knowledge and skills, and perceived level of program preparation related to RTI differ among pre-service teachers enrolled in programs leading to varying certification areas, which include 1) General Education certification, 2) Special Education certification, or 3) Dual certification?

# Method

## Methodological Design

The current research is a non-experimental study which was designed to examine the perceptions of pre-service teachers regarding their preparedness to work within the RTI model of service delivery. This survey method of research was selected in order explore the perceived attitudes about the RTI model, the perceived level of knowledge and skill development in regards to skills necessary for the RTI model of service delivery, and perceived quantity of RTI content within the teacher training program. Conducting this study with non-experimental methodology allows the researcher to describe participants' perceptions as they naturally exist without experimental treatments.

Within this research, there were two independent variables: (1) type of program accreditation, and (2) type of teacher certification being pursued. The first independent variable, type of program accreditation, included two categories, NCATE or TEAC. The second independent variable has three categories which include the type of certification that the pre-service teachers are working to obtain, and includes (1) General Education certification, (2) Special Education certification, or (3) a dual certification in General Education and Special Education. The dependent variables are the participants' responses to the survey items. The survey items were divided into three sections which included: (1) attitudes about RTI; (2) level of self-confidence regarding RTI skills; and (3) perceived amount of RTI content within training program preparation.

## Participants

A random sampling procedure was utilized for this exploratory research where all 40 accredited teacher training programs in NYS were contacted to recruit pre-service teacher

participants. Twelve of the 40 programs (30%) agreed to invite their students to participate in this study. From those 12 participating programs, a total of 176 undergraduate students agreed to be participants.

During the Spring 2012 data collection period, the SurveyMonkey link was distributed to all 40 accredited teacher training programs. One usable survey was returned. Due to an insufficient numbers of participants, data collection was extended over two additional semesters. During the Fall 2012 and Spring 2013 data collection periods, a total of 507 surveys were distributed to 12 programs; 175 usable surveys were completed. The survey return rate for the entire study was 35% (175 of 507 surveys).

Participant demographic information is delineated in Table 1. Specifically, the majority of participants were female (n = 161; 91%), Caucasian (n = 157; 89%), between the ages of 21 and 22 (n = 136; 77%), and in their fourth year of undergraduate education (n = 117; 66%). A large number of participants were working towards a General Education certification (n = 75; 43%). Chi Square tests were conducted to indicate the level of significance among the frequencies of demographic variables (See Table 2).

The pre-service teachers provided information in regards to what grade level they have completed a student teaching practicum experience. The intention of the survey item was to identify the grade level in which the pre-service teacher was completing their student teaching practicum. The item may have been misinterpreted by some participants as they endorsed several grade levels, sometimes up to four options suggesting they may have been endorsing practicum and student teaching experiences. Therefore, this data was only used in describing the participant sample, and was not utilized for any statistical analyses.

Of the 176 total participants, 124 attended NCATE-accredited training programs (70%) and 52 attended TEAC-accredited training programs (30%). All of the participants were enrolled in NYS-approved teacher training programs leading to certification in one of three categories: (1) Early Childhood or Childhood General Education certification; (2) Early Childhood or Childhood Special Education certification; or (3) dual certification programs culminating in a General Education certification as well as certification in Early Childhood Special Education or Childhood Special Education certification. In this study, there were 75 participants working towards a General Education certification (43%), 37 participants working towards a Special Education certification (21%), and 64 pre-service teachers working to obtain a dual certification (36%).

**Measure**

The current survey was designed to gather information about pre-service teachers' preparedness to teach in an RTI model of service delivery. A survey was utilized to collect information from the participating pre-service teachers (See Appendix 2). The researcher utilized many different research articles to aid in the creation of the survey. The articles by Ardolino, (2001), Janes (1999) and The Cyber Group (2004) provided the researcher with an understanding of survey creation. These articles provided the examiner with an idea of the appropriate length of time and suggested phrasing for survey items. The content for the survey items was developed by the researcher based on the literature investigating teacher preparedness and attitudes toward system change initiatives. The research done by Hudson, Graham, and Warner (1979) focused on the mainstreaming educational shift, while other studies conducted by Connard, Dill, and Hill (1985), as well as Romi and Leyser (2006) focused on the inclusion

initiative. All three research articles and survey items influenced the conceptual creation and wording of the survey items that were utilized in the first section of the current survey.

The survey utilized by Leyser and Abrams (1986) required participants to answer more qualitative questions, for instance, “Explain the rationale of mainstreaming.” The current research posed items where participants could endorse their level of agreement about their knowledge of the RTI model, as opposed to asking the participants to explain what the rationale is for the model of service delivery. Another research article that influenced the development of survey items for the current survey included the work of Wilczenski (1991). The two items from Wilczenski’s scale that influenced the current approach to measure the participant’s attitudes towards the RTI model include: “Student’s should have the right to be in regular education classrooms” and “In general, mainstreaming is a desirable educational practice.” Ganschow, Weber, and Davis (1984) had a survey with one question, in regards to mainstreaming, which asked participants “What undergraduate preparation for working with exceptional children is required of elementary or secondary teacher certification in your state?” The current survey reflects a similar idea in the third section of the survey when participants are asked to report on the number of courses and workshops they have attended which target the RTI model. The study conducted by Gans (1985) utilized a survey that focused on integrating individuals with handicaps into the general education classroom setting. The researcher utilized a similar range of response options on the Likert Scale items from Gans (1985) within this the current study to provide the participants with a range of answer choices. Finally, the items on a previously-developed inventory, which was created by Fugate and O’Connell (2009), assessed teachers’ knowledge of RTI skills. Twenty of the 28 survey items were utilized within the second section of the current research.

The current survey was divided into three sections. The first section investigated respondents' attitudes about the RTI model of service delivery; the second section measured participants' self-confidence in key RTI skills; and the third section assessed informants' perceived level preparation to work within the RTI model. Additionally, questions about the participants' demographic information were included at the end of the survey.

Overall, the survey included 45 items for each participant to complete. There were 31 survey items that were formatted in a six-point Likert-style scale (Likert, 1932). The answer choices and their point values included: strongly disagree (1), disagree (2), somewhat disagree (3), somewhat agree (4), agree (5), and strongly agree (6). If the participant was unsure of how to respond, they could answer that they were "unclear about the information being requested" and this answer option was assigned a point value of 0. Additionally, there were five survey items that required participants to select the quantity of training activities, such as the number courses taken which specifically targeted RTI skills. There were ten demographic questions included at the end of the survey.

**Reliability of measure.** A Chronbach's Alpha test was conducted in order to determine the reliability of the survey used in the current study. The first 36 items on the scale were used to test the reliability of the measure. The questions that ask about the participants demographics were not utilized. The reliability was determined to be 0.877, which indicates an acceptable level of internal reliability.

The Chronbach's Alpha reliability test was utilized to measure each of the three sections of the survey. The first section of the survey, which includes seven survey items, measured the pre-service teacher's attitude towards the RTI model. The reliability was 0.666, which indicates an acceptable level of internal reliability. The second section of the survey, which

included 20 items, required the pre-service teachers to endorse items that relate to their personal level of self-confidence regarding the necessary skills to implement RTI. The Chronbach's Alpha test indicated that the reliability was 0.886, which indicates an acceptable level of internal reliability. Finally, the third section of the survey, which included nine survey items, was intended to measure the level of teacher training program preparation. The reliability was 0.550, which indicates a low level of internal reliability between these survey items. The first two sections of this survey focus on attitudes and competencies related to the RTI model. The higher levels of internal consistency indicate that a single entity is being evaluated. The third section of the survey has a low level of reliability, which is expected since this part of the survey is not intended to measure one construct.

**Procedure**

Prior to the data collection phase beginning, the researcher obtained the names of teacher training programs that were NYS-approved programs which lead to an early childhood or childhood certification within General Education and Special Education. This was done by referring to the schools in NYS that were listed on the TEAC and NCATE webpages, and those 40 teacher training programs became the sample for this study.

The contact information for eligible teacher training programs was obtained by looking on the training programs websites. When the researcher had obtained the e-mail address and phone number of all of the directors of the 40 teacher training programs, the program directors were contacted. There were three data collection periods. During the first data collection period, which was in the Spring 2012, the researcher contacted teacher training program directors via email. The email included an explanation of the purpose of the research and a request for student participation. This was done by providing a link for the survey to be distributed to all students

enrolled in a student teaching experience. Individual pre-service teachers who were willing to participate in the investigation completed the survey online via SurveyMonkey (Pearson, 2009). During the Spring 2012 data collection phase only one usable survey was returned. Therefore, due to limited feedback, the procedure for data collection was altered for the remaining two data collection periods.

The researcher utilized a different procedure for disseminating the survey for the Fall 2012 and Spring 2013 data collection periods. During these two semesters, the initial contact was made via phone call from the researcher. Contact was made by speaking directly with a program director, secretary, or leaving a detailed message. If unable to reach an individual, an email was sent to the Program Director that outlined the study and requested participation. For institutions that did not respond to the initial phone call and email, a follow-up email was sent out two weeks after the initial contact date. If there was still no response from that institution, they were no longer contacted for participation during that particular academic semester, but they were contacted again the following semester. If an institution was unwilling to have their students participate, they were not contacted again.

Upon approval from Program Directors, the researcher mailed the specific number of hard copy surveys to the institution. The Program Director, or delegate, presented the opportunity to their students, and willing participants completed the informed consent and survey. Each pre-service teacher that chose to participate was provided with an informed consent letter (Appendix A), a copy of the survey (Appendix B), and a follow-up form to identify if they wanted to participate in the gift card drawing and to receive the results of this research when it is completed (Appendix C). For completing the survey, the researcher told the Program Director that participants had the opportunity to enter their name into a drawing for one of ten

$50 gift cards to Barnes and Noble Bookstore for completing the survey. The Program Directors who offered this opportunity to their pre-service teachers were asked over the phone if they would like the results of this research, and their answer was recorded by the researcher.

The Program Director, or delegate, provided the willing participants with their individual packet of papers. When the items were completed, the Program Director, or delegate, collected the completed informed consents and surveys, and returned them to the researcher in the provided postage-paid return envelope.

In the Fall 2012, seven training programs disseminated surveys to their pre-service teachers, and only one training program did not want to participate. In the Spring 2013, the one school that did not want to offer this survey to their pre-service teachers in the fall was not contacted, so the researcher contacted the remaining 39 teacher training programs. Overall, nine training programs offered this opportunity to their pre-service teachers, and three additional schools indicated that they did not want to offer this option to their pre-service teachers. Seven programs offered their pre-service teachers an opportunity to complete the survey in the fall semester while nine programs participated in the spring semester. Five of those teacher training programs participated in both the fall and spring data collection periods with different cohorts.

**Data Analysis**

Descriptive statistics were computed for each demographic variable delineating the number and percentage of each of the ten demographic variables. Then, descriptive statistics for each level of response were calculated for each of the 36 survey items. The researcher reviewed all of the Likert Scale choice options to analyze this data, which include the range in responses from strongly disagree to strongly agree. Results of the frequencies for each survey item are provided in Tables 3 – 7 and Figures 3 – 38.

To further explore differences in responses from participants enrolled in differently accredited training programs, analysis of mean responses of participants from NCATE and TEAC programs was conducted. An independent *t*-test was conducted to compare the responses for the first 36 survey items. Given the large number of response levels, the variable was reconstructed for each item in order to compare the frequencies of participants who agreed, disagreed, or were unsure how to respond for each survey item. Specifically, the "agree" variable was created by combining the responses of "strongly agree," "agree" and "somewhat agree." Similarly, the "disagree" variable combined "strongly disagree," "disagree" and "somewhat disagree" responses. The "unsure" variable was not combined with any other response options.

The Independent Samples *t*-test identified 12 survey items with significant differences between the answers given by the NCATE and TEAC participants (See Tables 8 - 10). On all of these items, the pre-service teachers who attended a TEAC-accredited training program reported feeling more confident in their skills and being more knowledgeable about the RTI model of service delivery than those participants who attended a NCATE-accredited training program. For the remaining 24 survey questions, there were no significant differences between the two groups of respondents. The effect sizes are based on Cohen's *d* and the ranges include a small effect size ($d$ = 0.0 through 0.2), medium effect size ($d$ = 0.3 through 0.5) and a large effect size ($d$ = 0.5 or higher) (Salkind, 2010).

Lastly, a one-way, between subjects analysis of variance (ANOVA) was conducted to explore the relationship between the average mean of the responses to each research question in the first three sections of the survey and type of certification being pursued. The survey item that was provided to the pre-service teachers to indicate their area of anticipated certification

included Early Childhood, Early Childhood-Students with Disabilities (SWD), Childhood, or Childhood-SWD. This variable was reconstructed for comparison purposes among certification options for participants. These options include General Education certification, Special Education certification or dual certification in General Education and Special Education. The dependent variable within the ANOVA was the mean of the responses to each research question. There were three significant differences identified (See Table 11). The pre-service teachers who are working towards a dual certification reported that their training program placed more of an emphasis on the RTI model than those working towards a General Education or a Special Education certification. Those participants who are working towards a dual certification or a Special Education certification reported taking more courses that focus on the RTI model than those pre-service teachers working towards their General Education certification. Finally, the participants working towards their General Education certification reported that they learned about the RTI model earlier in their training program experience than those pre-service teachers working towards their Special Education or dual certification.

## Results

This investigation examined the perceptions of pre-service teachers regarding Response-to-Intervention. Specifically, the survey measured participants' attitudes about the RTI model, perceived level of RTI knowledge and skills, and perceived level of inclusion of RTI content within the professional training programs. Further, analysis of differences in perceptions of participants enrolled in NCATE- vs. TEAC-accredited programs was explored. Lastly, responses from participants pursuing a general education, special education, or dual certification were evaluated.

### Perceived Attitudes about the RTI Model

The first section of the survey was comprised of seven items that evaluated perceptions of the RTI model of service delivery (Table 3 and Figures 3 - 9). The vast majority of respondents reported being knowledgeable about the RTI model of education (Agree = 92%; Disagree = 7%), and feeling positive about its use as an educational service delivery model (Agree = 90%; Disagree = 6%). Interestingly, while over 96% of respondents endorsed the need for a multi-tiered model of educational service delivery that allows students to be in the least restrictive environment in order to receive necessary academic assistance to meet their educational needs, only 83% of respondents indicated that an RTI model meets the needs of *all* students. Further, three-fourths of respondents endorsed the use of RTI as a better option than a discrepancy approach for identifying a child with a learning disability; however, 11% of respondents did not understand the question. Noteworthy, two-thirds of pre-service teachers indicated that their view of the RTI model had changed since completing coursework and beginning student teaching. However, while the majority of pre-service teachers report being knowledgeable about the RTI model and hold generally positive attitudes about its use, only two-thirds reports of respondents

indicated that the district in which they were student teaching had reached full implementation of RTI.

A significant difference by type of accreditation was found for four of the seven items related to attitudes about RTI (See Table 8). Specifically, a significantly greater number of respondents who were enrolled in TEAC-accredited training programs endorsed being knowledgeable about the RTI model of education compared to those enrolled in NCATE-accredited training programs [TEAC: $M$ = 4.673, $SD$ = .5848; NCATE: $M$ = 4.331, $SD$ = 1.0799); $t$(162.969) = -2.709, $p$ = 0.007]. Similarly, a significantly greater number of pre-service teachers who attended TEAC-accredited programs agreed that the RTI model meets the needs of *all* students compared to respondents from NCATE-accredited programs [TEAC: $M$ = 4.64, $SD$ = 0.86; NCATE: $M$ = 3.97, $SD$ = 1.07); $t$(174) = -3.969, $p$ = <0.001]. Noteworthy, the pre-service teachers who attend a TEAC-accredited training program reported feeling more positive about the RTI model of service delivery than respondents from NCATE-accredited programs [TEAC: $M$ = 4.519, $SD$ = .8964; NCATE: $M$ = 4.169, $SD$ = 1.1943); $t$(174) = -2.014, $p$ = 0.046]. Significantly more participants who attended a TEAC-accredited training program, in comparison to a NCATE-accredited training program, indicated the RTI model as a better option for identifying a student with a learning disability than using an ability-achievement discrepancy model [TEAC: $M$ = 4.404, $SD$ = 1.3614; NCATE: $M$ = 3.855, $SD$ = 1.7563); $t$(174) = -2.014, $p$ = 0.046]. The magnitude of significance was within a moderate range for the first three items reported, and within a large range for the final item ($d$ = 0.394; $d$ = 0.350; $d$ = 0.331 & $d$ = 0.684). Within this section of the survey, there were no items that were significantly different between the types of certification that participants were working to obtain.

**Perceived RTI Knowledge and Skills**

The second section of the survey was comprised of 20 items that explored the participant's perceived level of key RTI knowledge and skills (See Table 4 and Figures 10 - 29). The 20 questions related to knowledge and skills in three broad domains of professional functioning, including: (1) assessment and progress monitoring; (2) instruction and intervention; and (3) consultation and collaborative problem-solving.

**Assessment and progress monitoring**. Universal screening is a way to evaluate every student's performance in comparison to a benchmark score for a particular grade level. The data that is obtained from universal screening can be utilized by teachers in different ways to identify students who are struggling academically. In regards to using universal screening data to make educational decisions, 89% of pre-service teachers indicated they could use universal screening data to sort students into homogenous groups. On the contrary, only 82% indicated they felt confident using universal screening data to identify at-risk students, and 78% of participants reported they could use universal screening data to see trends in skill deficiencies. Skill specific assessments can be utilized in order to make data-based decisions, and the pre-service teachers reported a high level of confidence in their ability to conduct diagnostic assessments for reading to identify instructional needs of the students (Agree = 94%; Disagree = 5%). The participants reported feeling most confident in their skills to use universal screening data to sort students into groups and also in their ability to conduct diagnostic assessment to identify the reading needs of a student. The pre-service teachers reported lower levels of confidence identifying at-risk students and areas of skill deficiency from the universal screening data.

Once students are identified as performing below the benchmark range on the universal screening probes, they begin receiving an intervention to increase their skill levels. The progress monitoring data that is obtained during the intervention period is useful in identifying how a

student is responding to an intervention. Overall, 94% of the participants indicated that they were able to identify and administer progress monitoring tools. However, only 82% of participants indicated they were able to use progress monitoring tools to make data-based decisions. Specifically, 82% of participants endorsed a level of agreement when they were asked if they could identify a level of skill development and 82% of participants could identify the rate of improvement from progress monitoring tools to make educational decisions. Slightly more than three-quarters of the pre-service teachers endorsed a level of agreement in their ability to illustrate the effectiveness of an intervention utilizing a graph of the data (Agree = 79%; Disagree = 20%). Finally, 81% of the participants reported a level of confidence in their ability to self-evaluate their intervention implementation integrity, whereas 11% of the participants did not report levels of confidence in this skill domain. Overall, the participants reported a higher level of confidence in their ability to identify and implement interventions, as well as creating graphs to visually display the effectiveness of the interventions. The areas where the participants did not feel as confident in their skills included making data based decisions and self-evaluating their intervention implementation.

**Effective instruction and intervention.** When the participants were asked if they understood the theoretical rationale for the RTI model of service delivery, 93% of the pre-service teachers endorsed a level of agreement with this statement. Further, almost all of the participants reported that they are able to use effective teaching principles (Agree = 98%; Disagree = 1%). Additionally, 90% of pre-service teachers reported that they can competently implement the use of the core reading curriculum as it is designed to be taught. However, only 79% of the participants indicated they have a substantial understanding of the critical elements of the developmental continuum in the acquisition of reading skills. Overall, the participants have a

high level of confidence in their ability to implement general teaching principles and perceive themselves as having a high level of understanding for the RTI model. However, only slightly more than three quarters of the participants felt confident in their understanding of reading skill acquisition.

The pre-service teachers reported on their level of confidence the skills associated with intervention selection and implementation. When the pre-service teachers were asked to endorse their level of agreement for their ability to identify evidence-based interventions for skills deficits, only 81% reported a level of confidence with this skill. Noteworthy, 90% of participants reported a level of agreement in their ability to deliver evidence based interventions to small groups. However, when the participants were asked about their confidence in implementing intensive interventions to seriously at-risk learners, only 77% reported a level of agreement. The participants reported higher levels of confidence when they delivered interventions to a small group. When they were required to identify an appropriate intervention and deliver it to seriously at-risk learners, their reported confidence level decreased.

**Consultation and collaborative problem-solving.** Four survey items addressed the pre-service teacher's perceived ability to collaborate with their coworkers in order to implement the necessary skills that are associated with the RTI model. Generally, these RTI skills were rated very positively by study participants. Specifically, there was a high level of agreement on items that asked the pre-service teachers if they could collaborate with others for grade-wide instruction (Agree = 99%; Disagree = 1%) and collaborate with colleagues to design and implement group interventions for at-risk students (Agree = 96%; Disagree = 4%). Only 87% of respondents indicated they could work effectively with the school's problem-solving team to plan, implement and evaluate evidence-based interventions for students (Agree = 87%; Disagree

= 9%). However, 92% of the participants indicated they could collaborate with intervention specialists to work with seriously at-risk students. In summary, the participants reported higher levels of efficacy in their ability to collaborate with co-workers and intervention specialists when they were planning and implementing grade-wide instruction and academic interventions for at-risk students than when working with problem-solving team to plan, implement, and evaluate interventions.

**Differences between types of accreditation.** A significant difference by type of accreditation was found for two of the twenty items related to level of perceived self-confidence to perform the necessary skills required in the RTI model of service delivery (See Table 9). The participants from TEAC-accredited training programs endorsed a significantly higher level of agreement on the item that measured the respondent's understanding and endorsement of the theoretical background and rationale for the use of the RTI organizational structure for instruction, assessment, and intervention compared to respondents from NCATE-accredited programs [TEAC: $M = 4.90$, $SD = 0.66$; NCATE: $M = 4.42$, $SD = 1.18$); $t(159.15) = -3.456$, $p = 0.001$]. Additionally, a significantly great number of pre-service teachers from TEAC-accredited training programs endorsed a significantly higher level of confidence in their ability to work effectively with the school's *problem-solving team* in order to plan, implement, and evaluate evidence-based interventions for students than participants who attend an NCATE-accredited training program [TEAC: $M = 4.250$, $SD = 1.4063$; NCATE: $M = 4.808$, $SD = .7402$); $t(165.070) = -3.424$, $p = 0.001$]. The magnitude of significance was at a large level for the first described finding ($d = 0.508$), and was within a medium range for the second. ($d = 0.496$). There were no items within this section of the survey that had significance related to the certification type that participants were working to obtain.

**Perceived Preparation**

The third section of the survey was designed to assess the perceptions of pre-service teachers' regarding the extent to which RTI content was included in the training program. It included nine questions related to the amount of coursework specifically targeting RTI knowledge and skills (See Tables 5 - 7; Figures 30 - 38).

Virtually all respondents indicated that it is very important for pre-service teachers to engage in professional development training on RTI concepts *prior to graduation* (Agree = 99%; Disagree = 0%). Additionally, the vast majority also indicated the importance of teachers to engage in professional development training on RTI concepts *after graduation* (Agree = 98%; Disagree = 1%). However, only two-thirds of participants indicated that the training program provided an emphasis on the RTI model of service delivery (Agree = 73%; Disagree = 25%). Furthermore, when participants were asked if they felt prepared to teach using the RTI model of service delivery, 31% disagreed (Agree = 69%; Disagree = 31%).

Results indicate that approximately one-third of respondents learned about RTI in their second year of coursework, while another one-third learned about RTI during their third year of coursework. Interestingly, the largest percentage of (43%) of respondents indicated they took two to four General Education courses which specifically targeted RTI skills and competencies, while 42% of respondents indicated they took two to four Special Education courses. Most participants (71%) did not take any elective classes that included RTI content, while 59% of participants did not take any workshops or in-service professional development trainings that targeted specific RTI skills.

A significant difference by type of accreditation was found for six of the nine items related to the perceived level of preparation from their teacher training program to teach RTI

skills (See Table 10). The participants who attended a TEAC-accredited institution endorsed their agreement that their training program placed more of an emphasis on the RTI model of service delivery than the participants who attend a NCATE accredited training program [TEAC: ($M$ = 4.212; $SD$ = 1.2732; NCATE: $M$ = 3.742, $SD$ = 1.2870); $t(174) = -2.215$, $p = 0.028$]. The pre-service teachers who attended TEAC-accredited training programs indicated that they felt more prepared to teach utilizing the RTI model of service delivery than the participants from the NCATE-accredited training programs [TEAC: ($M$ = 4.115, SD = .8082; NCATE: $M$ = 3.621, $SD$ = 1.1797); $t(137.388) = -3.206$, $p = 0.002$]. Noteworthy, the magnitude of significance was moderate for each of these findings ($d = 0.489$ & $d = 0.376$, respectively).

A significantly greater number of respondents who were enrolled in TEAC-accredited training programs endorsed their enrollment in more General Education courses that target the RTI model of service delivery when compared to those enrolled in NCATE-accredited training programs [TEAC: $M$ = 2.577, $SD$ = .7758; NCATE: $M$ = 2.161, $SD$ = .8104); $t(174) = -3.143$, $p = 0.047$]. Similarly, those participants who attend TEAC accredited training programs responded taking significantly more elective courses that focus on the RTI model than those participants who attend NCATE training programs [TEAC: $M$ = 1.577, $SD$ = .7501; NCATE: $M$ = 1.298, $SD$ = .5841); $t(78.139) = -2.391$, $p = 0.019$]. The level of significance was within a large range for the first described finding ($d = 0.524$), and was within a medium range for the second. ($d = 0.415$).

The participants who attend a TEAC-accredited training program responded significantly stronger about the need to attend professional development that targets the RTI model *before* graduation than the participants who attend a NCATE-accredited training program [TEAC: $M$ = 5.365, $SD$ = .6271; NCATE: $M$ = 5.105, $SD$ = .8441); $t(174) = -2.005$, $p = 0.047$]. Likewise, the

respondents from the TEAC-accredited training programs scored significantly higher when they were asked about engaging in professional development about the RTI model *after* graduation than the respondents from the NCATE-accredited training programs [TEAC: $M = 5.442$, $SD = .6390$; NCATE: $M = 5.089$, $SD = .8363$); $t(174) = -2.731$, $p = 0.047$]. The level of significance was within a moderate range for both of these findings ($d = 0.350$ & $d = 0.474$, respectively).

A significant difference by type of certification was found for three of the nine items related to the perceived level of preparation from their teacher training program (See Table 11). Participants who were working towards a dual certification in General and Special Education felt that their training program emphasized the RTI model significantly more than the participants who were working to obtain only their General Education certification, while participants working towards their Special Education certification did not differ significantly from the other two groups in their responses (Dual: $M = 4.188$; General Education: $M = 3.613$; Special Education: $M = 3.892$). The difference between these two certification groups was significant, $F(2, 175) = 3.480$, $p = .003$. The pre-service teachers who are working to obtain their General Education certification reported learning about the RTI model at a significantly earlier point in their training program when compared with participants working to obtain only Special Education certification, as well as those working towards a dual certification in General and Special Education (General Education: $M = 3.189$; Special Education: $M = 3.453$; Dual Certification: $M = 3.933$). The difference between the three groups was significant, $F(2, 175) = 6.630$, $p = .002$. Additionally, the participants working to obtain their General Education certification reported taking significantly fewer Special Education courses than those participants working to obtain only Special Education certification as well as those working to obtain dual certification in General and Special Education (General Education: $M = 1.827$; Special

Education: $M$ = 2.595; Dual Certification: $M$= 2.641). There was a significant difference within the responses that were provided, $F$ (2, 175) = 29.474, $p$ = .000.

## Discussion

This research was designed to measure pre-service teachers' perceptions of the RTI model of educational service delivery. The goal was to examine the participant's attitudes about the RTI model, their perceived level of RTI knowledge and skills, as well as their perceptions regarding how much training in RTI was delivered in the pre-service training program. The RTI model is a general education model that is currently impacting the way in which all school personnel make educational decisions. The roles and responsibilities of elementary general education and special education teachers are overlapping as one of the underlying premises of the RTI model is that all educators are responsible for the learning of each student.

However, past research has demonstrated that teachers often hold negative views of new initiatives, and often do not feel prepared to teach when an new initiative is implemented, as in the paradigm shifts of the mainstreaming and inclusion movements. When these shifts occur, teachers often have to alter their roles and responsibilities in order to fit within the new framework.

### Perceived Attitudes About the RTI Model

The pre-service teachers who participated in this survey reported a higher level of acceptance in regards to integrating students with disabilities in the general education classroom than with the past initiatives of inclusion and mainstreaming. The participants agreed that it is important to utilize a multi-tiered model that allows students to be in the least restrictive environment. Overall, there was a high level of agreement that the pre-service teachers felt positive about the RTI model. Although the pre-service teachers reported feeling knowledgeable and having positive feelings towards the model, there was a relatively smaller number of participants who felt that the RTI model of service delivery was not suitable for *all* students.

Some students within the academic setting would not have to demonstrate a lack of response to the curriculum or a slower rate of learning than their peers before being eligible to receive special education supports. These students include those with multiple disabilities, those who are intellectually disabled or those with other deficits that seriously impact their abilities. These students will receive special education services immediately in order to have equal access to the general education curriculum. At this point in time, the goal of the RTI model is to assist all students to reach their academic potential. However, there will be exceptional students who require an alternate educational plan in order to be successful.

**Evaluation of Learning Disabilities**

In NYS, the RTI model can be utilized as a pathway for identifying a student with a learning disability as opposed to relying on the traditional ability-achievement discrepancy model. This traditional model of identifying a student with a learning disability required school officials to demonstrate a discrepancy between a child's cognitive ability and their academic skills. In this current study, 25% of the pre-service teachers were unsure or disagreed that utilizing the RTI model for the identification of a learning disability is best practice.

It is hypothesized that utilizing the RTI model as a means of determining the presence of a learning disability may result in a role shift for general education teachers. In the past, the Committee on Special Education worked as a team to review the results of norm-referenced testing and the input of a multi-disciplinary team. Now, utilizing the RTI model of service delivery, the general education teachers are involved to a greater extent as they help to provide information about a student's response to the curriculum and interventions. Additionally, the teachers need to be able to identify a student's level of skills and rate of improvement with intervention progress monitoring data. However, many respondents do not feel confident in their

data-based decision making skills. Within this study, the participant sample is represented by 43% of pre-service teachers who were working towards their general education certification only, while the remaining 57% were working towards a special education certification or dual certification. A possible explanation for the 25% of pre-service teachers who reported a lack of confidence in this area may be attributed to the percentage of pre-service teachers who are working towards their general education certification only. These individuals may not feel as though they have been trained and prepared to make this type of an educational decision. Finally, it is hypothesized that the content of identifying a student with a learning disability is not covered or covered minimally in general education programs, so these pre-service teachers are not as certain of the usefulness of this approach to eligibility identification.

Overall, utilizing the RTI model of service delivery as a means of identifying a student with a learning disability is a large role shift for general education teachers. The general education programs may not be providing sufficient training in data-based decision making and assessment procedures, and this may have an impact on the pre-service teachers' reported lack of confidence in making data based decisions. As this decision making process extends across all teachers, both general and special education, additional training is necessary to increase the perceived levels of confidence in the identification of a student's learning difficulties.

**Perceived Self-Confidence of RTI Skills**

**Assessment and progress monitoring.** Assessing students and monitoring their progress while they are engaged in interventions are essential components of the RTI model of service delivery. In this study, there was approximately 90% agreement from the pre-service teachers in regards to their confidence in the skills associated with assessing the skill levels of students. The participants reported a high level of perceived confidence in their ability to sort

students into homogeneous skill groups based on assessment data. This is similar to traditional general education teacher roles of grouping students of similar ability levels together for instructional purposes in the general education setting. Results suggest that training programs are preparing pre-service teachers well in the area of grouping students for differentiated instructional purposes.

On the other hand, the pre-service teachers reported relatively low levels of confidence in the skills associated with progress monitoring. Being able to utilize progress monitoring tools during an intervention, as well as interpreting the data is crucial in being able to identify student development. Teachers who are able to graph student progress through utilizing data can ascertain if the student is making appropriate gains based on their rate of development and progress towards meeting the overall goal. If a student is on track to meeting their goal, then the teacher should continue that particular intervention because it is helping the student to make progress. However, if a student is not on track to meeting their goal, after collecting six to eight data points, a change in the intervention or intensity level is warranted. After making this change, the teacher will be able to use intervention data to determine if the student will respond to the new intervention and make progress towards their goal. Based on these results, it appears that implementing and utilizing progress monitoring assessments, graphing data, and interpreting data to make educational decisions is an area of relative weakness compared to other professional skills.

Additionally, the participants reported a higher level of confidence in performing assessments and working with at-risk students as opposed to monitoring progress of interventions with seriously delayed students. The traditional role of teachers requires general educators to work with students who are achieving at or slightly below the benchmark level. It is

hypothesized that students who are considered to be at-risk will be more likely to respond to interventions at a quicker pace and with the utilization of fewer school resources than those students who are considered to be seriously delayed.

General education teachers have been historically trained to assess their students within the classroom and then sort students into groups based on their general skill level. Special education teachers have traditionally been trained to assess deficient skills and provide interventions for students with learning problems. Current findings support these traditional roles. Within this study it was reported that a majority of pre-service teachers, including general education and special education, are generally confident in their skills to engage in assessment of reading skills. However, pre-service teachers are less confident in engaging in other data-based decision making skills, such as identifying a student's response to interventions and whether to continue to alter an intervention procedure to benefit the student. It is hypothesized that pre-service teachers may feel a high level of confidence in the general differentiation of skill levels of students. Typically, progress monitoring is a special education teacher's role, and the ability to graph data to show intervention effectiveness is a skill that may need development among pre-service teachers with certification in general education. Additionally, the ability to self-evaluate implementation effectiveness is a skill that appears to require additional training and preparation.

**Effective instruction and intervention.** The pre-service teachers reported high levels of self-confidence in regards to effective instructional techniques. However, their confidence in their ability to deliver reading interventions was relatively low. The participants reported that they understand the background for the RTI model, they feel confident in their ability to implement the core reading curriculum as it was designed, and they reported using effective teaching principles within the classroom. It was unexpected that the pre-service teachers

identified relatively low confidence in their knowledge of the critical elements of the developmental continuum in reading skill acquisition. This indicates that respondents are globally prepared to teach, but may not be sufficiently prepared to break down the overall skill of reading in order to target a specific academic area of weakness.

The pre-service teachers' confidence level decreased, relatively speaking, when asked if they could identify evidence-based interventions for skill deficits and to implement interventions to seriously delayed learners. In order to address the specific area of academic deficit, a teacher needs to understand where the student is experiencing difficulties and identify an intervention that will teach the student the skills to be successful. The respondents in this survey reported having difficulty identifying a student's area of weakness within the reading skill continuum; therefore, it is understandable that the pre-service teachers would not feel as confident selecting an intervention to work on a specific skill.

Finally, a lack of perceived confidence was identified by the participants when they were asked to implement interventions with seriously delayed students. A rationale for this low level of perceived confidence may be due to the traditional role of special education teachers and how they work with students who are performing at a rate that is beneath the grade-level norm as opposed to general education teachers who work with students that are performing on grade-level. However, within the RTI model, both general and special education teachers must work together to ensure the success of all students. This collaboration deconstructs the traditional boundaries between general and special education.

**Consultation and collaborative problem-solving.** The participants in this study reported high levels of perceived confidence in their ability to collaborate with their colleagues in order to assist students who are experiencing academic difficulty. Specifically, data collected

in this study identified that the pre-service teachers perceive a higher level of confidence in working with their colleagues on grade-wide instruction, planning interventions for a small group of students, and working with intervention specialists. However, the pre-service teachers indicated a relatively lower lack of confidence when they are asked to work on a school problem-solving team to plan, implement, and evaluate the interventions. While respondents believe they are highly competent working collaboratively with other educators, a relatively lower level of confidence in data-based decision making, compared to general instructional practices, was identified.

The majority of pre-service teachers reported a high level of agreement in regards to the skills associated with collaboration and problem-solving. Collaborating with colleagues, while engaging in grade-wide instruction, allows for teachers to be share ideas and problem-solve issues as they arise. Similarly, working with colleagues provides an opportunity to gain insight and technical knowledge regarding the students they are working with in the classroom setting.

**Competencies within the tiers of the RTI model.** Within the three tiers of the RTI model of service delivery, there are skills that teachers need in order to feel confident in performing within each tier. Within Tier 1 of the RTI model, the pre-service teachers reported having a strong understanding of an evidence-based core curriculum and also use of effective teaching strategies to allow all students to have access to the instruction. Further, participants are relatively confident in their ability to utilize universal screening data to identify students who are moderately delayed. In contrast, participants identified a relative lower level of confidence in their knowledge of the reading skill continuum. A greater understanding of reading development may be warranted for all teachers as the skills are necessary to effectively differentiate instruction for students with varied skill level. Having confidence to identify the skill deficits

that a student may be lacking is essential in ensuring that the student receives a supplemental intervention that directly targets the area of need.

Within Tier 2 of the model, teachers will need to identify evidence-based interventions and implement them with students who are at-risk, as well as monitor learning progress. While respondents felt confident in providing supplemental instruction to at-risk learners, they identified relatively lower confidence in progress monitoring growth in order to make informed decisions about intervention effectiveness. A number of essential decision points occur during the intervention process; therefore, all teachers may benefit from additional training in data-based decision making.

For those students who are seriously delayed and performing at a rate that is significantly below the benchmark level of their grade, they receive services at the Tier 3 level of the RTI model. Teachers' Tier 3 skills include additional assessment, instructional, and decision-making competencies. Again, the pre-service teachers in this study reported a perceived level of confidence in implementing evidence-based interventions with small groups. However, at this tier, the teachers must progress monitor and interpret the data more regularly than at the Tier 2 level. The skills associated with Tier 3 were rated relatively lower than skills traditionally used in Tier 1 and 2 suggesting that teachers may need additional training opportunities to develop confidence in their competencies to engage in effective data-based decision making procedures for seriously delayed learners. Making data-based decisions at this level will allow teachers to identify if a student is not responding to the intensive interventions and then make a referral to the Committee on Special Education for further evaluation.

**Perceived Preparation**

The pre-service teachers were asked questions to identify the extent to which they believe they are being taught the concepts and skills within their training program that are necessary to work within an RTI model. Three-fourths of the respondents endorsed a level of agreement when they were asked if they felt their training program emphasized the RTI model of service delivery. The remaining 25% of pre-service teachers did not feel as though their training program focused on the RTI model and this could be due a number of factors. It may not be perceived as though an undergraduate course specifically focused on the RTI model of service delivery; however, discussion about the model may be embedded into the class discussions. If this occurs, a pre-service teacher may not feel as strongly that the model was emphasized in their training. Additionally, throughout the training programs, pre-service teachers engage in practicum experiences that supplement the instruction within their program. Some districts where pre-service teachers perform their student teaching responsibilities may be in the early stages of implementation, so the pre-service teachers may lack exposure to the RTI model during their practicum setting. On the contrary, a pre-service teacher who is working within a district that is embracing the RTI model of service delivery will have an opportunity to work within the model in order to gain knowledge and practice the skills associated with the model.

A majority of the pre-service teachers reported that they became aware of the RTI model over the course of their second or third year of undergraduate training. Surprisingly, some participants endorsed that they felt as though the RTI model was not discussed within their teacher training program. A teacher training program provides pre-service teachers with the foundational skills to become effective teachers. The early recognition of educational shifts, including the RTI model, within a teacher training program is important. This provides an ample amount time for pre-service teachers to ask questions about the models and to gain hands-on

experience within a classroom during a practicum experience. The combination of the courses offered through the teacher training program that focus on the new initiative and the practicum experiences is an effective way to prepare pre-service teachers. In addition, during teacher training programs, it is important for the faculty members to require the pre-service teachers to attend intensive short term trainings to emphasize certain skill sets associated with a new model of service delivery.

The number of classes that the participants enrolled in that specifically targeted the RTI model was smaller than anticipated. More than one-third of the participants only took one general education or special education course that focused on the RTI model. Additionally, very few participants reported enrollment in elective courses or attendance at workshops that focused on the RTI model. College courses and workshops have the ability to enhance a pre-service teacher's perceived level of confidence in the concepts and skills of educational initiatives. One explanation for the lack of participation in courses that focus on the RTI model may be due to a limited number of classes that a particular college or university has to offer on this topic. Noteworthy, three-fourths of the participants felt that their training program placed an emphasis on the RTI model; however, the number of reported courses the pre-service teachers reported to address RTI skills was limited. This research demonstrates that pre-service teachers are not experiencing a large amount of exposure to courses that specifically target the concepts and skills that are necessary to practice within a RTI model of service delivery. The skill set associated with this model is complex, and it appears as though the pre-service teachers are not receiving sufficient amount of training to be prepared to teach within the model.

When the pre-service teachers were asked if their view on the RTI model has changed since completing their coursework and beginning their student teaching, two-thirds of the

participants identified a shift in their viewpoint. It is clear that for these pre-service teachers, they experienced an alteration in their viewpoint about the RTI model between their program preparation and their student teaching experience. There can be differences in the way the model is presented within a teacher training program and the actual implementation of the RTI model within school districts. In the training program environment the RTI model can be discussed in terms of ideal implementation. When the pre-service teachers are completing their student teaching experience, they have the opportunity to observe the reality of the implementation of a new educational shift. Many factors, both positive and negative, could influence the implementation of the RTI model. Some districts are fully committed to following the RTI model of service delivery and the positive atmosphere surrounding the changes will have an impact. On the contrary, some districts are resistant to the changes and this will slow down the implementation process and build negative impressions of the model.

When the respondents were asked if their practicum site has achieved full implementation of the RTI model, there were varied responses. There were 68% of the participants who believed their practicum site has achieved full implementation. Additionally, 16% of the pre-service teachers disagreed with the statement and another 16% were unsure about what the question was asking. Possible explanations for the varied responses include, (1) being unsure of how a district functions at a building or district level, (2) schools may not be implementing the full RTI model of service delivery, or (3) they are implementing the model with limited integrity. It is challenging for a pre-service teacher to be knowledgeable of how the school building or district is functioning when they are focusing on learning skills on a classroom level. The variability in responses is likely due to differences in level of district implementation as well as limitations in young professionals perceptions regarding system-level functioning.

**Impact of Program Accreditation**

The outcome of the present survey indicates that the pre-service teachers who attend TEAC-accredited training programs feel more prepared for this shift to teach utilizing the RTI model than those attending NCATE-accredited programs. The standards set forth by NCATE to teacher training programs are considered more *prescriptive* than those set forth by TEAC. Training programs that are accredited by TEAC do not have explicitly outlined domains of skills and knowledge that are necessary for pre-service teachers to be taught, so the training programs can be flexible in presentation of materials to their pre-service teachers. With this flexibility, the TEAC-accredited training programs could adapt their teaching to address the new educational initiative shift more than the NCATE-accredited training programs who may be delayed in addressing these relatively new mandates.

On July 1, 2012, NCATE and TEAC consolidated into one organization which is known as the Council for Accreditation of Educator Preparation (CAEP). CAEP has a focus on three aspects of teacher preparation, and this includes: content knowledge, clinical experience and quality of teacher candidates (*Council for the Accreditation of Educator Preparation*, 2010). With this new accrediting organization in effect, the guidelines for quality training programs will potentially allow the development of curriculum that addresses key RTI competencies. Additionally, CAEP identifies the need for pre-service teachers to self-evaluate and self-reflect on their practicum experiences. Finally, there will be more stringent exiting standards for pre-service teachers, which will require a level of competence to teach and follow best practice standards. It is hoped that the consolidation of program accreditation standards will enhance the quality of teacher training programs.

An interesting finding of this investigation was related to actual versus perceived program accreditation. Based on a review of program websites, 70% of programs held a NCATE accreditation while 30% held a TEAC accreditation. However, many respondents inaccurately reported which type of accreditation their respective programs held. For example, 49% or respondents indicated their program was NCATE accredited while 28% believed their program was TEAC accredited, and 22% were not sure of the type of accreditation held. It is surprising that almost one-fourth of the participants did not know if their training program held an accreditation which is an indicator of a quality program. This may indicate that, for some pre-service teachers, selecting their teacher training program is not contingent on the accrediting body and how they are required to prepare their pre-service teachers.

**Impact of Certification Type**

The RTI model of service delivery is conceptualized as a general education initiative. In beginning this research, it was hypothesized that individuals working towards dual certification (i.e., General and Special Education) would feel more prepared to teach utilizing the RTI framework, compared to those pursuing solely a general or special education degree. However, this exploratory research identified that there were no general significant differences in level of preparedness to teach in an RTI model between pre-service teachers who are working towards different certifications.

Pre-service teachers who are working towards a dual certification in General and Special Education believed that their training program emphasized the RTI model of service delivery significantly more than the participants working towards their General Education certification or Special Education certification. Participants who are working towards a dual certification may have additional exposure to the RTI model in the General and Special Education courses that

they are enrolled in. The repeated exposure to the RTI model can increase the pre-service teachers understanding of the model, as well as their confidence to implement the necessary skills within a school setting.

The pre-service teachers were asked to report the number of special education courses they had enrolled in that had a specific focus on the RTI model. As predicted, the respondents who were working to obtain a dual certification or only a special education certificate reported taking a significantly higher number of special education classes than the participants who were working towards only their general education certification.

**Alignment with Previous Research**

There has been a limited amount of research done that examines teacher preparedness to teach specifically within the RTI model of service delivery. However, past research has examined teacher attitudes and level of self-confidence in regards to other educational initiatives, such as mainstreaming and inclusion.

Previous researchers found that special education teachers displayed a more positive attitude towards past initiatives, such as mainstreaming and inclusion, than general education teachers (Hudson, Graham, and Warner, 1979 & Gans, 1985). However, the results from the current study demonstrated no significant difference in attitudes held by informants from different certification areas. The vast majority of pre-service teachers reported feeling positive about the RTI model and acknowledge the need for a multi-tiered model of service delivery in order to educate students in the least restrictive environment. Perhaps one explanation for this change is that in the past, the shifts of mainstreaming and inclusion signified the first time exceptional students were integrated into general education classrooms. Currently, that is a common practice within school districts, so individuals who are interested in becoming teachers

enter into the profession knowing that they there is a possibility of working with exceptional children. The structure of the RTI model will further normalize the inclusion of all children within the general education setting, while students who need additional educational services will have access to these evidence-based supports.

Additionally, in previous research, pre-service teachers who were completing their student teaching requirement were found to feel unprepared and lacking the skill set that was required to correctly implement the education initiative of the time period (Leyser & Abrams, 1986 & Kearney and Durand, 1992). Research by Connard, Dill, and Hill (1985), as well as Zigmond, Levin, and Laurie (2001) found that teachers were lacking the time, support, and training necessary to effectively educate the exceptional students in their classroom. This perceived lack of preparation and support for implementation of initiatives helps to further explain why educators may have a negative attitude or perception about having exceptional students in their general education classrooms. In contrast to previous research findings, the pre-service teachers in this current study reported feeling confident in their understanding of the RTI model and felt comfortable collaborating with their coworkers in order to implement interventions regardless of the certification they were working to obtain. In the past, teachers felt as though they were generally lacking the skills to include exceptional students within the general education classroom. Currently, the pre-service teachers from this study reported feeling confident in the skills associated with providing an evidence-based core curriculum and implementing interventions for at-risk students. This shows that the teachers are generally feeling more prepared with the inclusion of exceptional students. However, there are still necessary skills that need to be developed in order to meet the needs of all students.

Finally, previous research has demonstrated that a high level of teacher efficacy is very important in an RTI model of service delivery because the general education classroom is considered to be Tier 1 of the model (Spear-Swerling, 2008, p. 275). Without the knowledge of how to implement the skills associated with the RTI model, pre-service and veteran teachers may experience a reduced level of self-efficacy (Kratchowill, Volipansky, Clements, & Ball 2007). The current study has confirmed these findings in that teachers report feeling confident in their understanding of the RTI model, as well as feel competent to teach within a RTI model at a Tier 1 level. Additional training is required in order to increase the level of self-efficacy when working with evidence-based intervention selection, progress monitoring interventions and making evidence-based educational decisions.

In summary, the RTI model of service delivery is the most recent education initiative that requires a shift in how educators are required to work within their school buildings and classrooms. Traditionally, general education teachers focused on the students who were performing at grade level or above. Any student who was experiencing academic difficulties would work with a special education teacher to address the area of need. However, within the RTI model, the general and special education teachers work closely together to ensure the success for all students. General education teachers are required to use universal screening data and diagnostic assessments to identify at-risk students within their classrooms. Then, general and special education teachers identify, implement, and evaluate evidence-based interventions to help students improve upon their academic area of limitation. Both general and special education teacher's work together to make data-based decisions that will ensure that the student receives the necessary level of assistance. Within the RTI model of service delivery, both general and special education teachers assume responsibility for the academic success of every

student. Thus, the RTI model has the potential to be an effective educational system in which students are provided with academic supports designed to meet their individual needs in a non-categorical model, and all teachers are responsible for each child's learning.

**Limitations of Current Research**

This research was designed to gather preliminary information about pre-service teachers' attitudes about RTI, their perceived level of RTI skills and competencies, as well as the perceived magnitude of RTI constructs addressed within the professional training programs. While this study has been able to identify trends in how some pre-service teachers perceive the RTI model, their skill sets, and program preparations, there are a number of limitations to this current research.

Methodologically, there were limitations to this research related to data collection. The Spring 2012 academic semester proved to be a challenging data collection period due to a very limited response rate via SurveyMonkey. Additionally, during the first round of data collection, surveys were sent to participating programs towards the end of the academic semester. Due to the timing of the survey dissemination, few individuals agreed to participate in the study. In order increase the number of participants, the researcher altered the data collection procedures for the Fall 2012 and Spring 2013 data collection periods. Positively, there was a much higher response rate when the researcher contacted the department chairpersons via phone towards the beginning of each semester and sent hard copies of the survey to the schools for students to participate. Altering the data collection method impacted the study because there was a lack of consistency over the three collection periods.

More importantly, the generalizability of the survey findings are limited due to the relatively small sample of respondents from a substantially larger population of pre-service

teachers enrolled in teacher training programs across the country. Additionally, the data was collected only from participants within NYS, which also limits the generalizability of these results on a national scale. Noteworthy, while there were 176 pre-service teachers who participated in this survey, many training programs reported being overwhelmed with survey participation requests, including those from the NYS Department of Education. It is likely that the influx of requests for online research participation has contributed to the lack of participants.

Further issues related to generalizability of the results are identified in relation to the demographic characteristics of participants. Specifically, the majority of participants were Caucasian females who ranged in age from 21- to 22-years-old. Additionally, there were significantly more participants working towards their general education certification as opposed to their special education or dual certification. The demographic characteristics of the sample used in this research limit the generalizability of the findings because it does not likely provide an equally representative sample of pre-service teachers.

The survey that was utilized in this study was created by the researcher in order to obtain the pre-service teachers perceptions about different components of the RTI model. There were Likert scale items on the survey and the answer choice options were created in a forced-choice format. This was done intentionally by the research so the participants would not have an opportunity to remain neutral on a question. However, when the participants are forced to pick an answer choice, it may not be representative of their level of agreement. Additionally, this survey did not present any survey items that allowed the participants to provide qualitative data regarding their perception of the RTI model. This is a limitation because the participants were not given an opportunity to explain their answers or rationale for their survey item choices.

Most importantly, the findings represented in this research are only perceptions of the participants' skills, rather than objective data about participants' knowledge and skills in key RTI competencies. This study asked participants about their perceived attitudes, skill levels, and perceptions about their training program and level of RTI implementation at their practicum site. However, the investigation did not compare perceptions with actual skill to perform the activities associated with the RTI model of service delivery. It also did not measure objective data about training program coverage of RTI concepts/skills or the practicum sites' actual RTI implementation level. The pre-service teachers who took this survey may believe that they have strong skills in one area, but when they are faced with performing that skill as a practicing teacher, they may not be as confident or competent as they originally perceived. Similarly, a participant could have been conservative in their answers and actually be very competent and confident in certain skills but they do not perceive their skills as advanced. Overall, this exploratory study examined only the participants' perceptions of their skills, and there was no objective measure of their actual level of competencies. Also important to note is that a majority of the pre-service teachers felt that their training program emphasized the RTI model. However, the study found that participation was limited in regards to the number of courses and workshops that had a focus on the RTI model.

There were also limitations in the analysis of this survey data. In using the Likert Scale to analyze the findings, the researcher utilized ordinal survey data. In order to compare means between groups with the *t*-test and ANOVA, the data had to be used as though it was interval data. The discrepancy between the two levels of measurement allows the researcher to identify a difference between responses; however, there is no quantitative way to determine the difference between an "agree" response and a "strongly agree" response.

**Recommendations for Future Research**

Future research should continue to examine teacher preparedness to teach in a RTI framework. Additional information could be obtained by surveying teachers within their first year of teaching to gain an understanding of how confident they feel in their ability to implement the RTI model. This information could be compared with veteran teachers who are learning the RTI model of service delivery through workshops and district-wide meetings as opposed to having the background information and skill set from their teacher training program. Additionally, using more objective measures to obtain data about preparedness to teach within the RTI model of service delivery may include performing case studies. Another approach could include working within focus groups to gather more qualitative, in-depth information about an individual's perception of their preparedness. Utilizing this method of research would provide the researcher with qualitative data about the experiences the teachers are having and receiving reports on the amount of influence that their background experience has provided. Additionally, this research could examine how teachers perform within the classroom and school setting, as opposed to the current research which examined the pre-service teacher's perceptions of their abilities.

Another direction for future research includes doing an in-depth review of teacher training programs in NYS. This could relate to the level of emphasis the programs place on preparing pre-service teachers to teach within the RTI model, rather than reviewing pre-service teacher's perceptions of their level of preparedness. Research could be conducted by speaking directly with program directors from teacher training programs to gain an understanding of the structure of the program and the amount of emphasis the RTI model from the director's perspective. Items to research and compare between programs could include: 1) types of

required and elective courses offered that target the RTI model of service delivery within their general education and special education certification paths, 2) the method in which the RTI model is integrated into core classes, 3) the types of workshop or training opportunities that pre-service teachers have access to while they are completing their training program, 4) program directors perceptions in regards to the level of preparation they provide their students so they can teach utilizing the RTI model, 5) program directors expectations for their pre-service teachers to enhance their knowledge of the RTI model by attending both workshops and their practicum setting, and 6) the goals that are set within the student-teaching experience to ensure the pre-service teachers gain experience in working with the RTI model. The obtained information could be compared between training programs in order to find what aspects of the programs are similar and what additional ways programs can develop in order to best prepare their pre-service teachers to work within the RTI model of service delivery.

Finally, as the RTI model of service delivery is integrated into the school systems, a longitudinal study may be able to obtain important information about the development of perceived confidence to implement the necessary skills to work within the RTI model. This future research could survey pre-service teachers during their student teaching experience and follow them into their careers collecting yearly data to see if their attitude is changing towards the model, if their confidence is growing and if their skills are enhanced over time. The RTI model of service delivery has emerged in school districts across NYS, and further research in the preparedness of teachers is essential in ensuring student success.

**Implications for Practice**

Based on the information obtained by the participants, teacher training programs should adapt the way that they prepare pre-service teachers to help make them more confident in all skill

domains within an RTI model of service delivery. Although the best practice approach to education may continue to shift, teacher training programs need to be able to adapt their courses and teaching methods in order to best prepare their pre-service teachers for each educational initiative shift. Teacher training programs need to continually review their curriculum for inclusion of evidence-based approaches that are congruent with state and federal education laws. It is vital to remain current, if not ahead of the field, in regards to best practices for preparing pre-service teachers.

In order to meet the needs of all students, general and special education teachers within the school districts need to understand the background and rationale of the RTI model. The staff within a school building need to 1) feel confident in identifying an area of skill deficit, 2) select an evidence-based intervention to work on that skill, 3) implement the intervention with integrity and fidelity, 4) monitor the progress the student is making, and 5) work with a team to make data-based educational decisions. A focus of training programs should be to prepare pre-service teachers for teaching within the RTI model of service delivery. This includes the pre-service teachers understanding the rationale and implementation of the model, as well as developing confidence in the skills needed in order to implement the model. The current research indicated that identifying areas of skill limitation, identifying evidence-based interventions, and working with progress monitoring tools and making data-based decisions are areas where the pre-service teachers may benefit from additional instruction.

The RTI model of service delivery is a general education initiative; however, it is imperative that all pre-service teachers be trained in the skills necessary for implementing the RTI model. All teachers, general and special education, work as a team to meet the needs of all students. The traditional lines of separation between general education and special education

teachers have been deconstructed, and it has become the responsibility of teachers to educate every student. Students who are struggling academically will work with different teachers (i.e. general education teachers, special education teachers, intervention specialists, etc.) in order to improve their skills, and all of these individuals would be advised to understand the model and be competent in key RTI skills. The goal of the model is for academic interventions to take place before a student is experiencing a large amount of difficulty or before they are performing at a rate that is significantly below the benchmark range, and in order to do this, general and special education teachers need to work together.

The RTI model is a new shift in education and pre-service teachers will need to be exposed to the new skills in the classroom, as well as utilizing time in classrooms to practice the skills associated with the model. It would be beneficial for the pre-service teachers to learn about the RTI model of service delivery early in their training program so they can be provided ample learning opportunities and learning experiences so increase their confidence level in implementing these skills. Pre-service teachers would benefit from reading factual information about the RTI model of service delivery and having in-depth classroom discussions about the rationale and background for this model. This is an important pathway to gain an understanding of this educational shift. Additionally, utilization of case studies and individual practicum assignments to work on specific skills would be beneficial in learning about the RTI model with an emphasis on real world experiences. Adding additional courses to the workload of pre-service teachers which focus on the RTI model may not be a feasible option for training programs. The training programs are required to cover a substantial amount of material, so it is recommended that the programs incorporate the RTI model into existing classes. Also, it is

recommended that the training programs provide intensive, short-term trainings on different aspects of the RTI model over the course of a pre-service teacher's academic career.

In addition to focusing on the skill set needed to work within the RTI model, teacher training programs could also look to utilize workshops and student teaching experiences as supplemental training atmospheres. Workshops that focus on the RTI model of service delivery allow an open forum where experts in the field can disseminate information as well as introduce real world examples of how the model is implemented in school districts. Utilizing workshop experiences allows for the pre-service teachers to expand upon their foundational understanding of the RTI model. They also provide a venue for teachers across varying levels of experience in the field to share experiences in working within the RTI model. The information obtained by pre-service teachers during these workshop experiences could be brought back to a college classroom to encourage further discussion and development of ideas.

A student-teaching experience provides pre-service teachers with an opportunity to work on the necessary RTI skills within a hands-on setting. It is recommended that training programs assign the pre-service teachers to work on skills needed for the RTI model while they are under supervision so they can seek guidance from their assisting teacher and professors within their training program. As previously mentioned, it is necessary for pre-service teachers to have a strong foundational knowledge about the background and rationale for this education initiative. When a pre-service teacher is required to implement RTI skills within their student teaching setting, they are given the opportunity to build confidence in these areas. Utilizing the student-teaching experience can also help pre-service teachers learn in a collaborative style from their peers.

**Conclusion**

The Response-to-Intervention paradigm shift that is occurring within NYS focuses on early intervention and data-based decision making processes in order to assist students who are experiencing academic difficulties. Within the current RTI model of service delivery, it is crucial that both General Education and Special Education teachers who are practicing within school districts feel confident in their abilities and can implement the skills necessary to comply with the model in order for the students to maximize student academic success. Teacher training programs are the ideal location for pre-service teachers to engage in coursework and field experiences related to the RTI model of service delivery. The skills learned within a teacher training program will foster positive feelings about the new educational initiatives and increase the levels of perceived self-confidence in regards to the skills required to practice under this initiative.

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Table 1

*Demographic Data of Participants*

| **Variables** | **Levels** | **Number of Participants** | **Percentage of Participants** |
|---|---|---|---|
| Gender | Male | 15 | 9 |
| | Female | 161 | 91 |
| Race/Ethnicity | African-American | 4 | 2 |
| | American Indian or Alaska Native | 0 | 0 |
| | Asian | 2 | 1 |
| | Caucasian | 157 | 89 |
| | Hispanic or Latino | 8 | 5 |
| | Other | 5 | 3 |
| Age | 19-20 | 4 | 2 |
| | 21-22 | 136 | 77 |
| | 23-24 | 17 | 10 |
| | 25 or above | 19 | 11 |
| Current Year in College | Junior (3rd Year Undergraduate) | 1 | 1 |
| | Senior (4th Year Undergraduate ) | 117 | 66 |
| | Senior (5th Year Undergraduate ) | 58 | 33 |
| Currently Student Teaching | Yes | 176 | 100 |
| | No | 0 | 0 |
| Student Teaching Practicum Experience | Kindergarten | 41 | 11 |
| | 1st Grade | 62 | 16 |
| | 2nd Grade | 73 | 19 |
| | 3rd Grade | 53 | 14 |
| | 4th Grade | 54 | 14 |
| | 5th Grade | 62 | 16 |
| | 6th Grade | 35 | 9 |

| | | | |
|---|---|---|---|
| Anticipated Certification Level (Early Childhood and Childhood Combined) | General Education | 75 | 43 |
| | Special Education | 37 | 21 |
| | Dual Certification | 64 | 36 |
| Anticipated NYS Employment | Yes | 114 | 65 |
| | No | 53 | 30 |
| | Missing Data | 9 | 5 |
| Training Program Attended; Accreditation | Training Program #1; TEAC | 12 | 7 |
| | Training Program #2; NCATE | 45 | 26 |
| | Training Program #3; NCATE | 2 | 1 |
| | Training Program #4; TEAC | 25 | 14 |
| | Training Program #5; NCATE | 5 | 3 |
| | Training Program #6; TEAC | 15 | 9 |
| | Training Program #7; NCATE | 37 | 21 |
| | Training Program #8; NCATE | 35 | 20 |
| Perception of Accreditation Type | Accredited by NCATE | 87 | 49 |
| | Accredited by TEAC | 49 | 28 |
| | Non-Accredited | 1 | 1 |
| | I do not know if my training program is accredited | 39 | 22 |
| Actual Accreditation Type | NCATE | 124 | 70 |
| | TEAC | 52 | 30 |

Table 2

*Chi Square Results for Determining Significance between Demographic Variables*

| Demographic Variables | *df* | $x^2$ | *p* |
|---|---|---|---|
| Gender | 1 | 121.11 | 0.001** |
| Race/Ethnicity♦ | 4 | 527.35 | 0.001** |
| Age | 3 | 259.50 | 0.001** |
| Current Year in College | 2 | 114.69 | 0.001** |
| Currently Student Teaching❖ | - | - | - |
| Student Teaching Practicum Experience | 6 | 18.78 | 0.005* |
| Anticipated Certification Level | 2 | 13.03 | 0.001** |
| Anticipated NYS Employment | 2 | 94.78 | 0.001** |
| Training Program Attended; Accreditation | 7 | 80.46 | 0.001** |
| Perception of Accreditation Type | 3 | 85.18 | 0.001** |
| Actual Accreditation Type | 1 | 29.46 | 0.001** |

*$p$ = 0.01; **$p$ = 0.001

*Note:* ♦There were zero Native American/Alaska Native participants in the sample, so the Chi Square analysis was conducted utilizing the additional five race and ethnicity categories.

❖100% of the sample responded uniformly that they were student teaching during the three data collection periods, so no Chi Square statistic was calculated.

Table 3

*Perceived Attitudes about the RTI Model*

| Item Number | Survey Questions | Agree | Disagree | Unsure | *M* | *SD* |
|---|---|---|---|---|---|---|
| 1. | I feel knowledgeable about RTI. | 92.0% | 6.7% | 1.1% | 4.43 | 0.97 |
| 2. | In order for children to receive assistance in reaching their academic potential, a multi-tiered model that allows students be in a least restrictive environment is important. | 96.7% | 1.1% | 2.3% | 5.13 | 1.12 |
| 3. | RTI is a better option for identifying a child with a learning disability than evaluating the student's ability-achievement discrepancy. | 77.3% | 12.0% | 10.8% | 4.02 | 1.66 |
| 4. | I feel very positive about the RTI model of service delivery. | 90.4% | 5.7% | 4.0% | 4.27 | 1.12 |
| 5. | I feel that an RTI model meets the needs of all students. | 83.0% | 15.3% | 1.7% | 4.17 | 1.06 |
| 6. | Based on your perceptions, the level of RTI implementation that you believe your practicum site has achieved would be considered "full implementation". | 68.2% | 15.9% | 15.9% | 3.42 | 1.76 |
| 7. | Since completing my coursework and beginning student teaching, my view of the RTI model has changed. | 62.5% | 34.1% | 3.4% | 3.68 | 1.34 |

Table 4

*Perceived Self-Confidence of RTI Skills*

| Item Number | Survey Questions | Agree | Disagree | Unsure | *M* | *SD* |
|---|---|---|---|---|---|---|
| 8. | I understand and endorse the theoretical background and rationale for the use of RTI as an organizing structure for instruction, assessment and intervention. | 93.2% | 3.9% | 2.8% | 4.56 | 1.07 |
| 9. | I have a substantial understanding of the critical elements of the developmental continuum in *reading* skill acquisition. | 78.5% | 14.7% | 6.8% | 3.95 | 1.39 |
| 10. | I can competently implement the use of the core *reading* curriculum as it is designed to be taught. | 90.4% | 6.8% | 2.8% | 4.53 | 1.17 |
| 11. | I am able to instruct students using effective teaching principles. | 98.3% | 1.1% | 0.6% | 5.01 | 0.84 |
| 12. | I can effectively collaborate with my fellow teachers in planning class-wide/grade-wide instruction | 98.9% | 0.6% | 0.6% | 5.27 | 0.80 |
| 13. | I am able to examine universal screening data to identify students that are at-risk for academic difficulties. | 82.4% | 13.7% | 4.0% | 4.33 | 1.31 |
| 14. | Based on universal screening data, I am able to identify trends in skill deficiencies. | 77.8% | 17.6% | 4.5% | 4.09 | 1.34 |
| 15. | Based on universal screening data, I am able to sort students into homogenous skill-based groups. | 89.2% | 6.8% | 4.0% | 4.43 | 1.24 |
| 16. | I can effectively collaborate with my fellow teachers to design and implement group interventions for at risk students. | 95.5% | 4.0% | 0.6% | 4.89 | 0.85 |

| Item Number | Survey Questions | Agree | Disagree | Unsure | *M* | *SD* |
|---|---|---|---|---|---|---|
| 17. | I am able to *identify* scientifically-valid interventions to remediate key skill deficits. | 80.7% | 13.1% | 6.3% | 4.00 | 1.36 |
| 18. | I am able to competently *deliver* scientifically-valid interventions to small groups of students that have been identified as needing additional support in developing key academic skills. | 89.7% | 6.8% | 3.4% | 4.47 | 1.20 |
| 19. | I am able to conduct self-evaluations of intervention implementation integrity. | 81.2% | 10.8% | 8.0% | 4.17 | 1.49 |
| 20. | I am able to identify and administer appropriate progress monitoring tools. | 94.3% | 5.1% | 0.6% | 4.61 | 0.80 |
| 21. | I am able to graph the data in order to conduct a visual analysis of the effectiveness of the intervention. | 79.0% | 19.9% | 1.1% | 4.27 | 1.20 |
| 22. | I am able to interpret progress monitoring data by *level of skill development* in order to inform educational decisions. | 82.3% | 13.7% | 4.0% | 4.21 | 1.26 |
| 23. | I am able to interpret progress monitoring data by *rate of improvement* in order to inform educational decisions. | 81.8% | 14.2% | 4.0% | 4.15 | 1.23 |
| 24. | I am able to work effectively with the school's *problem-solving team* in order to plan, implement, and evaluate evidence-based interventions for students. | 87.0% | 9.1% | 4.0% | 4.42 | 1.27 |
| 25. | I am able to conduct appropriate diagnostic assessments for *reading* in order to identify the instructional needs of an individual student. | 94.3% | 5.1% | 0.6% | 4.64 | 0.86 |
| 26. | I can effectively collaborate with intervention specialists to design and implement individual interventions for *seriously at-risk learners* | 92.0% | 8.0% | 0.6% | 4.73 | 0.91 |
| 27. | I am able to competently deliver *intensive* scientifically-valid interventions to *seriously at risk learners.* | 77.3% | 19.3% | 3.4% | 3.96 | 1.19 |

Table 5

*Perceived Preparation*

| Item Number | Survey Questions | Agree | Disagree | Unsure | *M* | *SD* |
|---|---|---|---|---|---|---|
| 28. | My training program placed a significant emphasis on the RTI model of service delivery. | 72.7% | 25.1% | 2.3% | 3.88 | 1.30 |
| 29. | *Prior to graduation,* I believe that it is very important for pre-service teachers to engage in professional development training on RTI concepts. | 99.4% | 0.0% | 0.6% | 5.18 | 0.79 |
| 30. | *After graduation*, I believe that it is very important for teacher to engage in professional development training on RTI concepts. | 98.3% | 1.1% | 0.6% | 5.19 | 0.80 |
| 36. | At this point in my career, I feel very prepared to teach utilizing an RTI model of service delivery. | 68.7% | 30.7% | 0.6% | 3.77 | 1.10 |

Table 6

*Awareness of the RTI Model*

| Item Number | Survey Questions | Before College | First Year of Undergraduate Training | Second Year of Undergraduate Training | Third Year of Undergraduate Training | Fourth Year of Undergraduate Training | Fifth Year of Undergraduate Training | RTI was not Discussed in my Training Program | *M* | *SD* |
|---|---|---|---|---|---|---|---|---|---|---|
| 31. | In which year of training did you first become aware of the Response to Intervention (RTI) model of service delivery? | 2.3% | 11.4% | 34.1% | 35.2% | 13.1% | 1.7% | 2.8% | 3.60 | 1.13 |

Table 7

*Coursework and Workshop Preparation for the RTI Model*

| Item Number | Survey Questions | 0 Courses | 1 Course | 2-4 Courses | 5 or more Courses | *M* | *SD* |
|---|---|---|---|---|---|---|---|
| 32. | Approximately how many *general education* courses have you taken which *specifically target* RTI skills and competencies? | 20.5% | 33.5% | 43.2% | 2.8% | 2.28 | 0.82 |
| 33. | Approximately how many *special education* courses have you taken which *specifically target* RTI skills and competencies? | 18.2% | 37.5% | 42.0% | 2.3% | 2.28 | 0.78 |
| 34. | Approximately how many electives have you taken which *specifically target* RTI skills and competencies? | 71.0% | 19.9% | 9.1% | 0.0% | 1.38 | 0.65 |
| 35. | How many workshops/in-service trainings have you attended which *specifically target* RTI skills and competencies | 58.5% | 30.7% | 10.2% | 0.6% | 1.53 | 0.70 |

Table 8

*Independent Samples t-Test Comparing Means Between Participants from TEAC- and NCATE- Accredited Training Programs-Survey Section One*

| Item Number | Survey Item | NCATE ($n$ = 52) | | TEAC ($n$ = 124) | | $t$ | $p$ | *Effect Size* |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | | | |
| 1. | I feel knowledgeable about the RTI model of education | 4.33 | 1.08 | 4.67 | 0.58 | -2.709 | 0.007* | 0.394 |
| 2. | In order for children to receive assistance in reaching their academic potential, a multi-tiered model that allows students be in a least restrictive environment is important | 5.04 | 1.27 | 5.33 | 0.58 | -1.556 | 0.122 | |
| 3. | RTI is a better option for identifying a child with a learning disability than evaluating the student's ability-achievement discrepancy | 3.86 | 1.76 | 4.40 | 1.36 | -2.014 | 0.046* | 0.350 |
| 4. | I feel very positive about the RTI model of service delivery. | 4.17 | 1.19 | 4.52 | 0.90 | -1.899 | <0.001** | 0.331 |
| 5. | I feel that an RTI model meets the needs of all students | 3.97 | 1.07 | 4.64 | 0.86 | -3.969 | <0.001** | 0.684 |
| 6. | Based on your perceptions, the level of RTI implementation that you believe your practicum site has achieved would be considered "full implementation" | 3.31 | 1.80 | 3.67 | 1.65 | -1.265 | 0.208 | |
| 7. | Since completing my coursework and beginning student teaching, my view of the RTI model has changed | 3.63 | 1.41 | 3.81 | 1.14 | -0.883 | 0.379 | |

*$p < 0.05$. **$p < 0.001$.

Table 9

*Independent Samples t-Test Comparing Means Between Participants from TEAC- and NCATE- Accredited Training Programs-Survey Section Two*

| Item Number | Survey Item | NCATE ($n$ = 52) | | TEAC ($n$ = 124) | | *t* | *p* | *Effect Size* |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | | | |
| 8. | I understand and endorse the theoretical background and rationale for the use of RTI as an organizing structure for instruction, assessment and intervention | 4.42 | 1.18 | 4.90 | 0.66 | -3.456 | 0.001** | 0.508 |
| 9. | I have a substantial understanding of the critical elements of the developmental continuum in *reading* skill acquisition | 3.93 | 1.23 | 4.00 | 1.72 | -0.277 | 0.783 | |
| 10. | I can competently implement the use of the core *reading* curriculum as it is designed to be taught | 4.48 | 1.25 | 4.65 | 0.93 | -0.924 | 0.357 | |
| 11. | I am able to instruct students using effective teaching principles | 4.93 | 0.91 | 5.14 | 0.63 | -1.32 | 0.187 | |
| 12. | I can effectively collaborate with my fellow teachers in planning class-wide/grade-wide instruction | 5.25 | 0.89 | 5.31 | 0.61 | -0.435 | 0.664 | |
| 13. | I am able to examine universal screening data to identify students that are at-risk for academic difficulties | 4.22 | 1.40 | 4.60 | 1.03 | -1.757 | 0.081 | |
| 14. | Based on universal screening data, I am able to identify trends in skill deficiencies | 4.00 | 1.40 | 4.31 | 1,18 | -1.388 | 0.167 | |

| Item Number | Survey Item | NCATE ($n$ = 52) | | TEAC ($n$ = 124) | | $t$ | $p$ | *Effect Size* |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | | | |
| 15. | Based on universal screening data, I am able to sort students into homogenous skill-based groups | 4.37 | 1.42 | 4.56 | 0.64 | -1.204 | 0.203 | |
| 16. | I can effectively collaborate with my fellow teachers to design and implement group interventions for at risk students | 4.88 | 0.88 | 4.90 | 0.80 | -0.175 | 0.861 | |
| 17. | I am able to *identify* scientifically-valid interventions to remediate key skill deficits | 3.91 | 1.46 | 4.21 | 1.05 | -1.343 | 0.181 | |
| 18. | I am able to competently *deliver* scientifically-valid interventions to small groups of students that have been identified as needing additional support in developing key academic skills | 4.45 | 1.18 | 4.50 | 1.26 | -0.244 | 0.808 | |
| 19. | I am able to conduct self-evaluations of intervention implementation integrity | 4.17 | 1.49 | 4.15 | 1.50 | -0.063 | 0.950 | |
| 20. | I am able to identify and administer appropriate progress monitoring tools | 4.65 | 0.84 | 4.54 | 0.70 | 0.807 | 0.420 | |
| 21. | I am able to graph the data in order to conduct a visual analysis of the effectiveness of the intervention | 4.29 | 1.24 | 4.19 | 1.12 | 0.491 | 0.624 | |
| 22. | I am able to interpret progress monitoring data by *level of skill development* in order to inform educational decisions | 4.12 | 1.41 | 4.42 | 0.80 | -1.797 | 0.074 | |
| 23. | I am able to interpret progress monitoring data by *rate of improvement* in order to inform educational decisions | 4.10 | 1.31 | 4.29 | 1.04 | -0.939 | 0.349 | |

| Item Number | Survey Item | NCATE ($n$ = 52) | | TEAC ($n$ = 124) | | $t$ | $p$ | *Effect Size* |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | | | |
| 24. | I am able to work effectively with the school's *problem-solving team* in order to plan, implement, and evaluate evidence-based interventions for students | 4.25 | 1.41 | 4.81 | 0.74 | -3.424 | 0.001** | 0.496 |
| 25. | I am able to conduct appropriate diagnostic assessments for *reading* in order to identify the instructional needs of an individual student | 4.61 | 0.92 | 4.71 | 0.70 | -0.696 | 0.487 | |
| 26. | I can effectively collaborate with intervention specialists to design and implement individual interventions for *seriously at-risk learners* | 4.67 | 0.94 | 4.89 | 0.81 | -1.438 | 0.152 | |
| 27. | I am able to competently deliver *intensive* scientifically-valid interventions to *seriously at risk learners* | 3.85 | 1.24 | 4.21 | 1.04 | -1.869 | 0.063 | |

*$p < 0.05$. **$p < 0.001$.

Table 10

*Independent Samples t-Test Comparing Means Between Participants from TEAC- and NCATE- Accredited Training Programs-Survey Section Three*

| Item Number | Survey Item | NCATE ($n$ = 52) | | TEAC ($n$ = 124) | | $t$ | $p$ | *Effect Size* |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | | | |
| 28. | My training program placed a significant emphasis on the RTI model of service delivery | 3.74 | 1.29 | 4.21 | 1.27 | -2.215 | 0.028* | 0.367 |
| 29. | *Prior to graduation*, I believe that it is very important for teacher to engage in professional development training on RTI concepts | 5.11 | 0.84 | 5.34 | 0.63 | -2.005 | 0.047* | 0.350 |
| 30. | *After graduation*, I believe that it is very important for teacher to engage in professional development training on RTI concepts | 5.09 | 0.84 | 5.44 | 0.64 | -2.731 | 0.047* | 0.474 |
| 31. | In which year of training did you first become aware of the Response to Intervention (RTI) model of service delivery | 3.62 | 1.14 | 3.58 | 1.13 | 0.338 | 0.736 | |
| 32. | Approximately how many *general education* courses have you taken which *specifically target* RTI skills and competencies | 2.16 | 0.81 | 2.58 | 0.78 | -3.143 | 0.002** | 0.524 |
| 33. | Approximately how many *special education* courses have you taken which *specifically target* RTI skills and competencies | 2.21 | 0.77 | 2.46 | 0.80 | -1.958 | 0.052 | |

| Item Number | Survey Item | NCATE ($n$ = 52) | | TEAC ($n$ = 124) | | $t$ | $p$ | *Effect Size* |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | | | |
| 34. | Approximately how many electives have you taken which *specifically target* RTI skills and competencies | 1.30 | 0.58 | 1.58 | 0.75 | -2.391 | 0.019* | 0.415 |
| 35. | How many workshops/in-service trainings have you attended which *specifically target* RTI skills and competencies | 1.56 | 0.70 | 1.46 | 0.70 | 0.819 | 0.414 | |
| 36. | At this point in my career, I feel very prepared to teach utilizing an RTI model of service delivery | 3.62 | 1.18 | 4.12 | 0.81 | -3.206 | 0.002** | 0.489 |

*$p < 0.05$. **$p < 0.001$.

Table 11

*One way ANOVA Comparing Means Between Types of Certification*

| Item Number | Survey Item | General Education ($n$ = 75) | | Special Education ($n$ = 37) | | Dual Certification ($n$ = 64) | | Mean Square | F | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | | | |
| 1. | I feel knowledgeable about the RTI model of education | 4.31 | 0.88 | 4.51 | 0.93 | 4.53 | 1.08 | 1.027 | 1.089 | 0.339 |
| 2. | In order for children to receive assistance in reaching their academic potential, a multi-tiered model that allows students be in a least restrictive environment is important | 4.99 | 1.19 | 5.14 | 1.11 | 5.28 | 1.03 | 1.501 | 1.201 | 0.304 |
| 3. | RTI is a better option for identifying a child with a learning disability than evaluating the student's ability-achievement discrepancy | 4.00 | 1.72 | 4.00 | 1.89 | 4.05 | 1.47 | 0.045 | 0.016 | 0.984 |
| 4. | I feel very positive about the RTI model of service delivery. | 4.08 | 1.26 | 4.51 | 1.04 | 4.36 | 0.97 | 2.706 | 2.172 | 0.117 |
| 5. | I feel that an RTI model meets the needs of all students | 4.25 | 0.90 | 4.13 | 1.06 | 4.08 | 1.23 | 0.551 | 0.488 | 0.615 |

| Item Number | Survey Item | General Education ($n$ = 75) | | Special Education ($n$ = 37) | | Dual Certification ($n$ = 64) | | Mean Square | F | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | | | |
| 6. | Based on your perceptions, the level of RTI implementation that you believe your practicum site has achieved would be considered "full implementation" | 3.36 | 1.72 | 3.03 | 1.96 | 3.70 | 1.65 | 5.555 | 1.814 | 0.116 |
| 7. | Since completing my coursework and beginning student teaching, my view of the RTI model has changed | 3.65 | 1.38 | 3.30 | 1.45 | 3.94 | 1.17 | 4.858 | 2.778 | 0.065 |
| 8. | I understand and endorse the theoretical background and rationale for the use of RTI as an organizing structure for instruction, assessment and intervention | 4.53 | 1.03 | 4.65 | 1.14 | 4.55 | 1.10 | 0.177 | 0.152 | 0.859 |
| 9. | I have a substantial understanding of the critical elements of the developmental continuum in *reading* skill acquisition | 3.84 | 1.41 | 3.70 | 1.54 | 4.22 | 1.23 | 3.896 | 2.05 | 0.132 |
| 10. | I can competently implement the use of the core *reading* curriculum as it is designed to be taught | 4.48 | 1.25 | 4.41 | 1.19 | 4.66 | 1.06 | 0.891 | 0.653 | 0.552 |

| Item Number | Survey Item | General Education ($n$ = 75) | | Special Education ($n$ = 37) | | Dual Certification ($n$ = 64) | | Mean Square | F | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | | | |
| 11. | I am able to instruct students using effective teaching principles | 5.00 | 0.85 | 4.95 | 0.97 | 5.05 | 0.74 | 0.122 | 0.171 | 0.843 |
| 12. | I can effectively collaborate with my fellow teachers in planning class-wide/grade-wide instruction | 5.28 | 0.65 | 5.24 | 0.60 | 5.27 | 1.04 | 0.017 | 0.026 | 0.974 |
| 13. | I am able to examine universal screening data to identify students that are at-risk for academic difficulties | 4.25 | 1.41 | 4.11 | 1.49 | 4.55 | 1.05 | 2.636 | 1.543 | 0.217 |
| 14. | Based on universal screening data, I am able to identify trends in skill deficiencies | 4.04 | 1.33 | 3.78 | 1.69 | 4.33 | 1.10 | 3.643 | 2.038 | 0.113 |
| 15. | Based on universal screening data, I am able to sort students into homogenous skill-based groups | 4.30 | 1.46 | 4.30 | 1.24 | 4.64 | 0.90 | 2.315 | 1.514 | 0.223 |
| 16. | I can effectively collaborate with my fellow teachers to design and implement group interventions for at risk students | 4.90 | 0.87 | 4.92 | 1.04 | 4.88 | 0.72 | 0.025 | 0.034 | 0.966 |

| Item Number | Survey Item | General Education ($n$ = 75) | | Special Education ($n$ = 37) | | Dual Certification ($n$ = 64) | | Mean Square | F | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | | | |
| 17. | I am able to *identify* scientifically-valid interventions to remediate key skill deficits | 3.87 | 1.44 | 4.22 | 1.27 | 4.03 | 1.31 | 1.563 | 0.848 | 0.430 |
| 18. | I am able to competently *deliver* scientifically-valid interventions to small groups of students that have been identified as needing additional support in developing key academic skills | 4.37 | 1.33 | 4.35 | 1.27 | 4.64 | 0.97 | 1.541 | 1.072 | 0.345 |
| 19. | I am able to conduct self-evaluations of intervention implementation integrity | 4.21 | 1.33 | 4.46 | 1.41 | 3.94 | 1.69 | 3.348 | 1.518 | 0.222 |
| 20. | I am able to identify and administer appropriate progress monitoring tools | 4.51 | 0.86 | 4.62 | 0.83 | 4.73 | 0.70 | 0.897 | 1.411 | 0.247 |
| 21. | I am able to graph the data in order to conduct a visual analysis of the effectiveness of the intervention | 4.07 | 1.33 | 4.30 | 1.10 | 4.47 | 1.08 | 2.822 | 1.966 | 0.143 |
| 22. | I am able to interpret progress monitoring data by *level of skill development* in order to inform educational decisions | 4.16 | 1.26 | 4.16 | 1.26 | 4.30 | 1.28 | 0.378 | 0.235 | 0.791 |

| Item Number | Survey Item | General Education ($n$ = 75) | | Special Education ($n$ = 37) | | Dual Certification ($n$ = 64) | | Mean Square | F | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | | | |
| 23. | I am able to interpret progress monitoring data by *rate of improvement* in order to inform educational decisions | 4.01 | 1.31 | 4.24 | 1.19 | 4.27 | 1.17 | 1.288 | 0.843 | 0.432 |
| 24. | I am able to work effectively with the school's *problem-solving team* in order to plan, implement, and evaluate evidence-based interventions for students | 4.39 | 1.31 | 4.41 | 1.26 | 4.45 | 1.25 | 0.078 | 0.048 | 0.953 |
| 25. | I am able to conduct appropriate diagnostic assessments for *reading* in order to identify the instructional needs of an individual student | 4.50 | 1.02 | 4.73 | 0.77 | 4.77 | 0.66 | 1.460 | 2.012 | 0.137 |
| 26. | I can effectively collaborate with intervention specialists to design and implement individual interventions for *seriously at-risk learners* | 4.63 | 0.87 | 4.73 | 1.62 | 4.86 | 0.89 | 0.935 | 1.135 | 0.324 |
| 27. | I am able to competently deliver *intensive* scientifically-valid interventions to *seriously at risk learners* | 3.84 | 1.36 | 3.98 | 1.19 | 4.08 | 0.97 | 0.987 | 0.695 | 0.500 |

| Item Number | Survey Item | General Education ($n$ = 75) | | Special Education ($n$ = 37) | | Dual Certification ($n$ = 64) | | Mean Square | F | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | | | |
| 28. | My training program placed a significant emphasis on the RTI model of service delivery. | 3.61 | 1.35 | 3.89 | 1.17 | 4.19 | 1.25 | 5.695 | 6.630 | 0.002** |
| 29. | *Prior to graduation*, I believe that it is very important for teacher to engage in professional development training on RTI concepts | 5.20 | 0.70 | 5.30 | 0.70 | 5.14 | 0.94 | 0.319 | 0.504 | 0.605 |
| 30. | *After graduation*, I believe that it is very important for teacher to engage in professional development training on RTI concepts | 5.21 | 0.64 | 5.41 | 0.72 | 5.48 | 0.97 | 1.533 | 2.448 | 0.089 |
| 31. | In which year of training did you first become aware of the Response to Intervention (RTI) model of service delivery? | 3.93 | 1.33 | 3.19 | 0.94 | 3.45 | 0.85 | 7.979 | 3.480 | 0.033* |
| 32. | Approximately how many *general education* courses have you taken which *specifically target* RTI skills and competencies | 2.13 | 0.72 | 2.38 | 0.92 | 2.41 | 0.85 | 1.494 | 2.252 | 0.108 |

| Item Number | Survey Item | General Education ($n$ = 75) | | Special Education ($n$ = 37) | | Dual Certification ($n$ = 64) | | Mean Square | F | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | | | |
| 33. | Approximately how many *special education* courses have you taken which *specifically target* RTI skills and competencies? | 1.83 | 0.76 | 2.60 | 0.69 | 2.64 | 0.57 | 13.698 | 29.474 | <0.001** |
| 34. | Approximately how many electives have you taken which *specifically target* RTI skills and competencies | 1.36 | 0.61 | 1.49 | 0.77 | 1.34 | 0.62 | 0.267 | 0.633 | 0.532 |
| 35. | How many workshops/in-service trainings have you attended which *specifically target* RTI skills and competencies | 1.45 | 0.64 | 1.43 | 0.65 | 1.67 | 0.78 | 1.040 | 2.148 | 0.120 |
| 36. | At this point in my career, I feel very prepared to teach utilizing an RTI model of service delivery. | 3.65 | 1.10 | 3.62 | 1.16 | 3.98 | 1.06 | 2.388 | 1.979 | 0.141 |

*$p < 0.05$. **$p < 0.001$.

Figure 1. Model of Response to Intervention

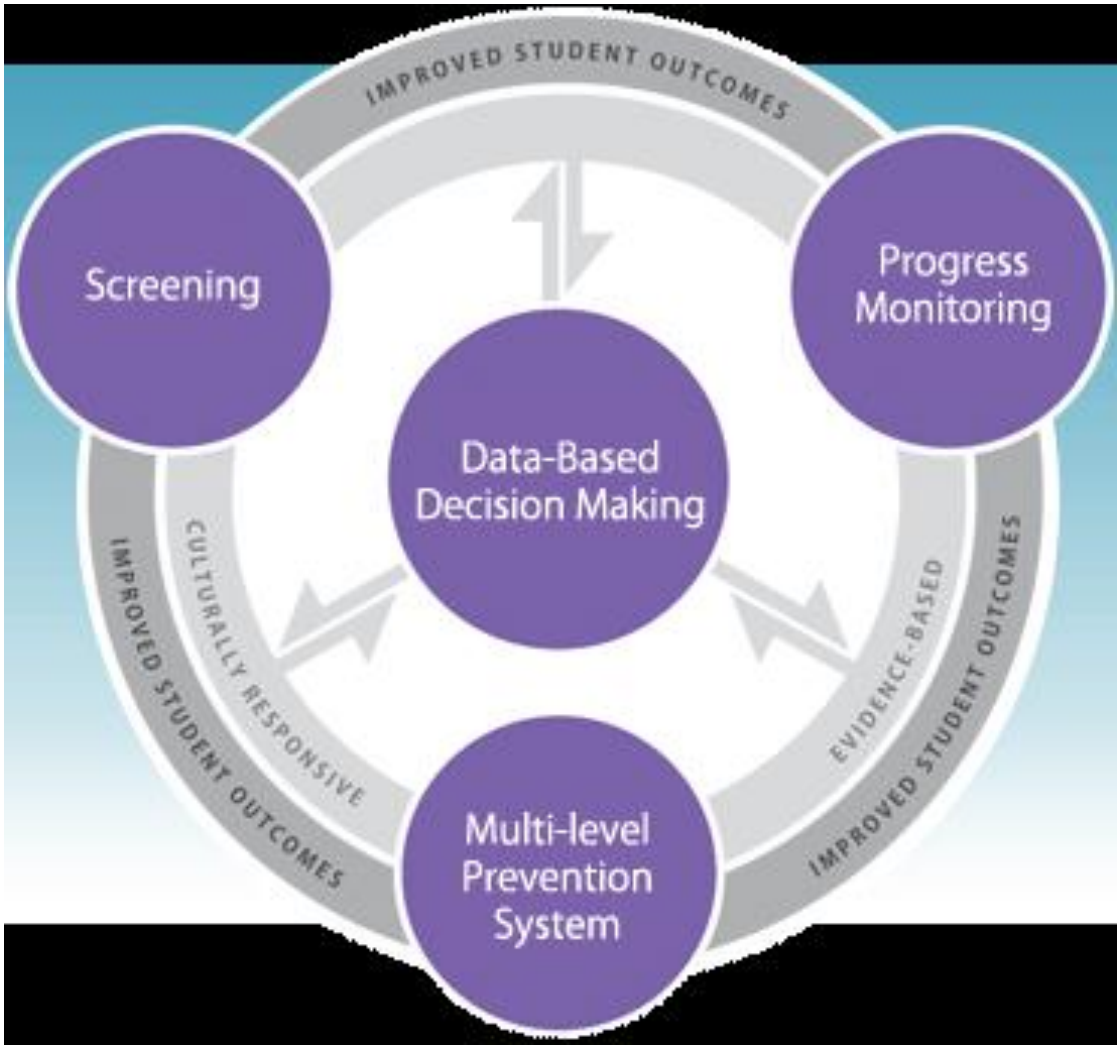



Figure 1: http://www.rti4success.org/

Figure 2. Conceptual Model of a Three Tier Model of Response to Intervention

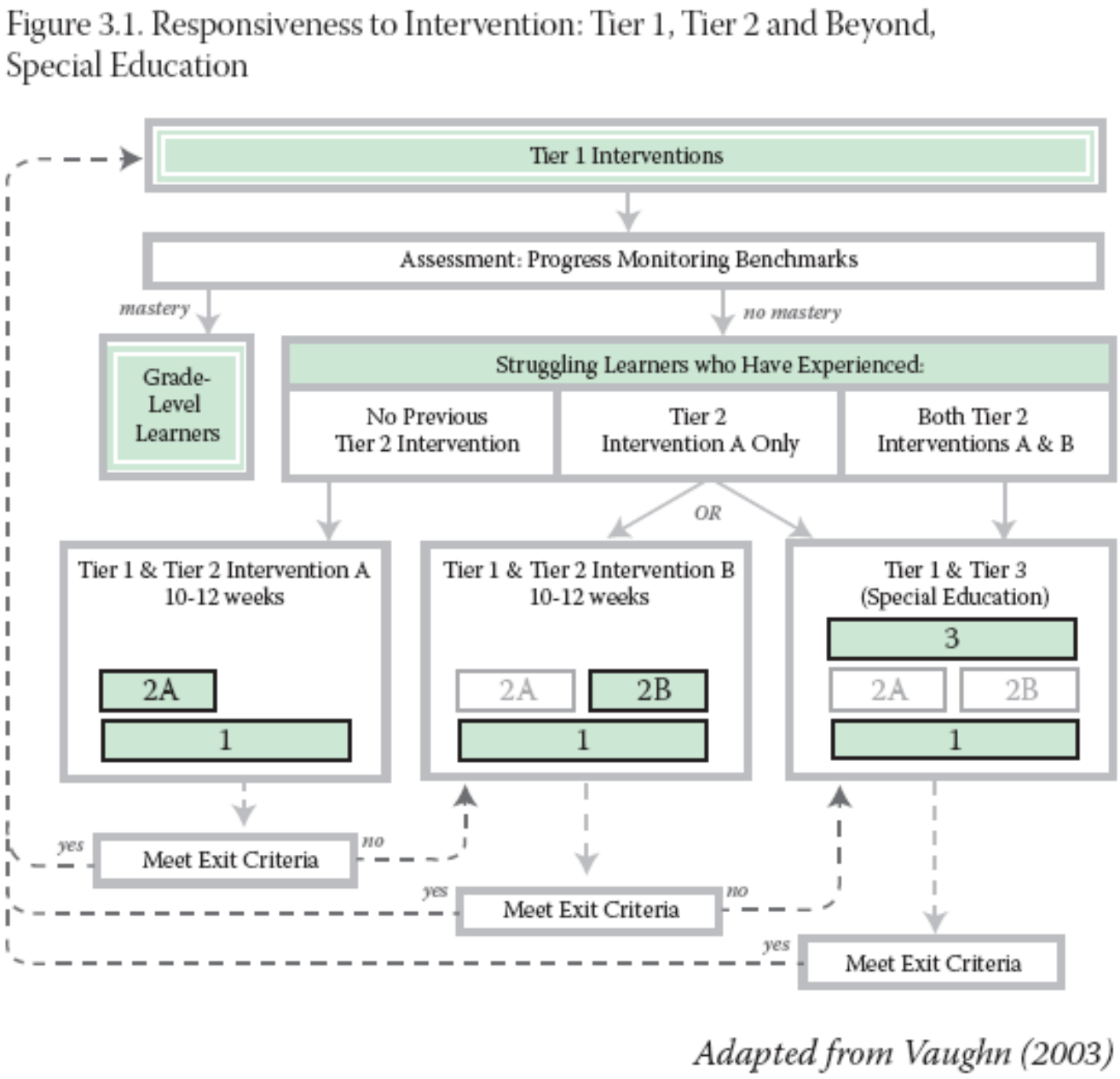



Figure 2: Johnson, E., Mellard, D.F., Fuchs, D., & McKnight, M.A. (2006). *Responsiveness to intervention (RTI): How to do it.* Lawrence, KS: National Research Center on Learning Disabilities, p. 3.1.

Figure 3. Survey Question 1 Data

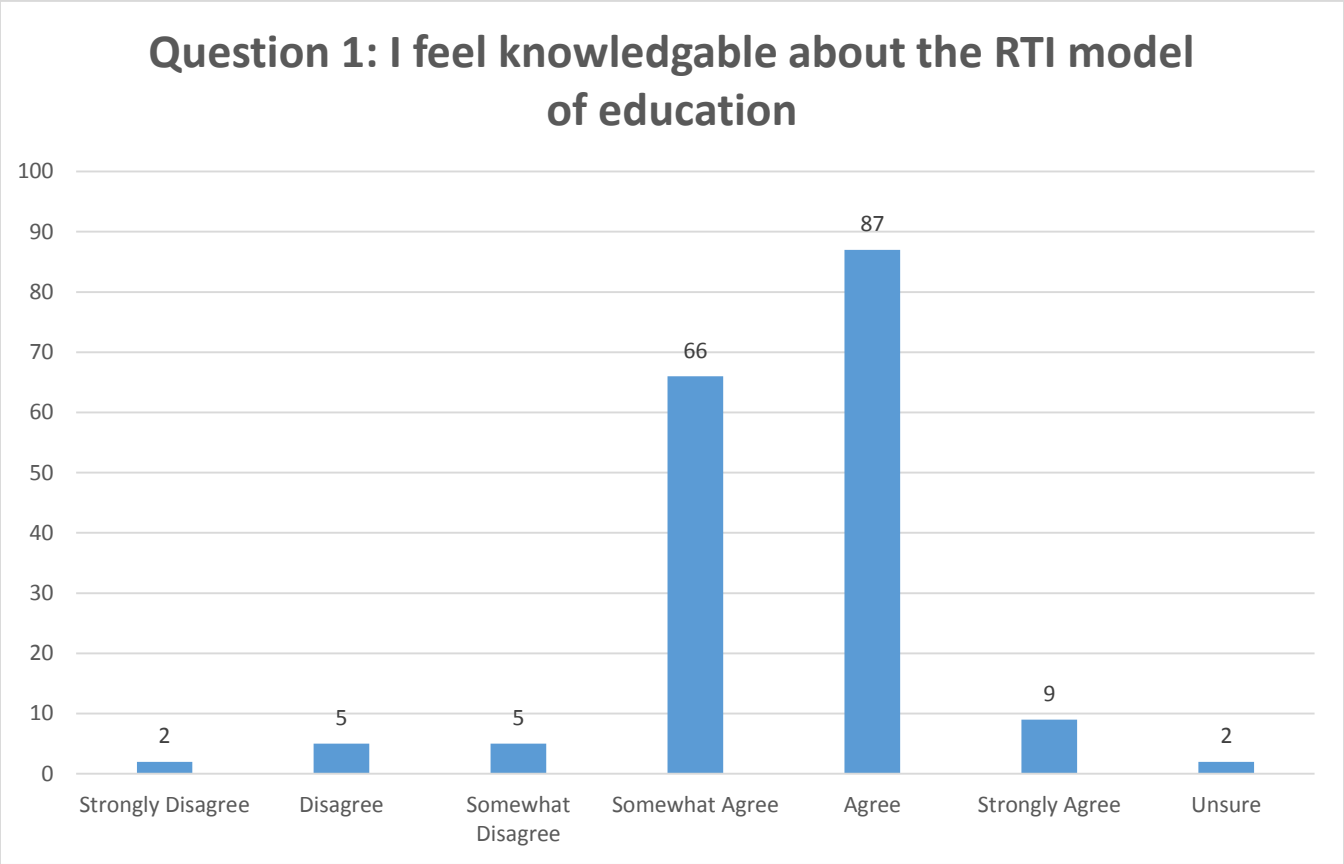
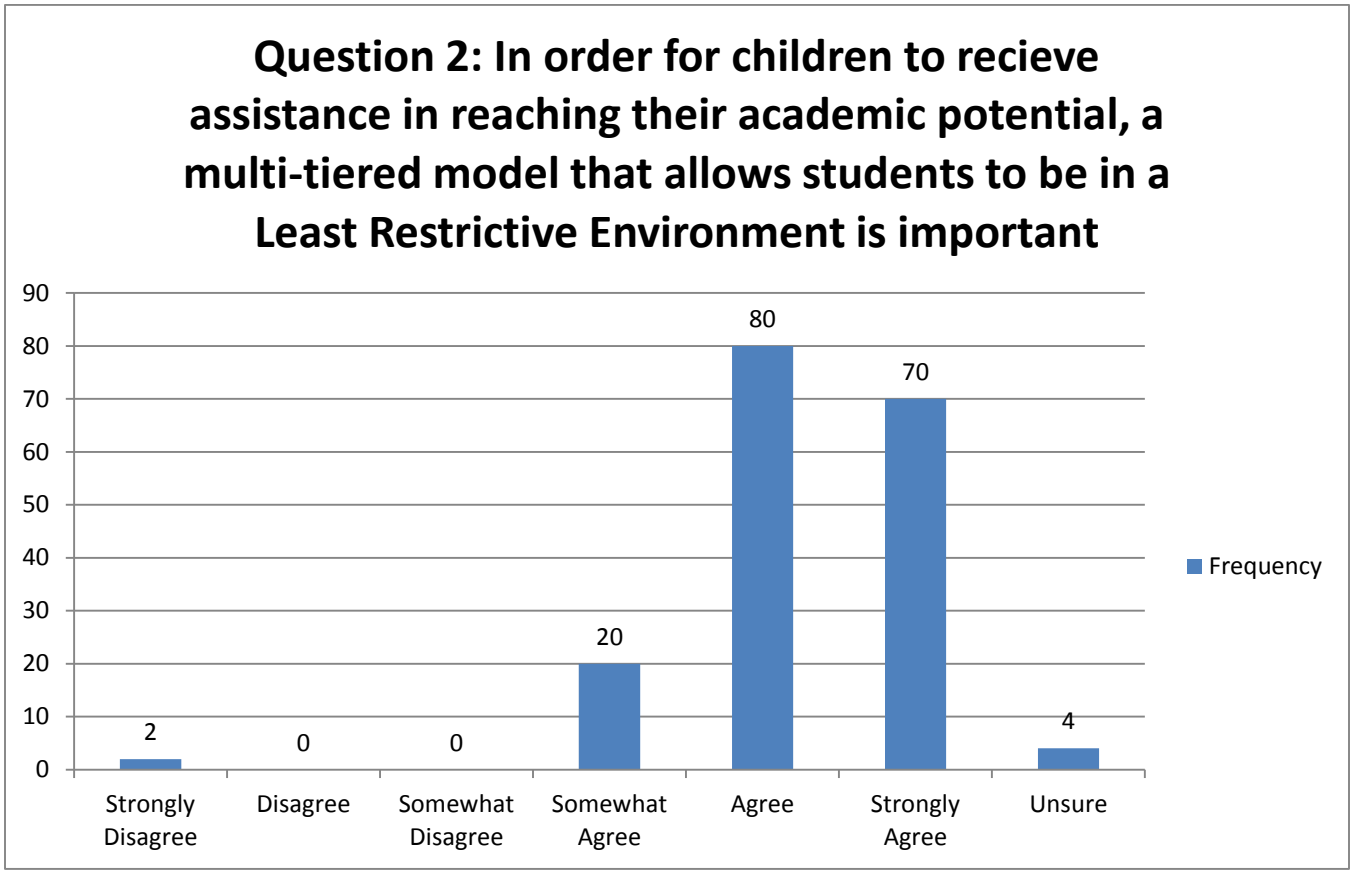


Figure 4. Survey Question 2 Data



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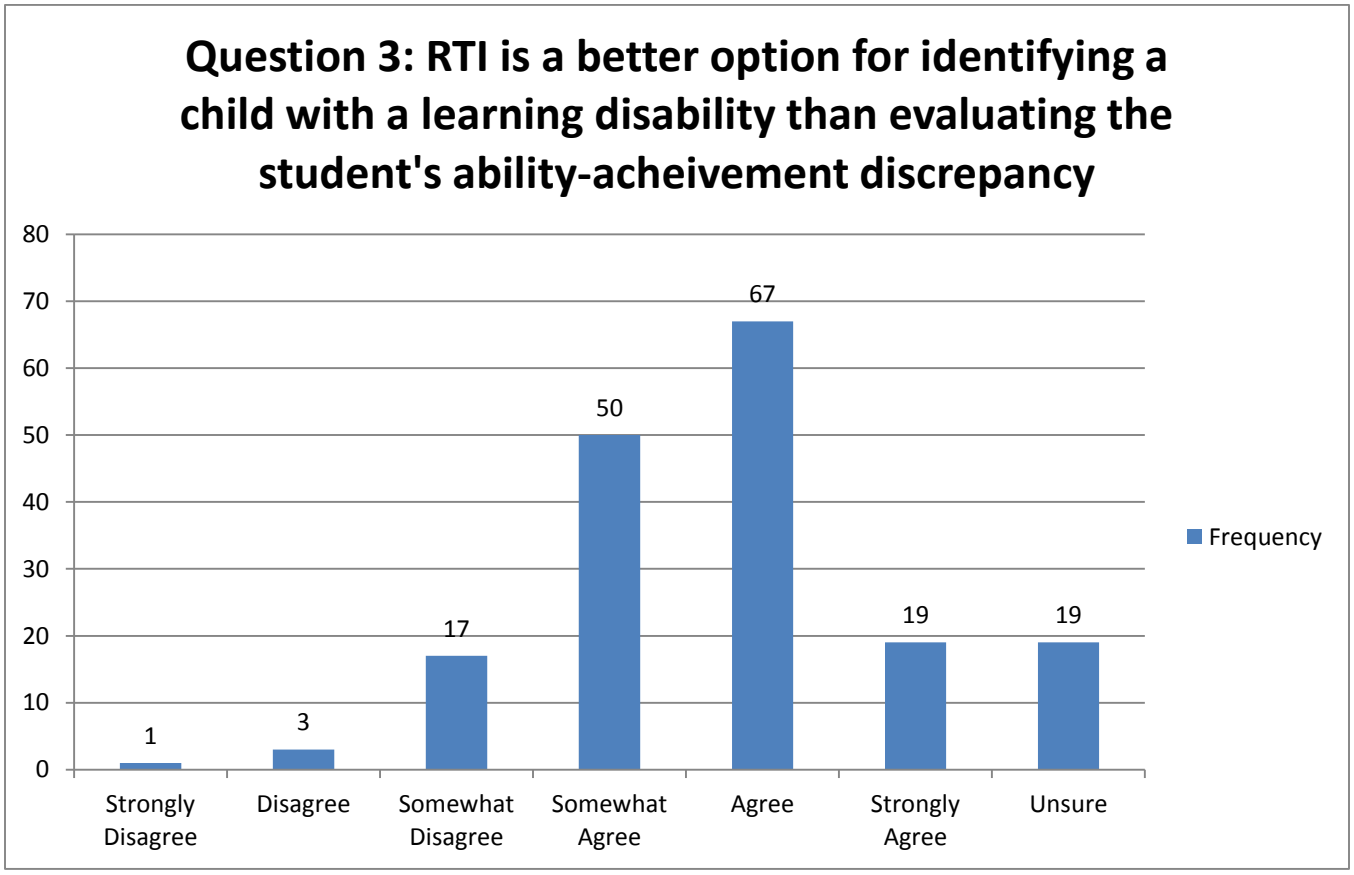

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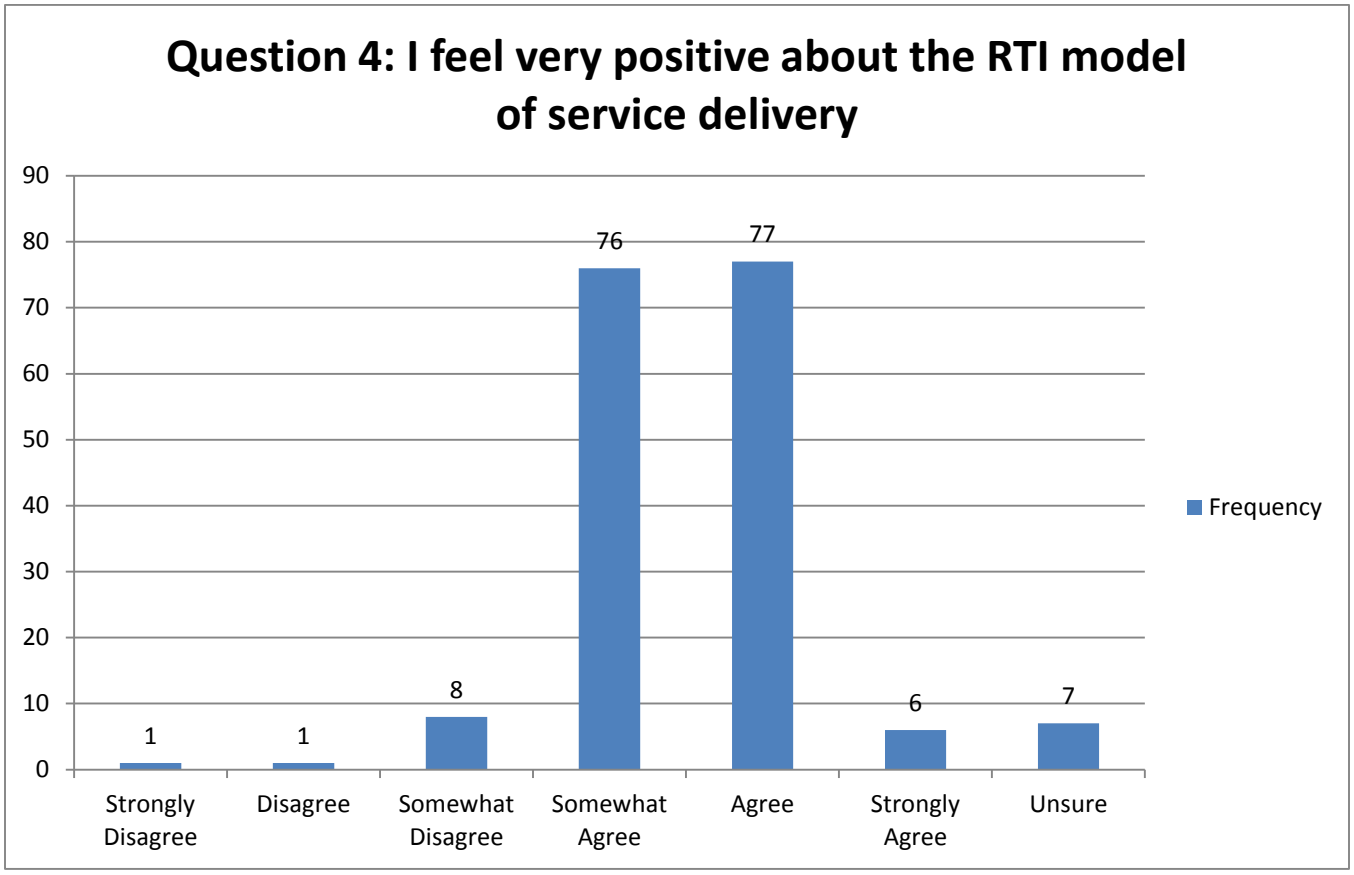

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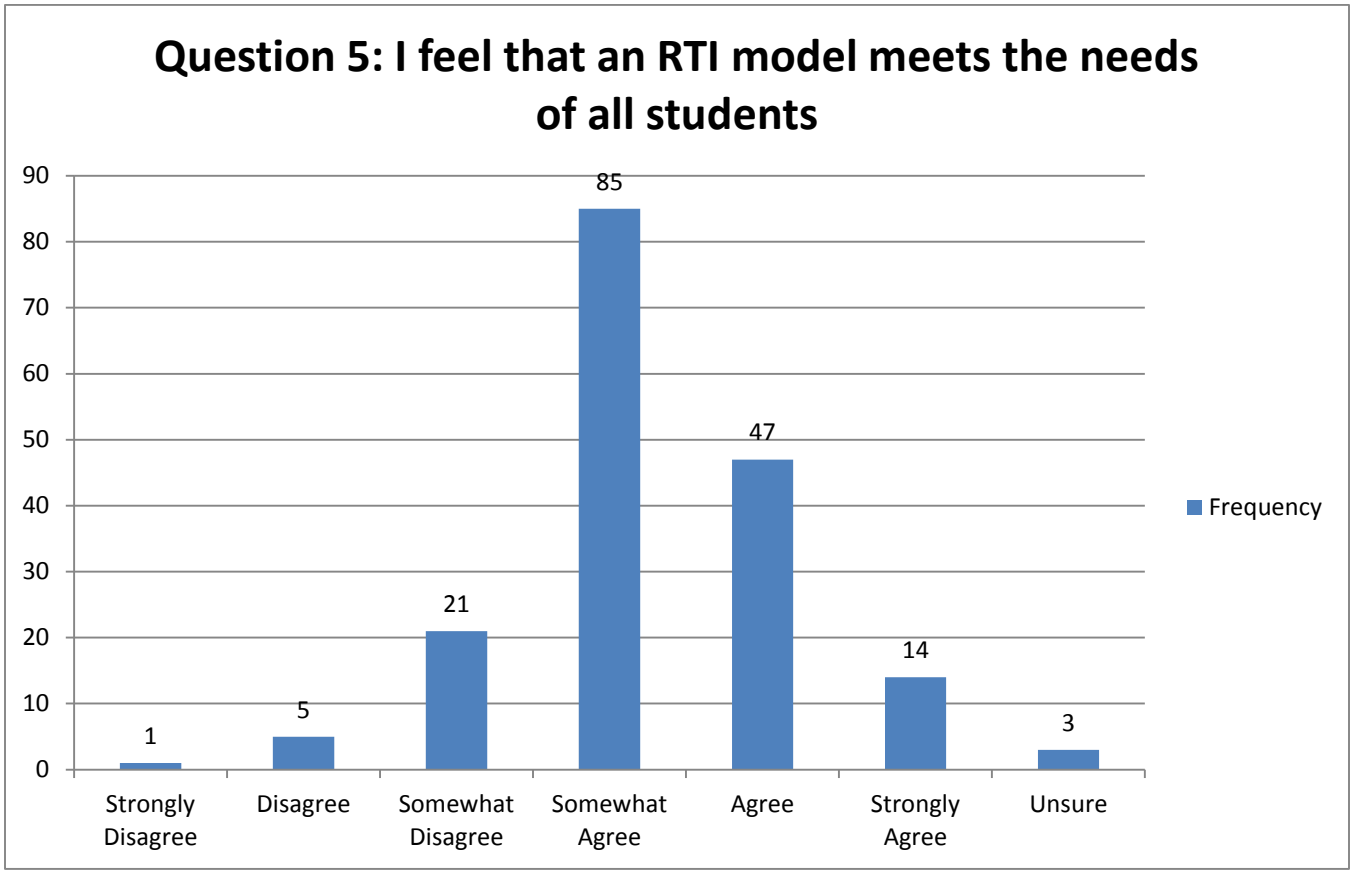

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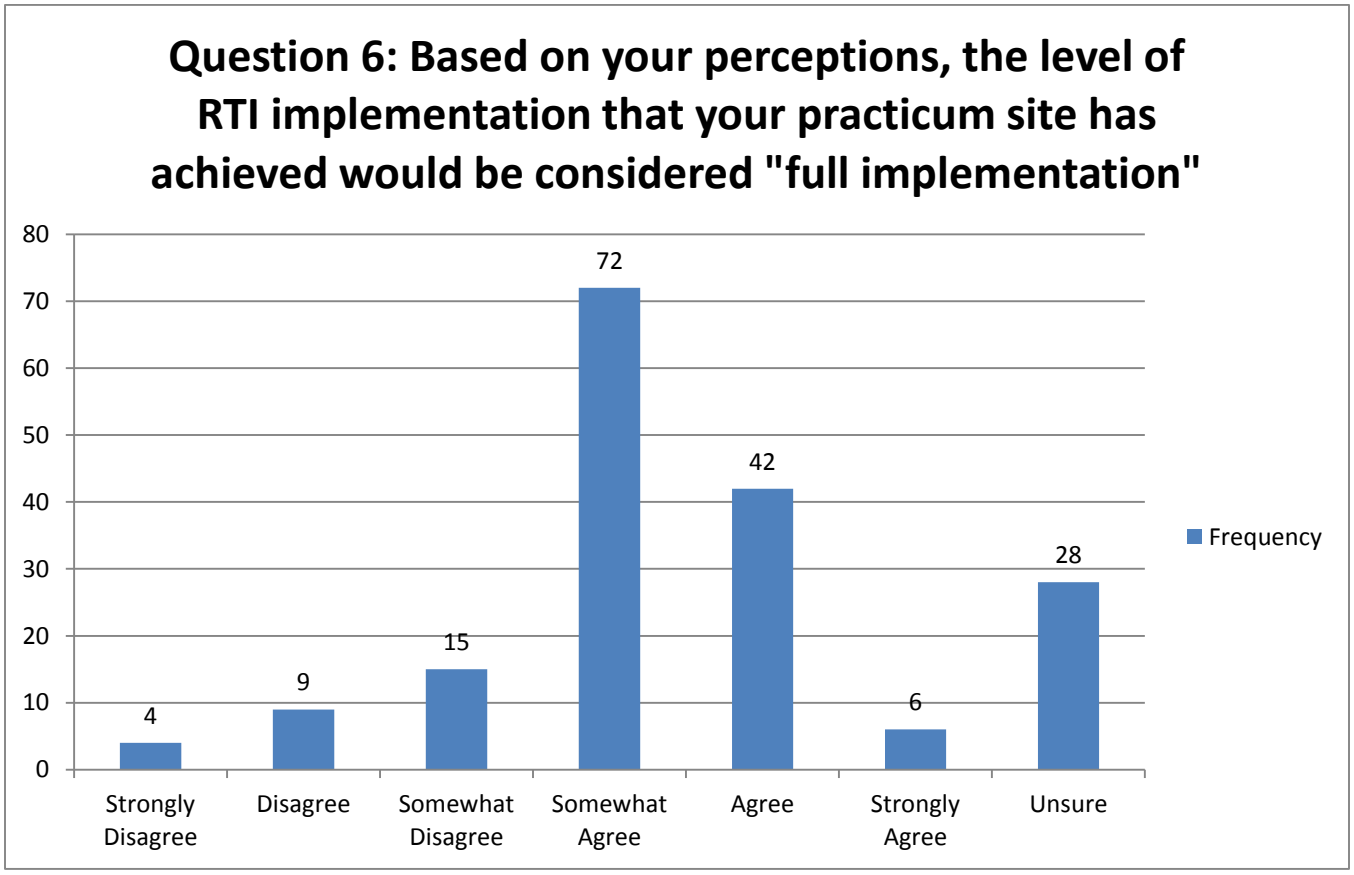

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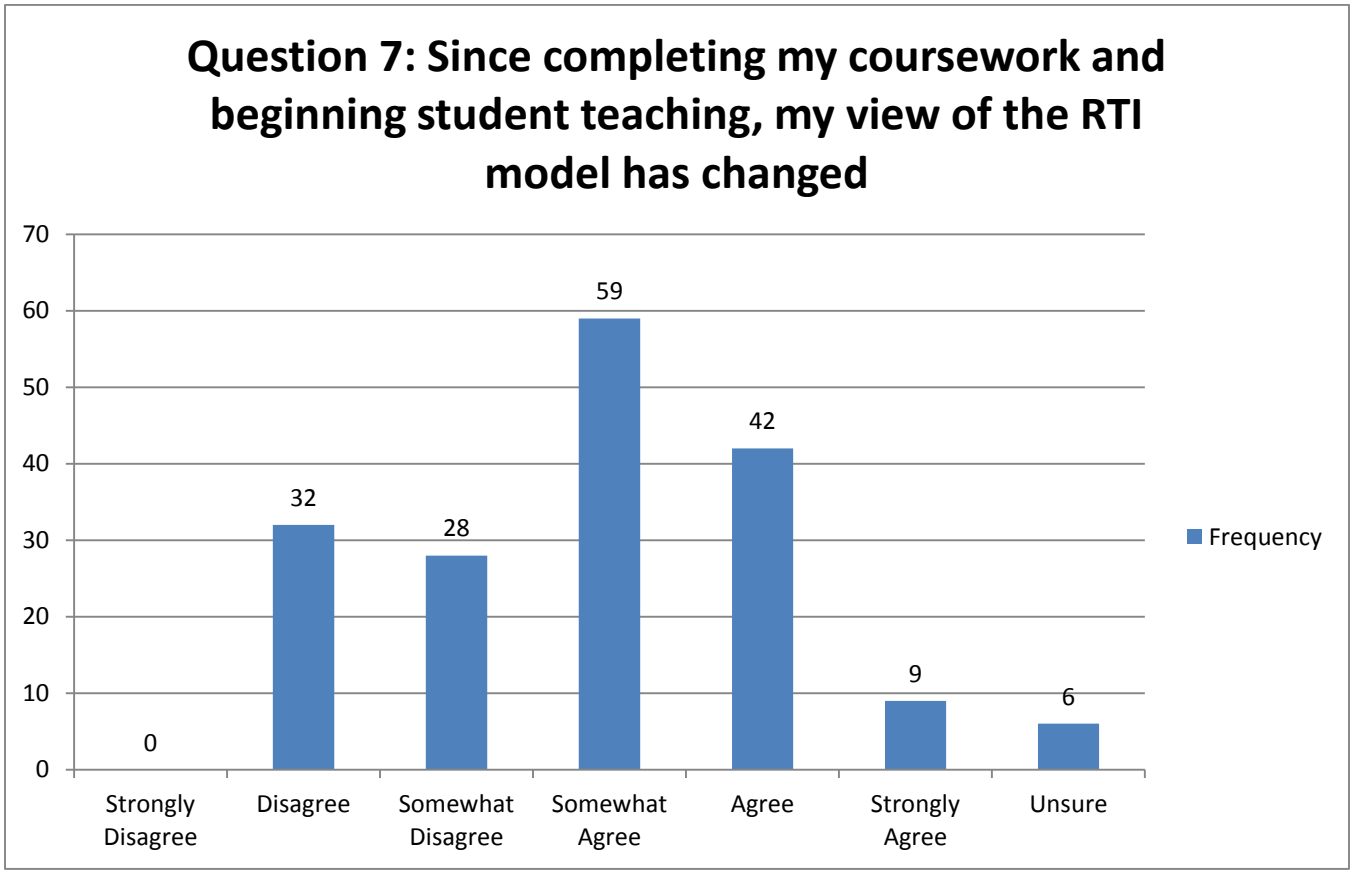

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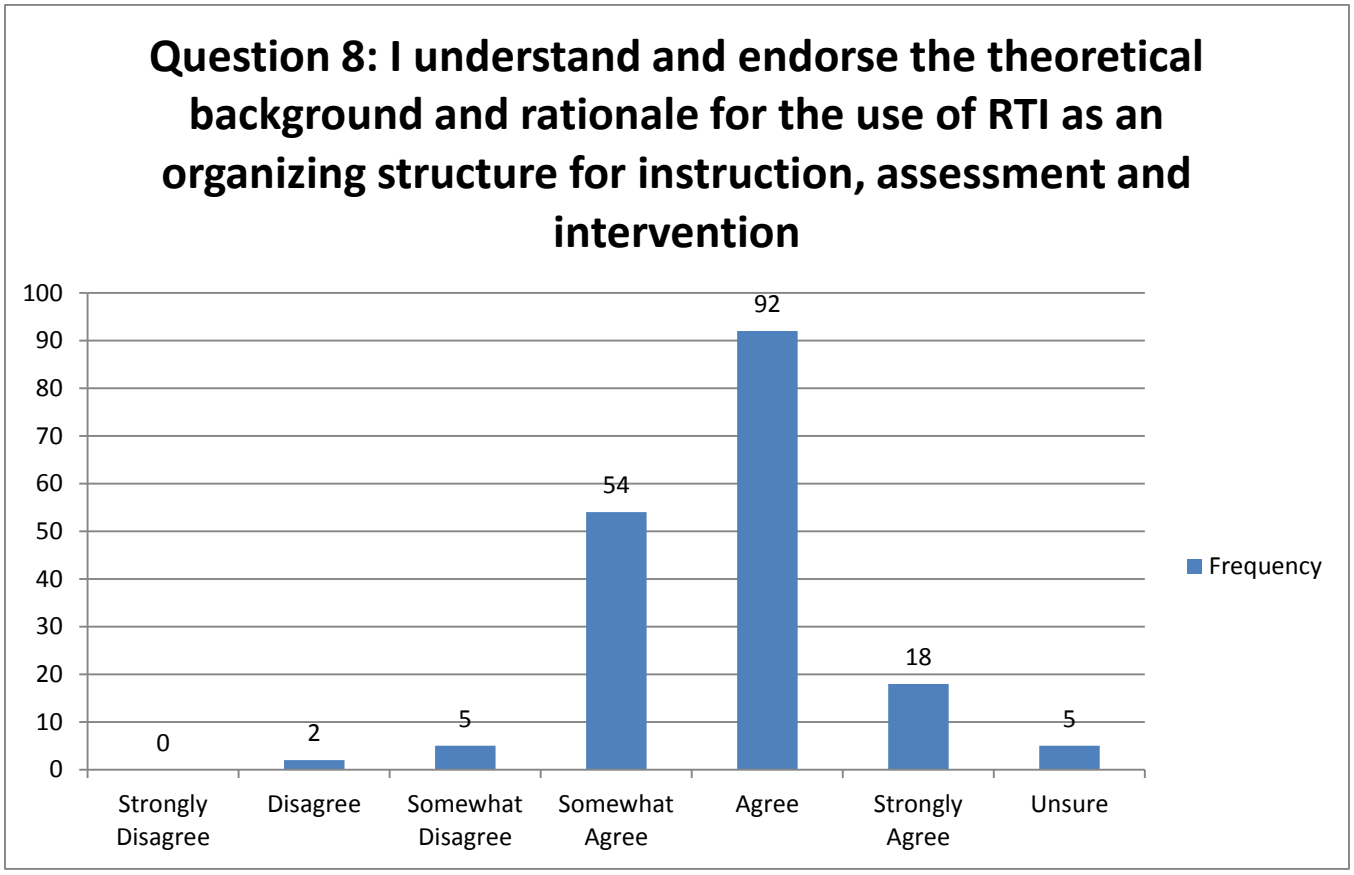


Figure 11. Survey Question 9 Data

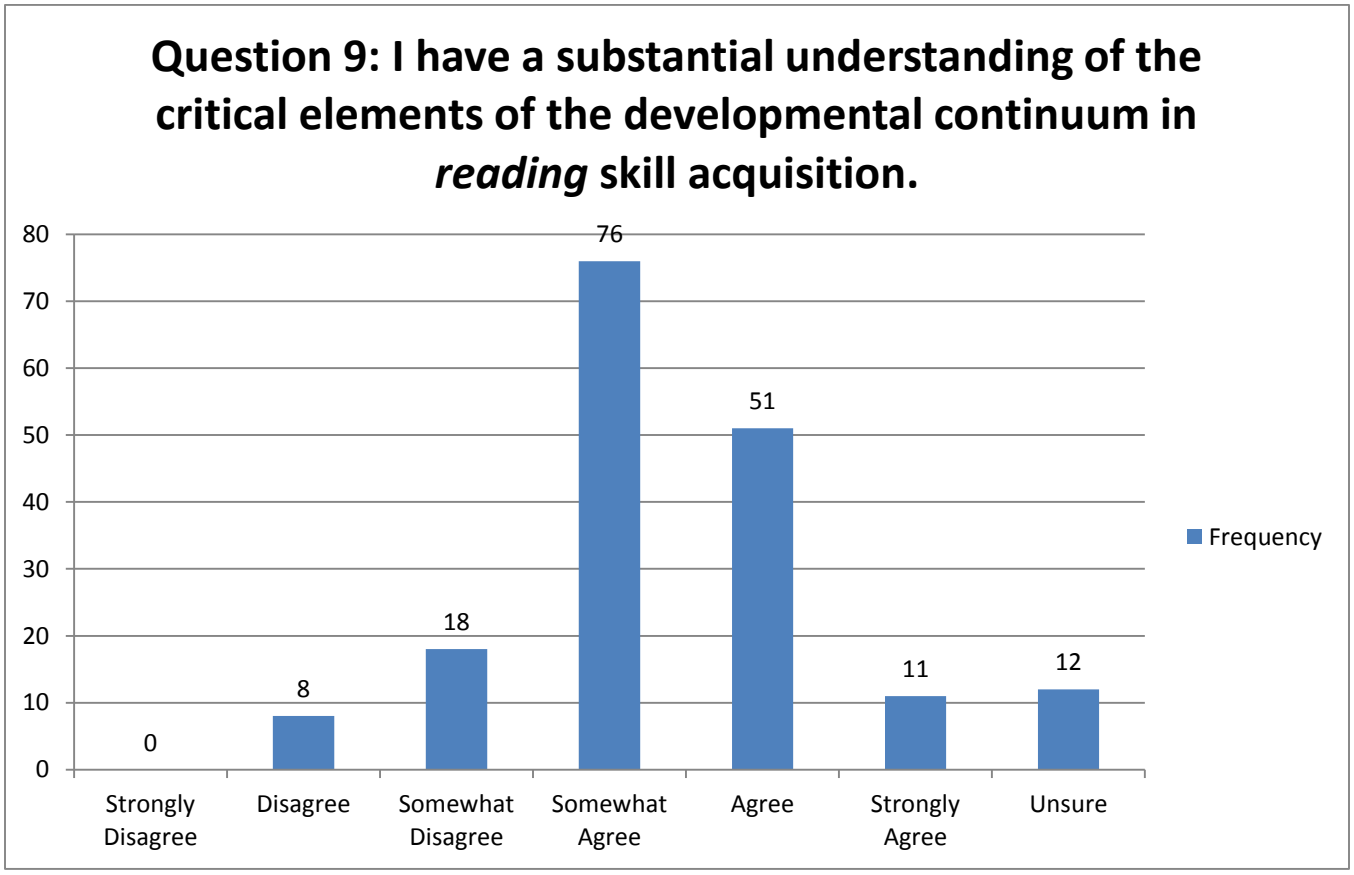


Figure 12. Survey Question 10 Data

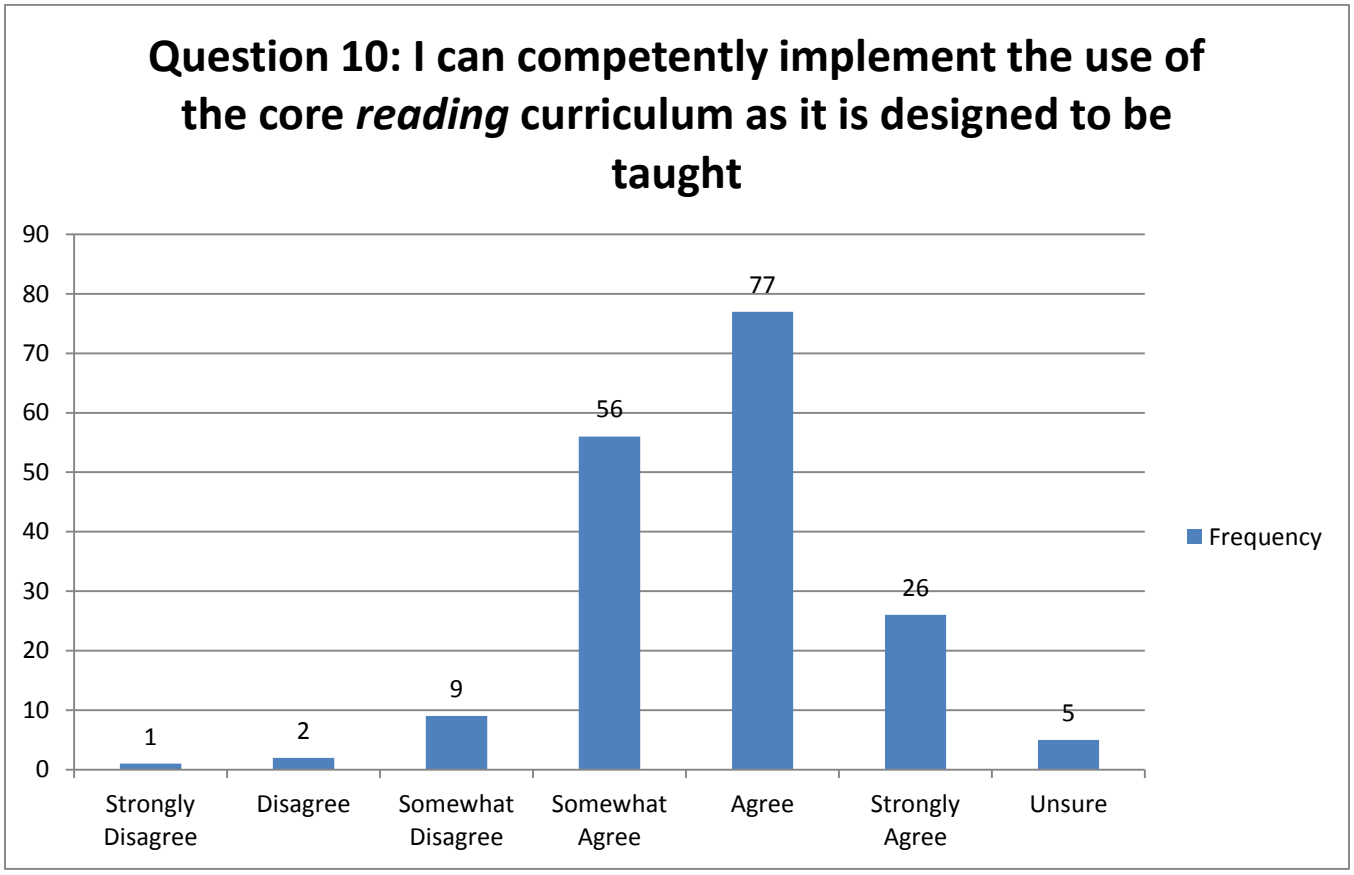


Figure 13. Survey Question 11 Data

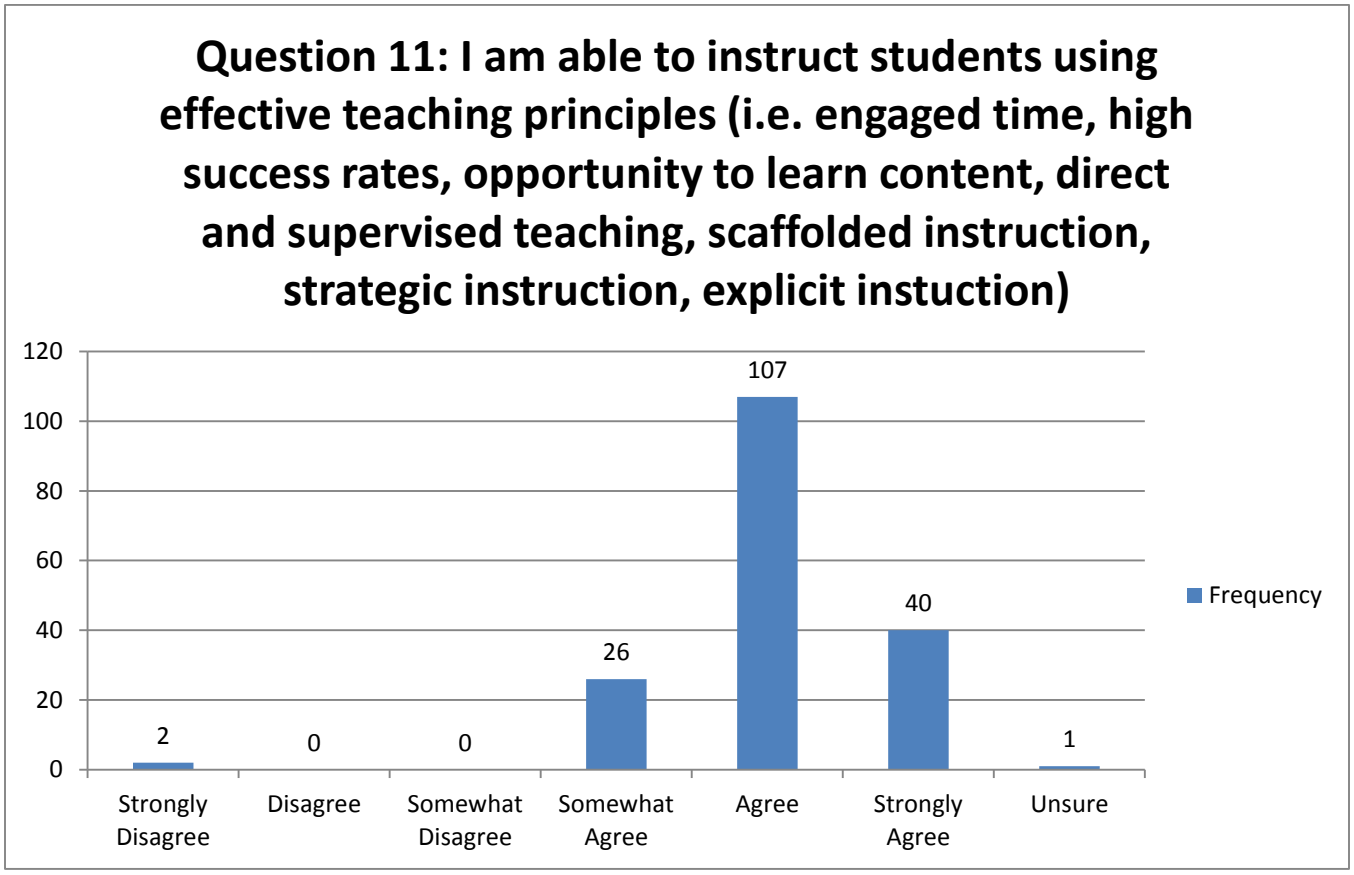


Figure 14. Survey Question 12 Data

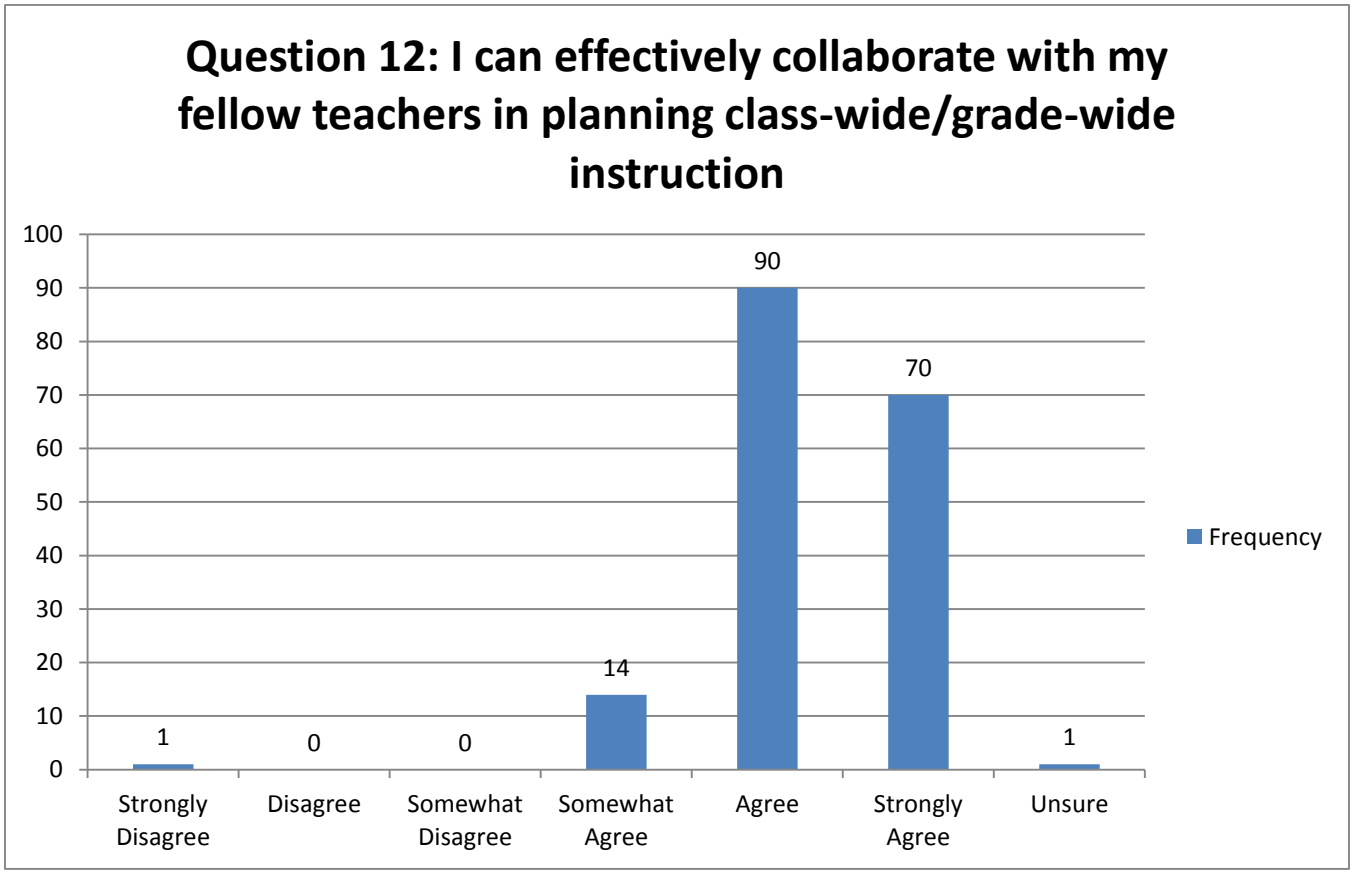


Figure 15. Survey Question 13 Data

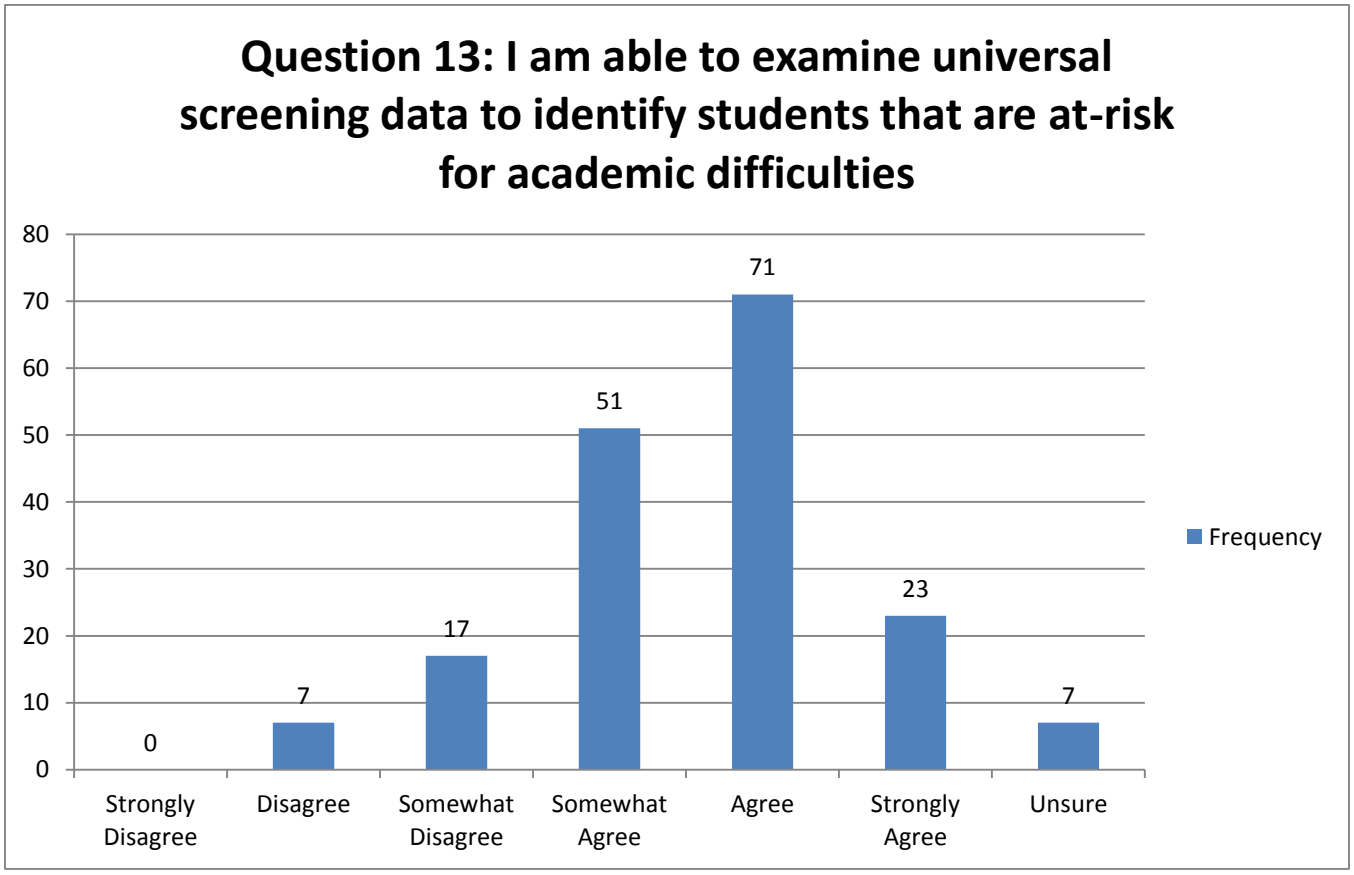
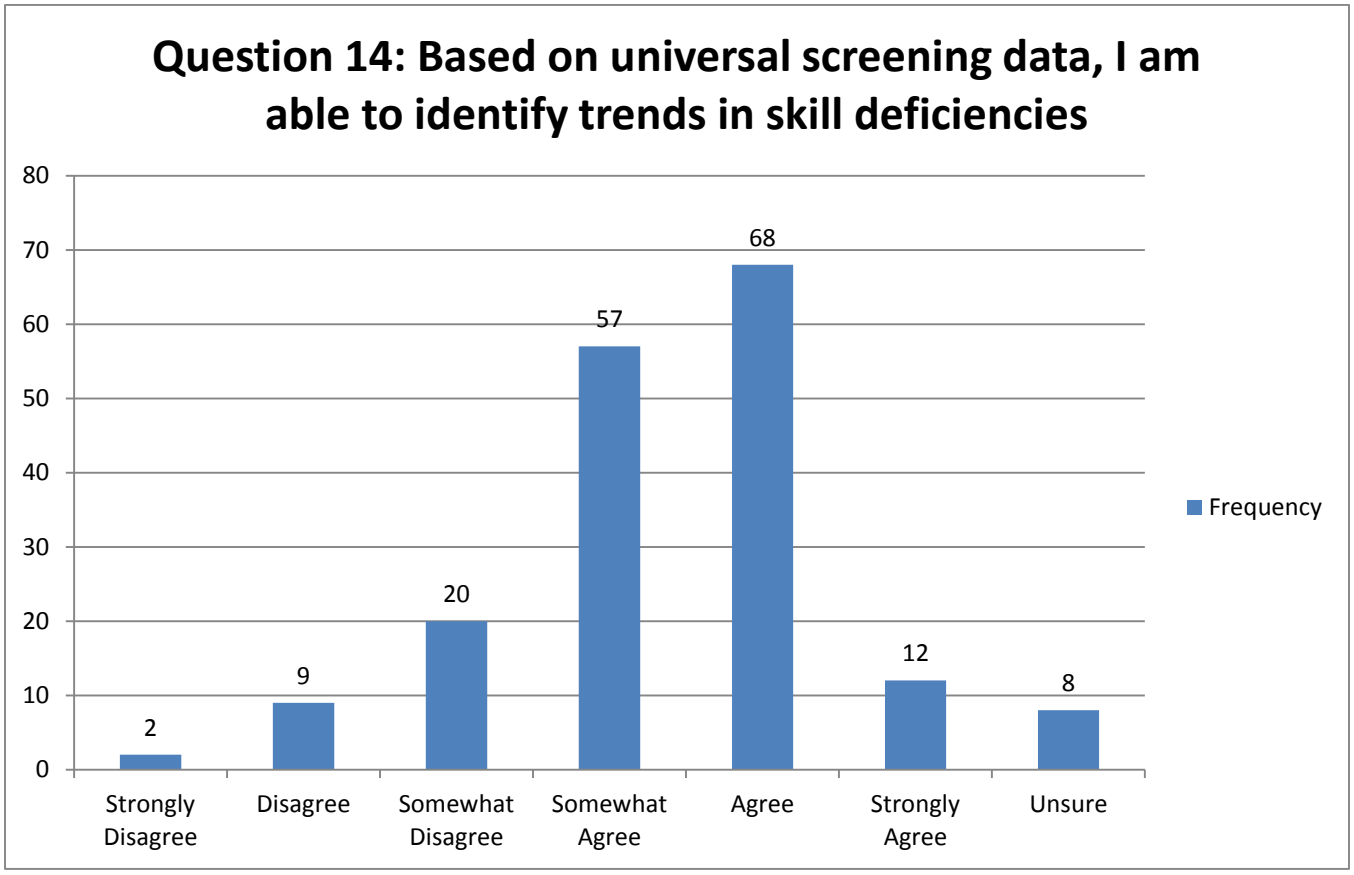


Figure 16. Survey Question 14 Data



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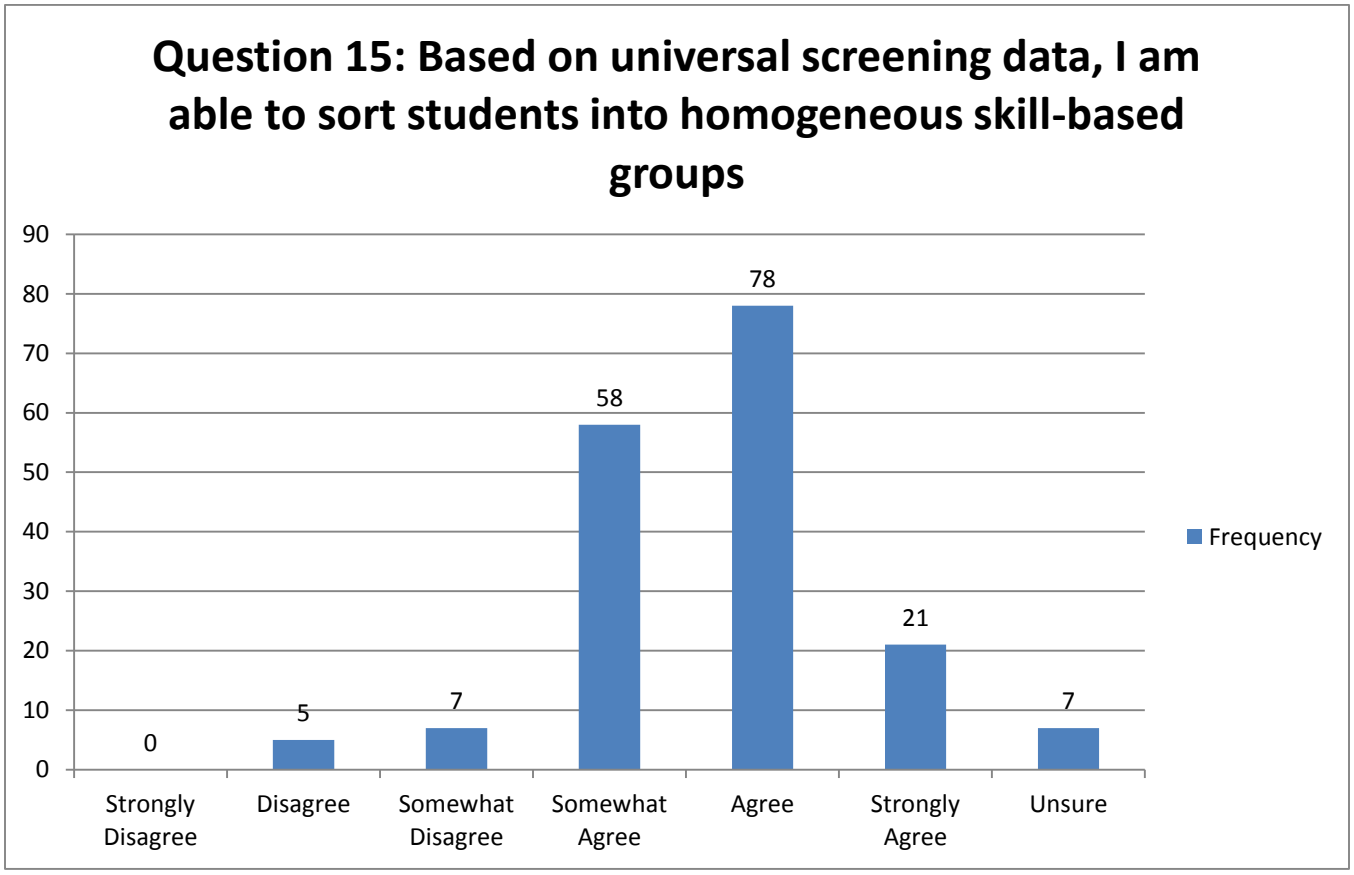

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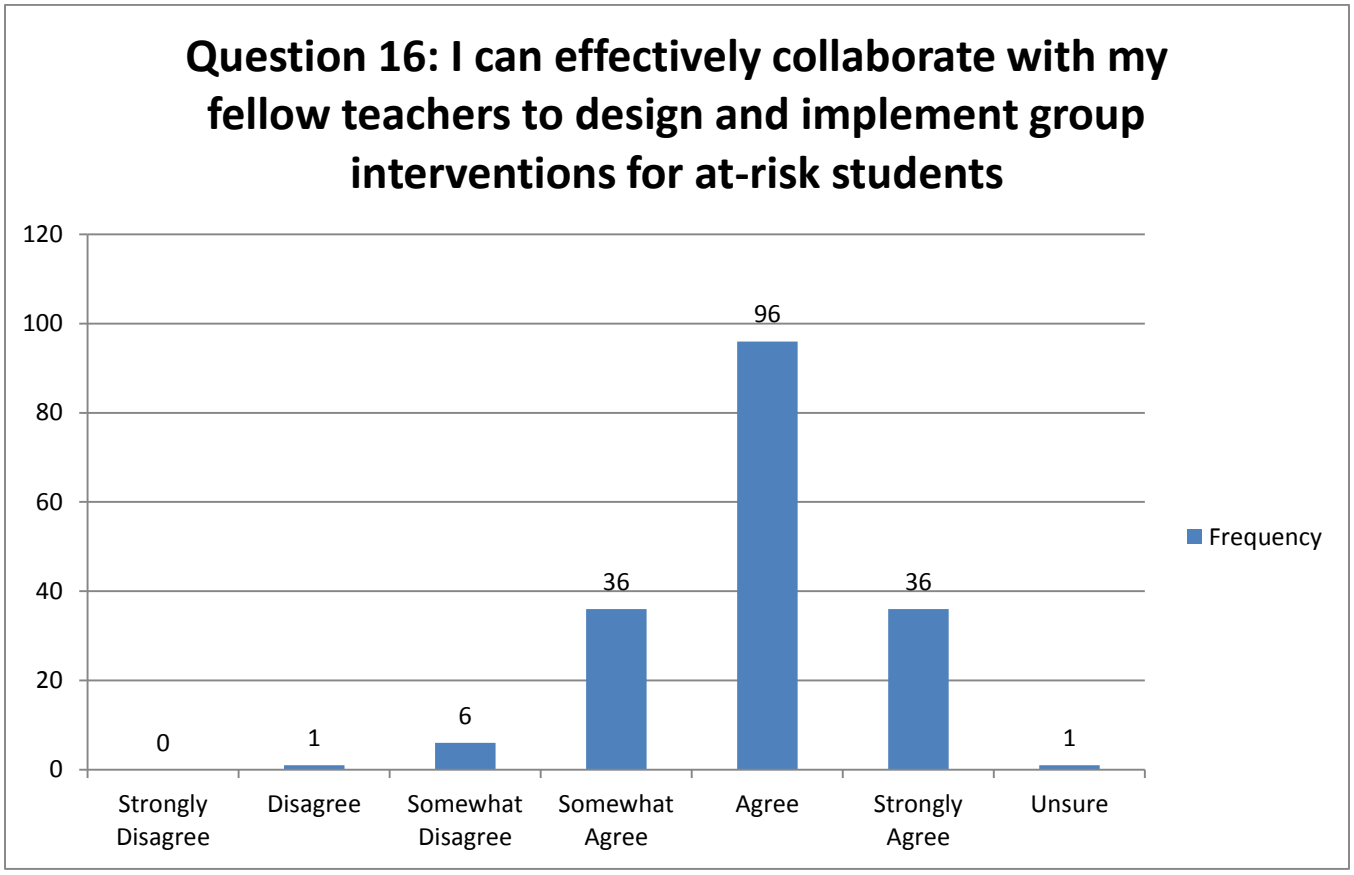

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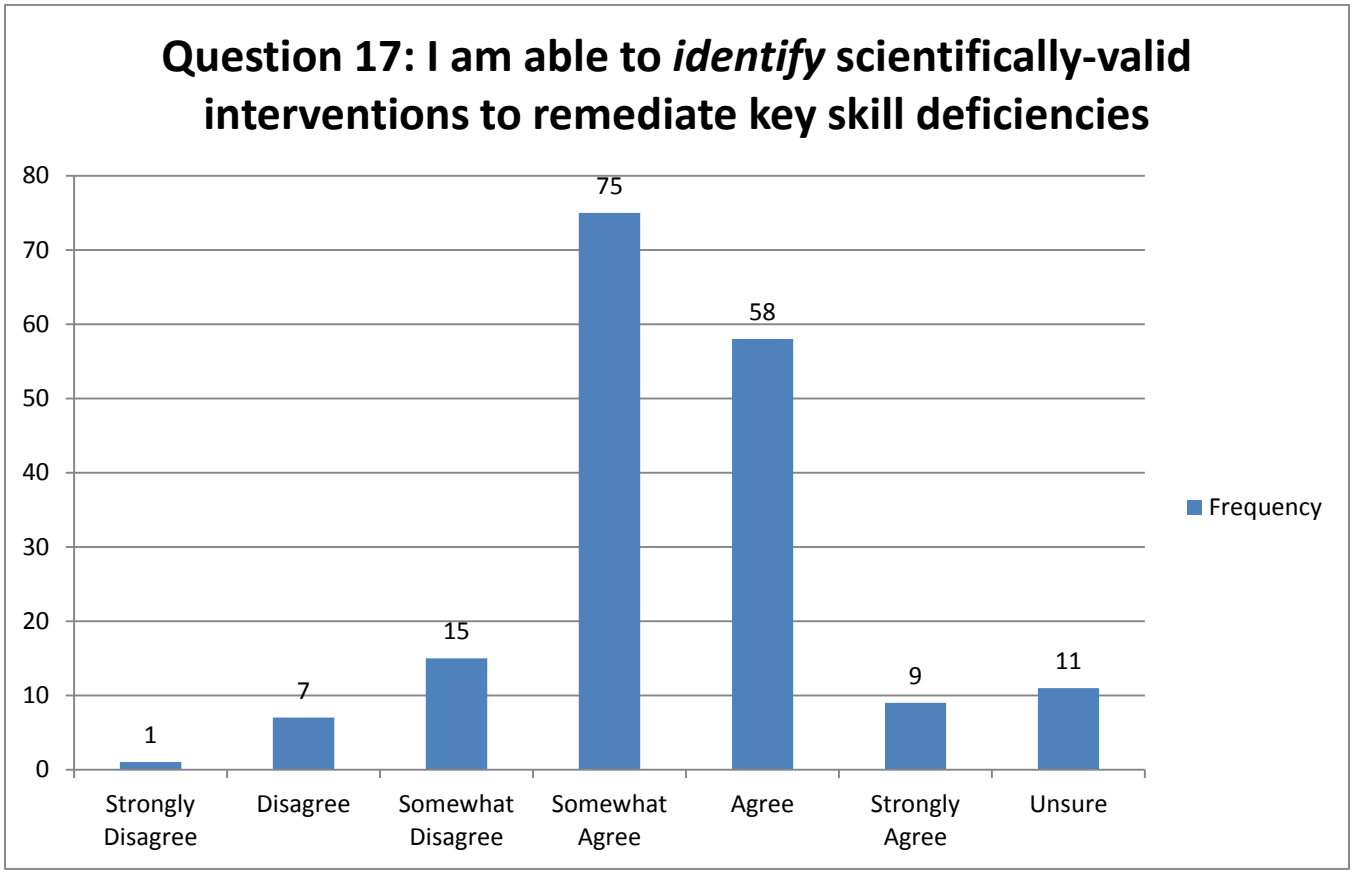

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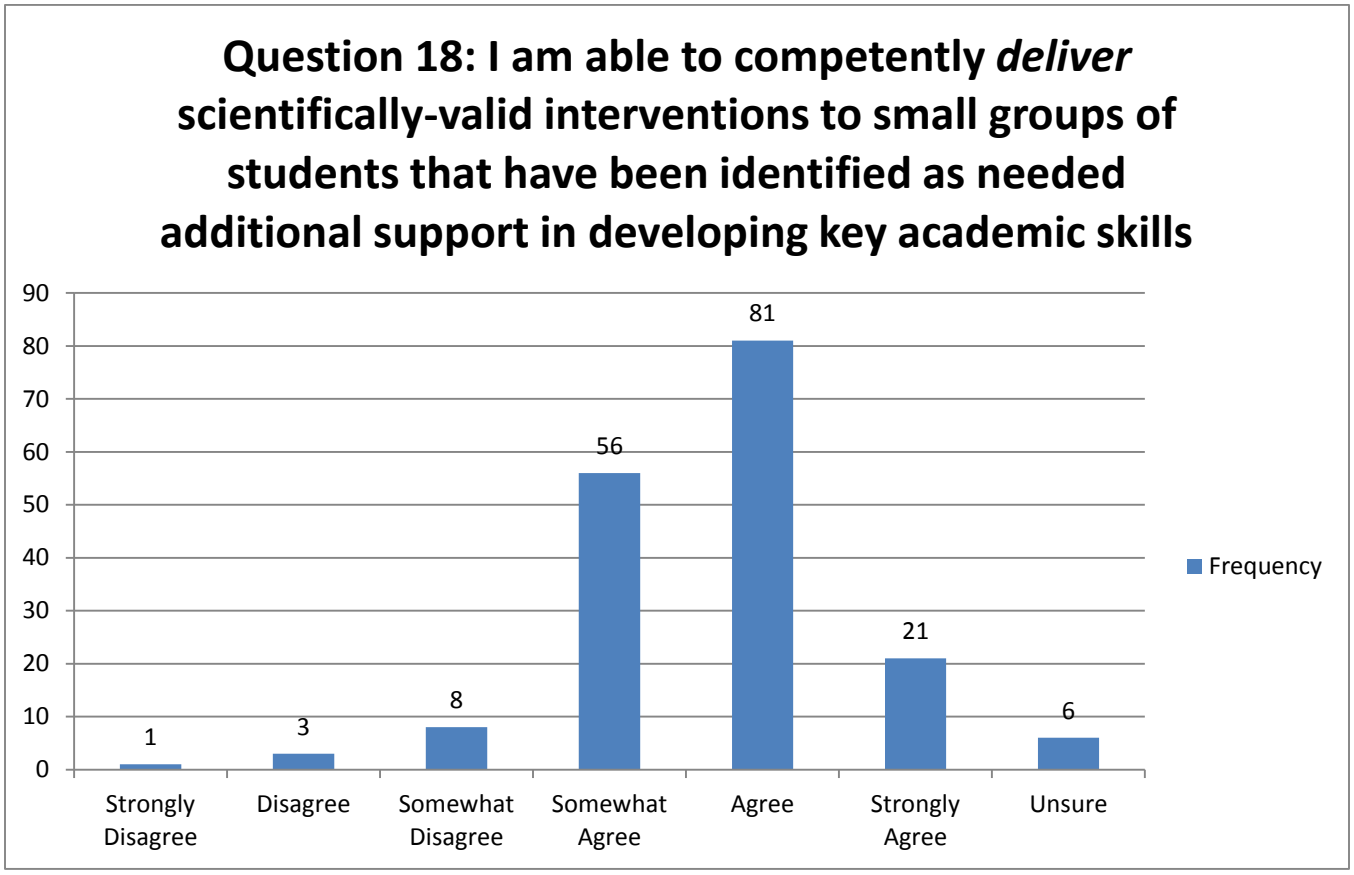


Figure 21. Survey Question 19 Data

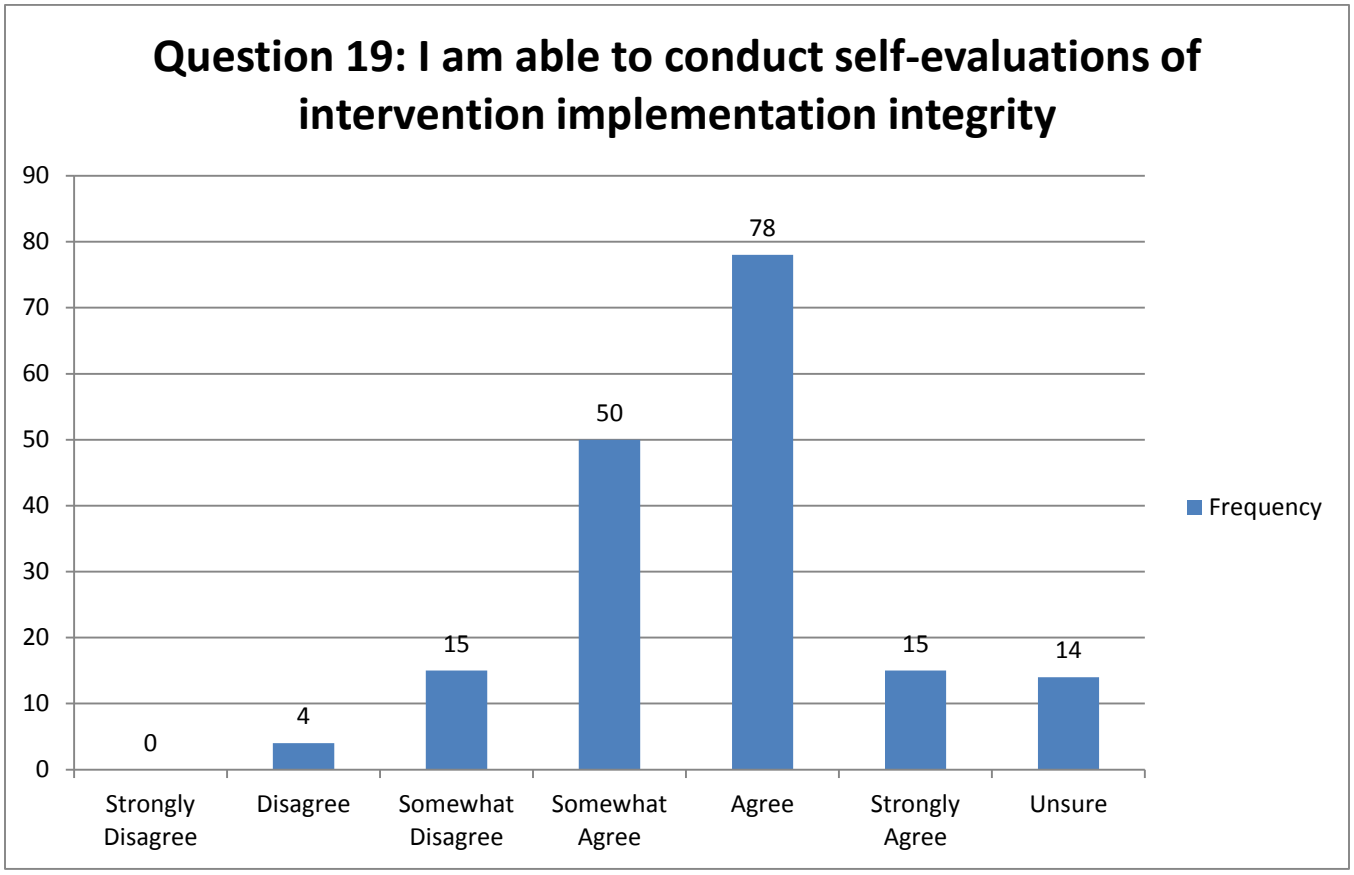


Figure 22. Survey Question 20 Data

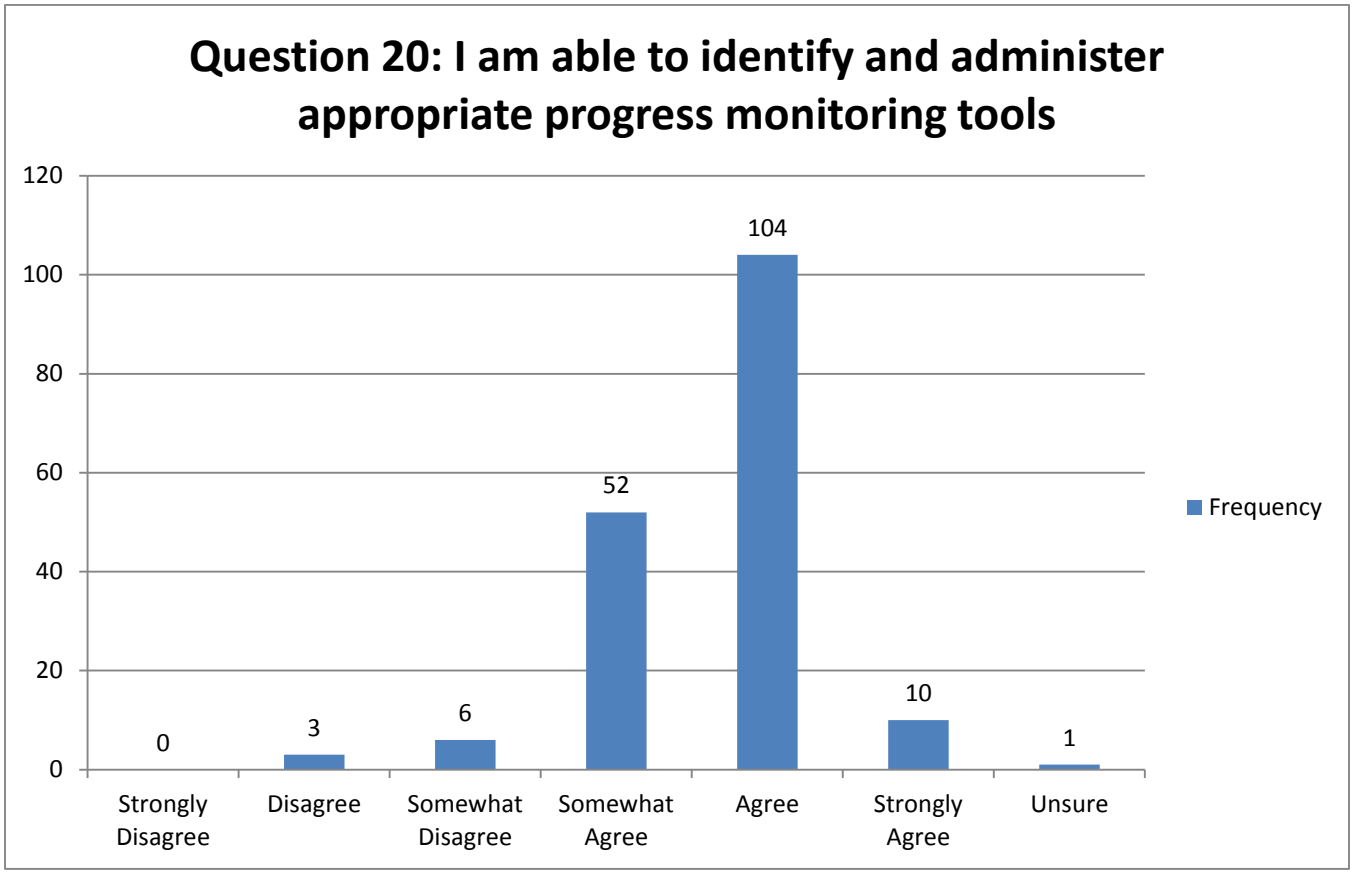
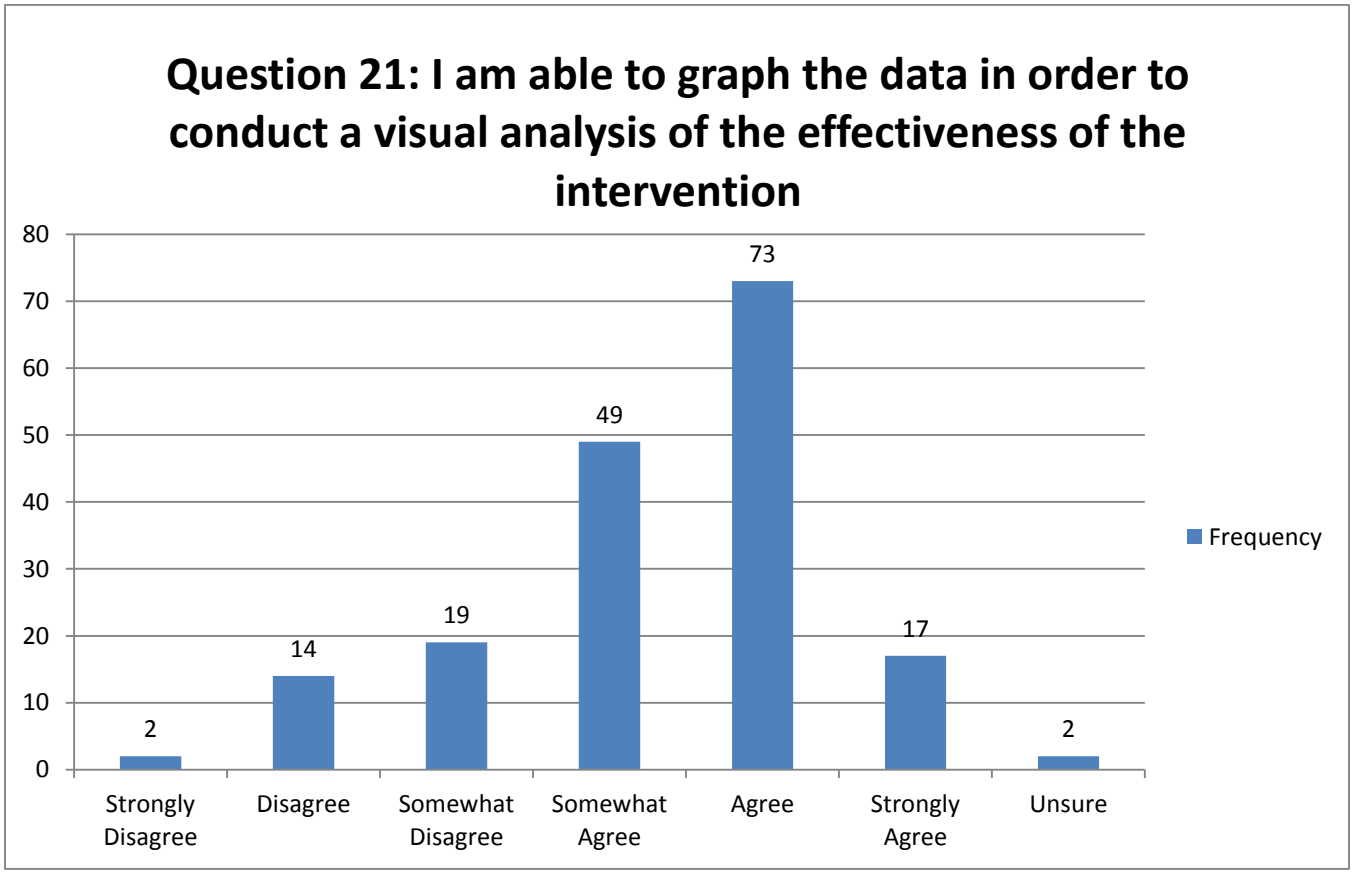


Figure 23. Survey Question 21 Data



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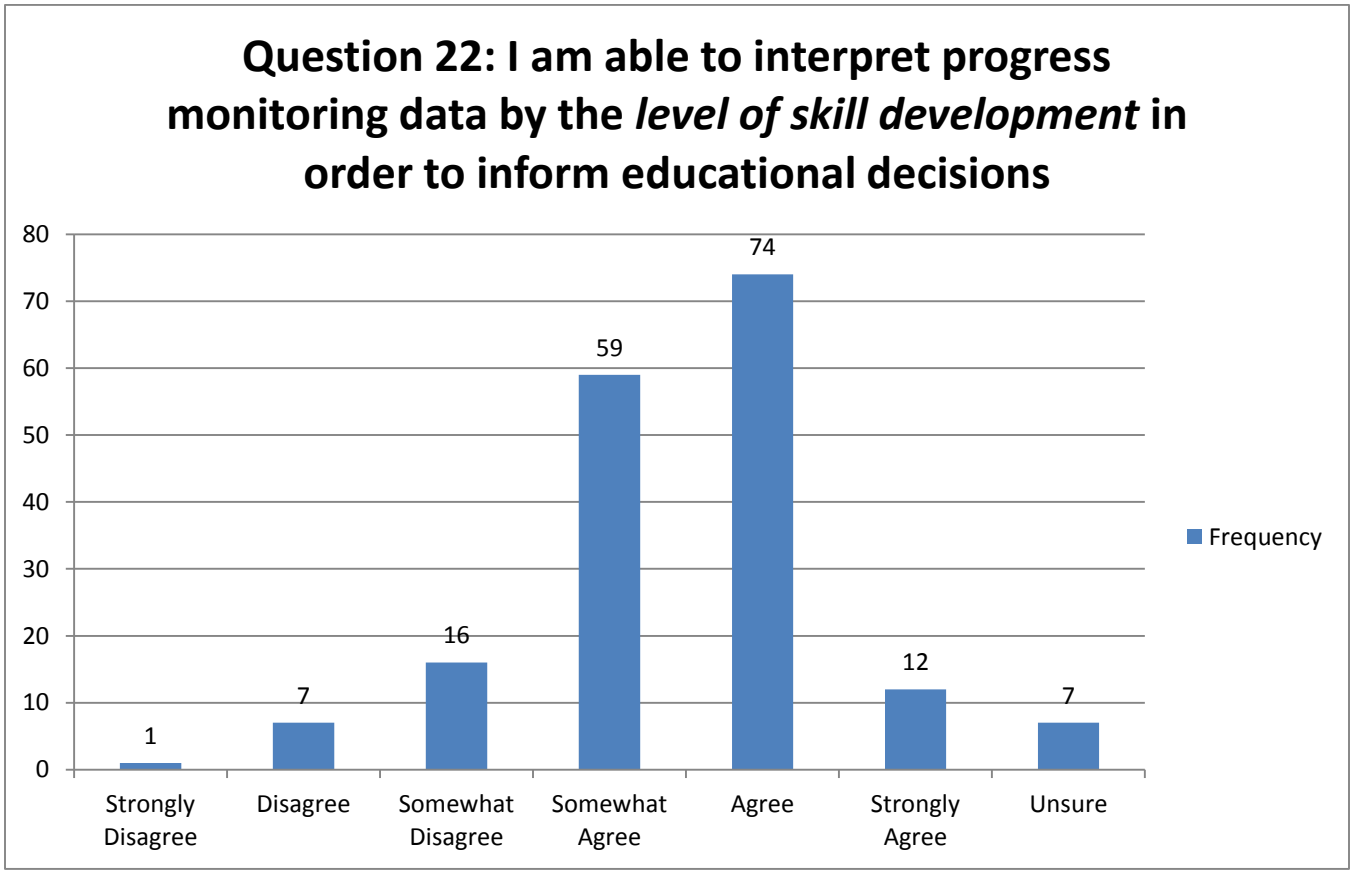


Figure 25. Survey Question 23 Data

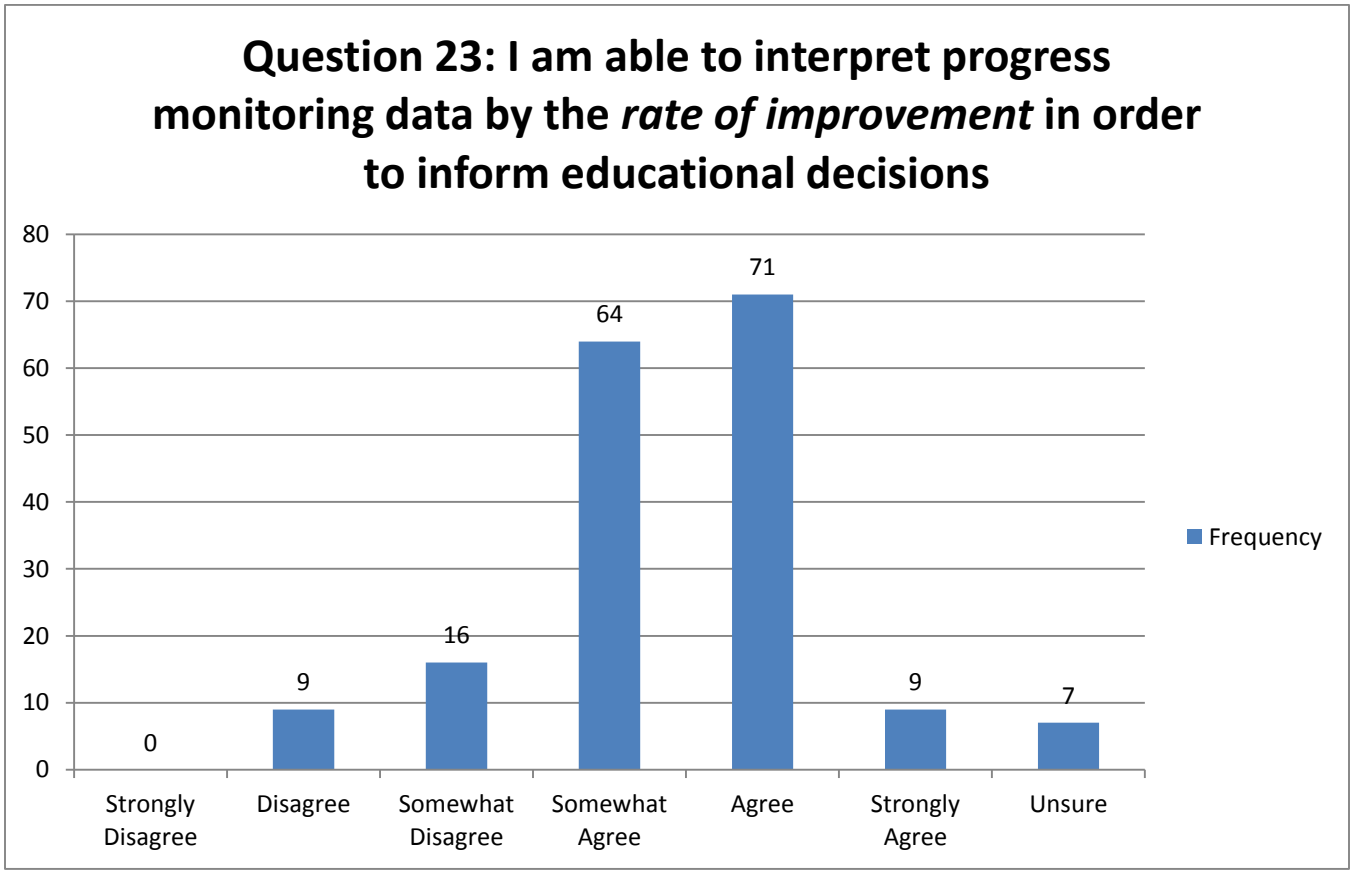


Figure 26. Survey Question 24 Data

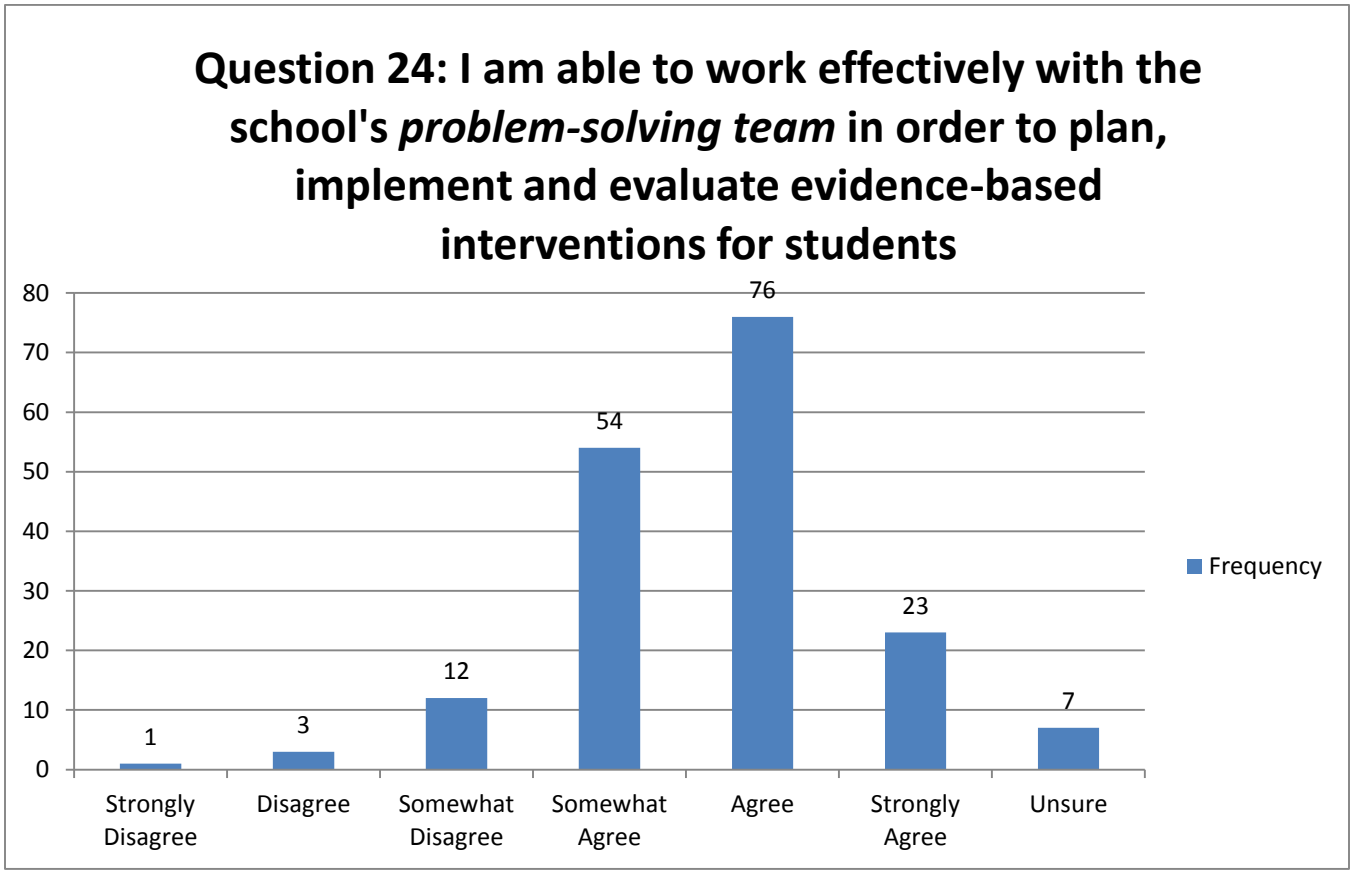


Figure 27. Survey Question 25 Data

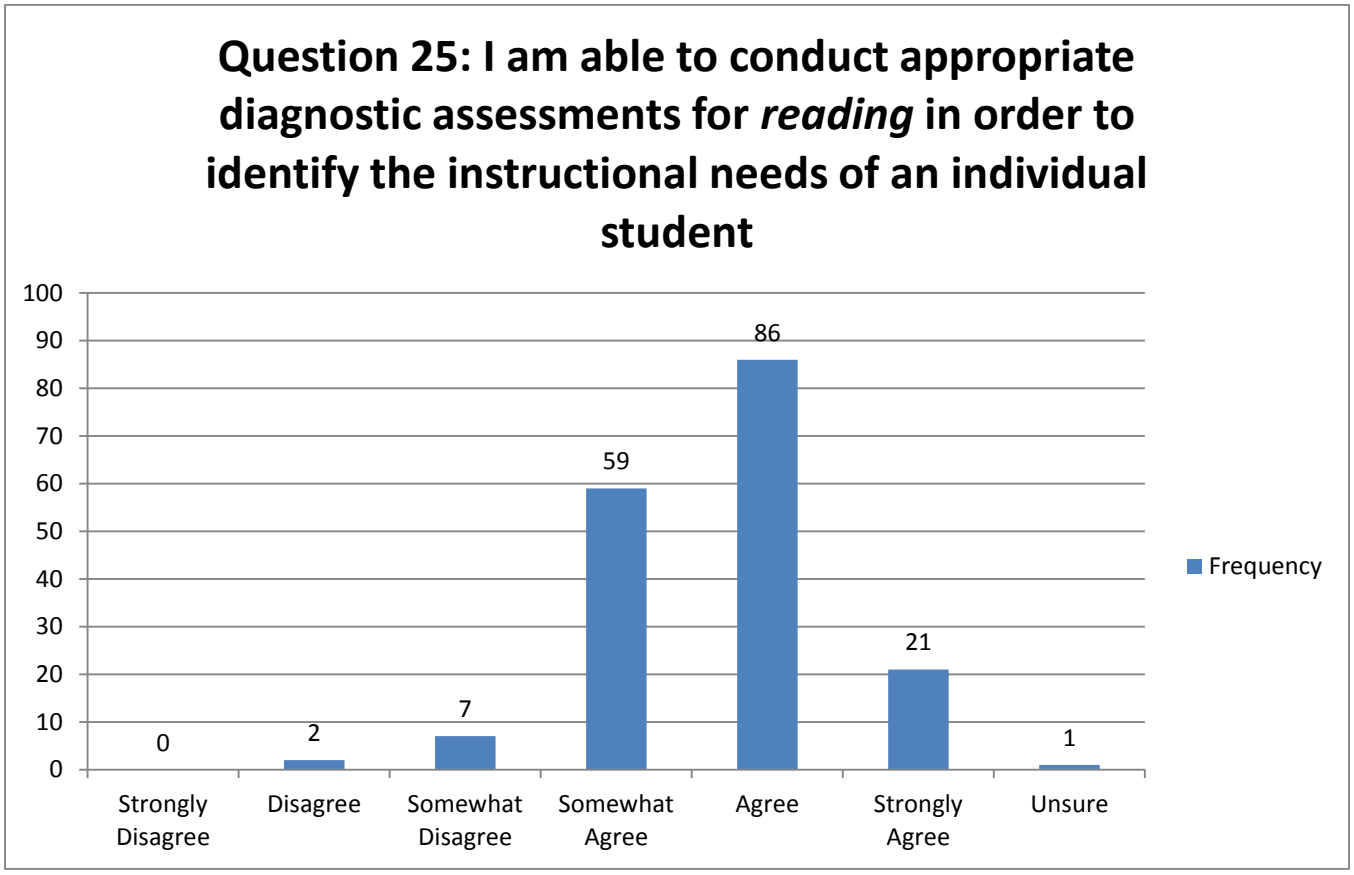
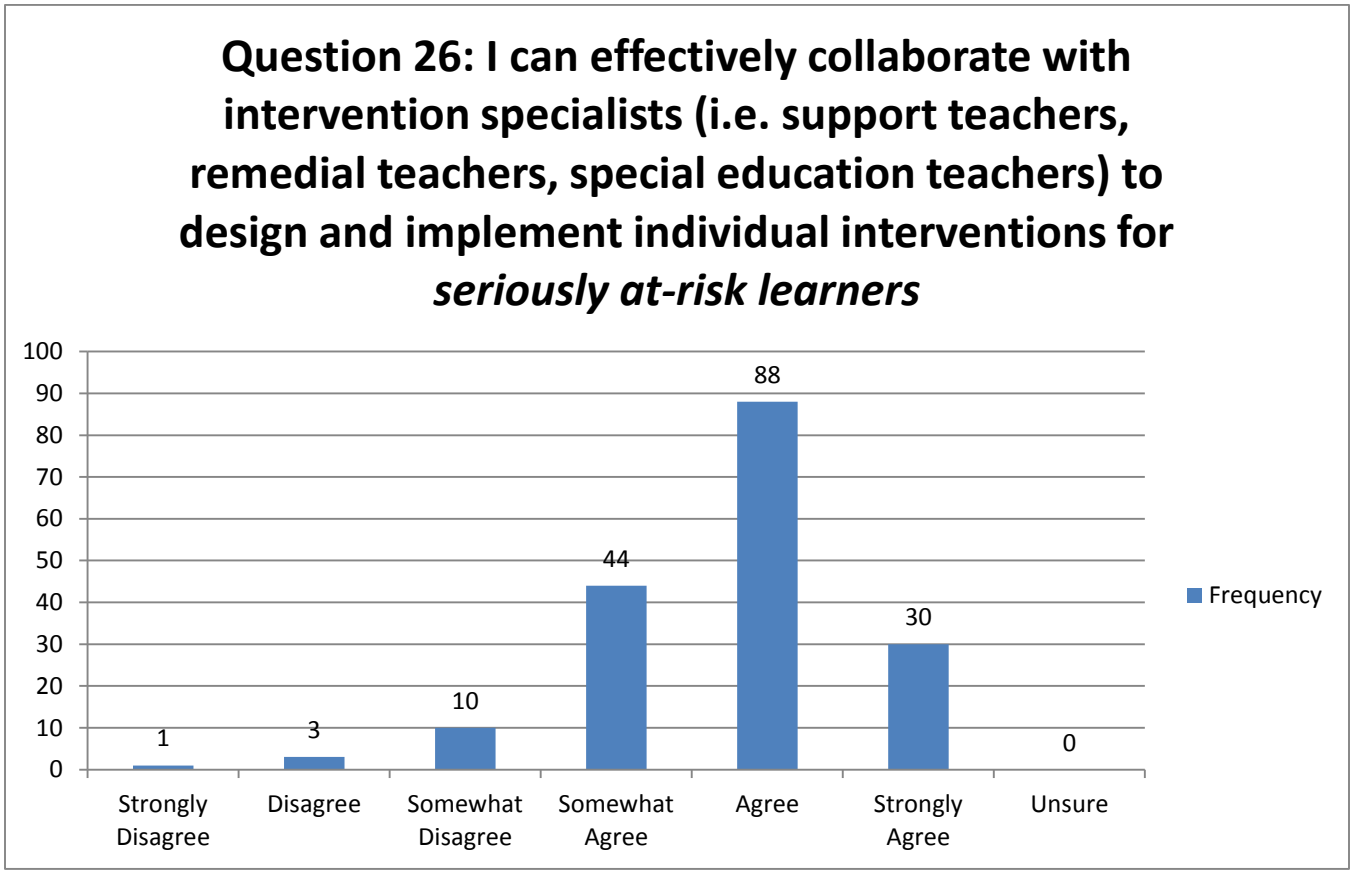


Figure 28. Survey Question 26 Data



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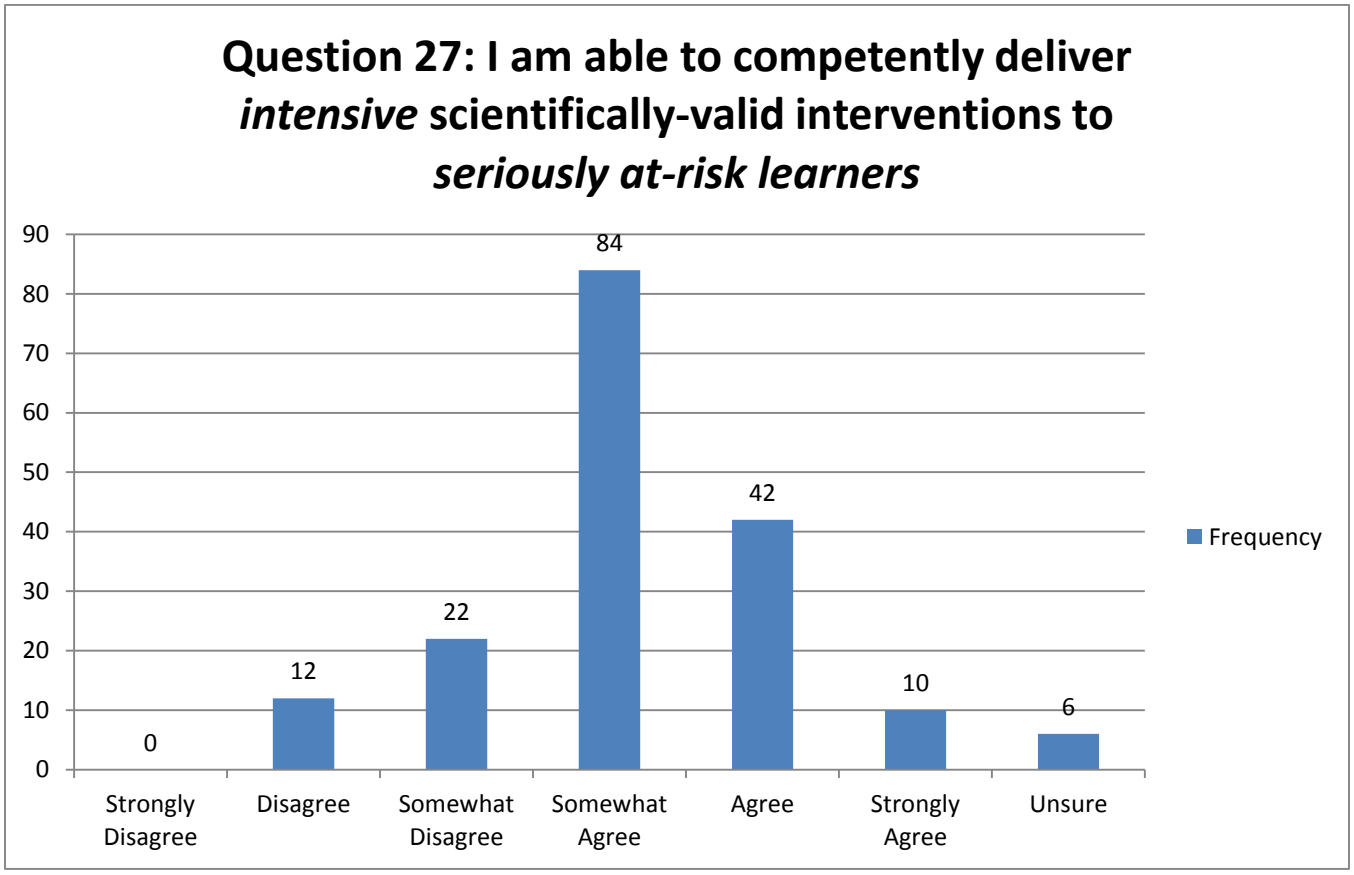


Figure 30. Survey Question 28 Data

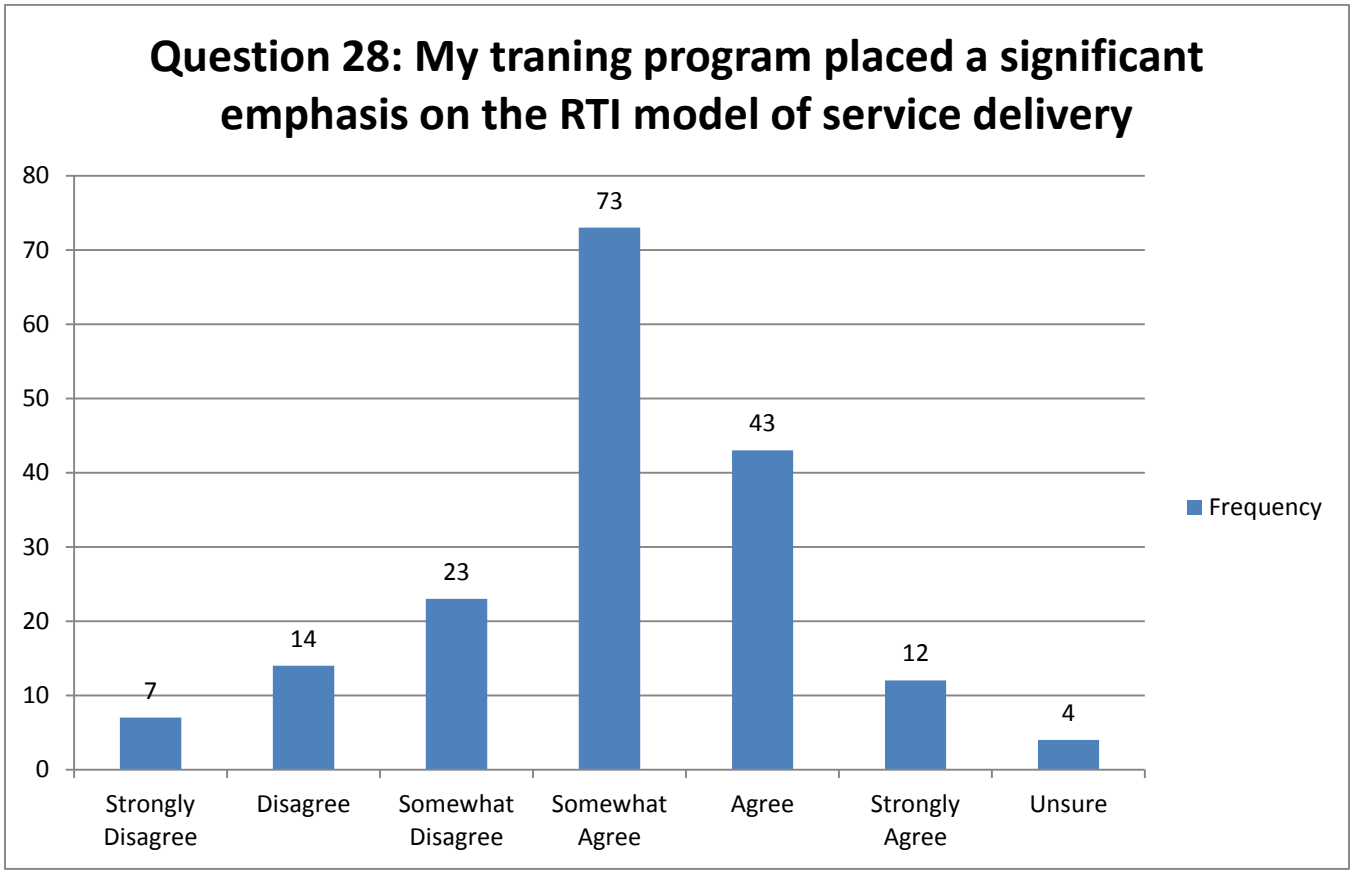


Figure 31. Survey Question 29 Data

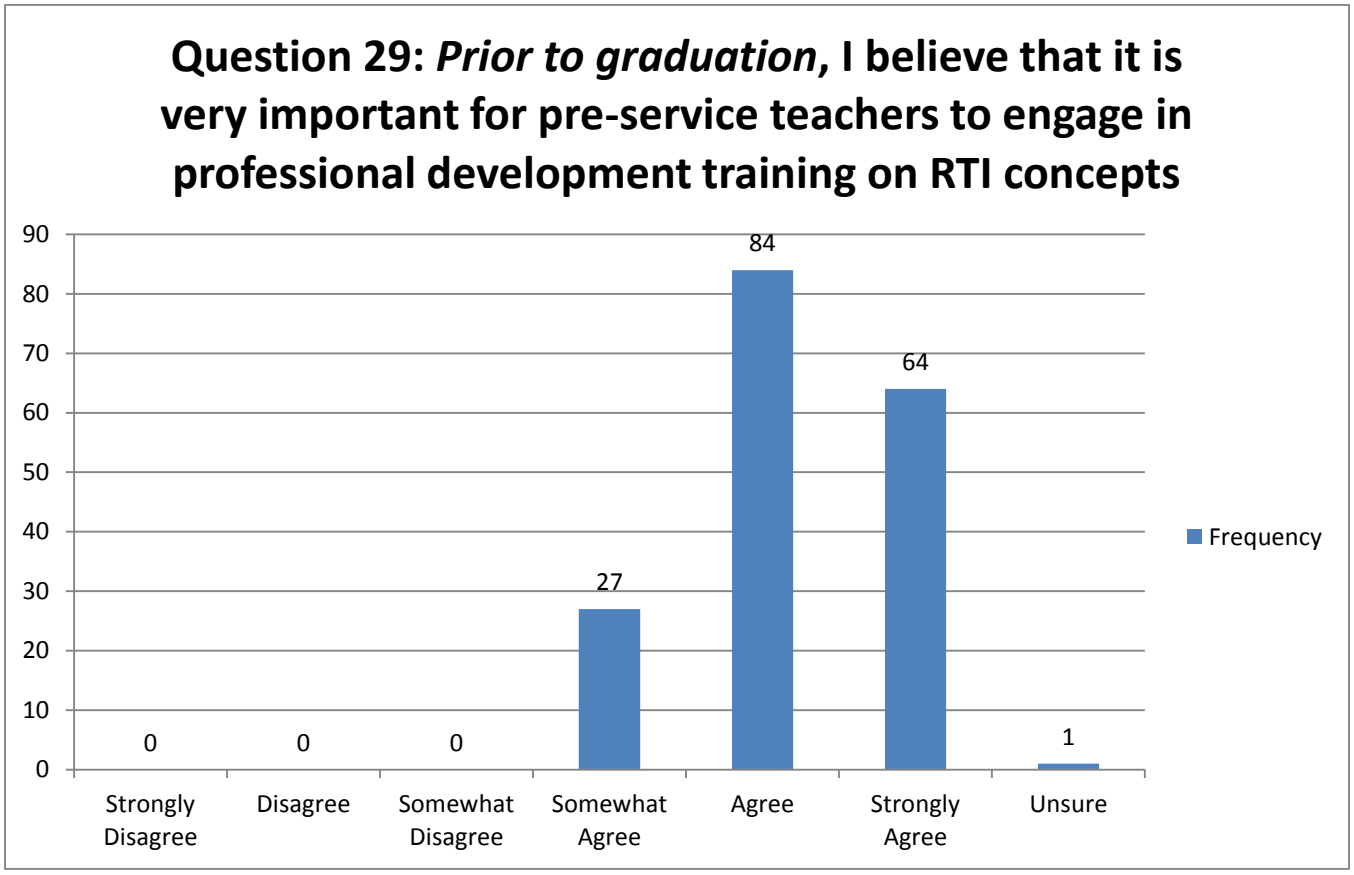
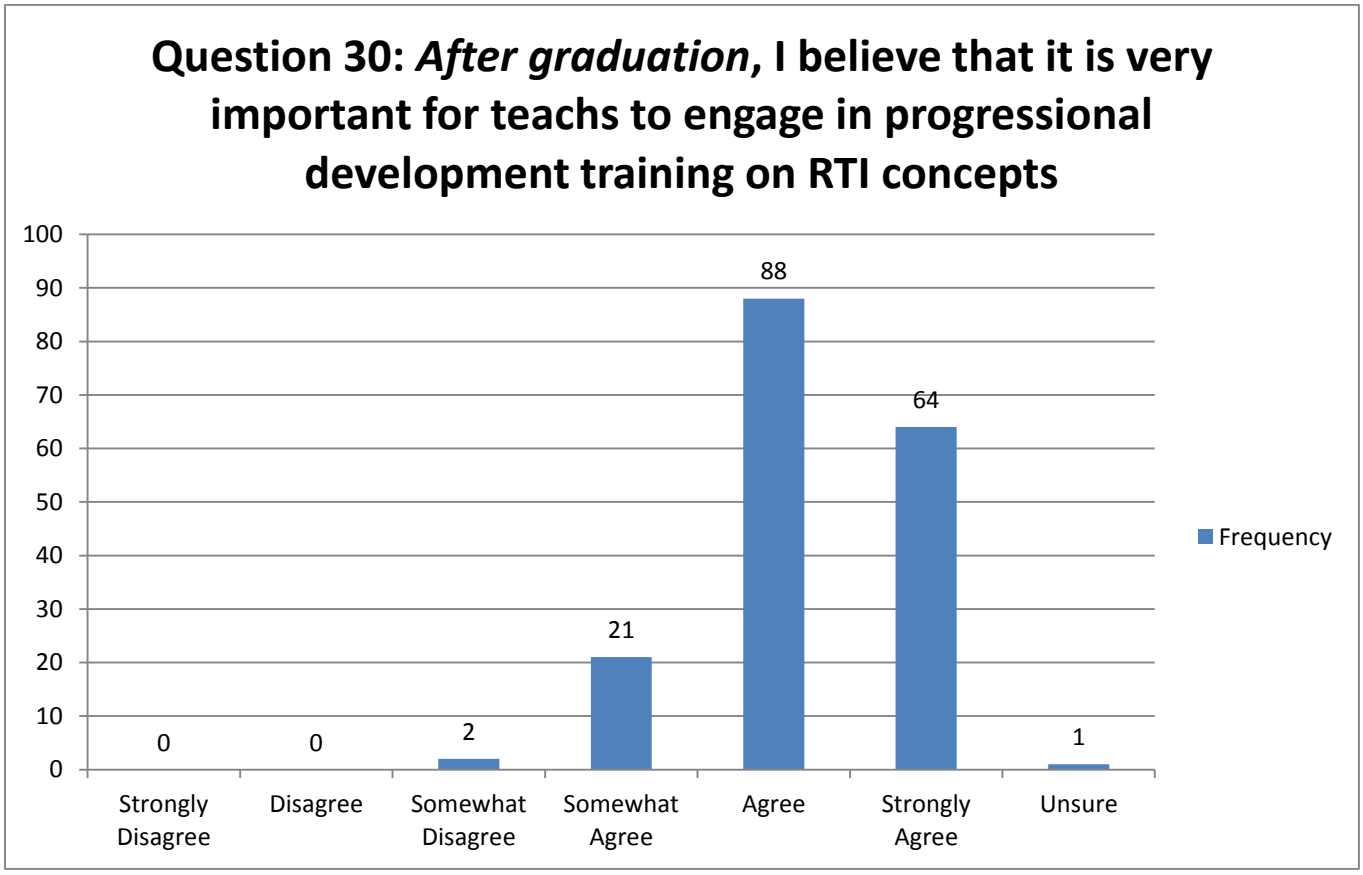


Figure 32. Survey Question 30 Data



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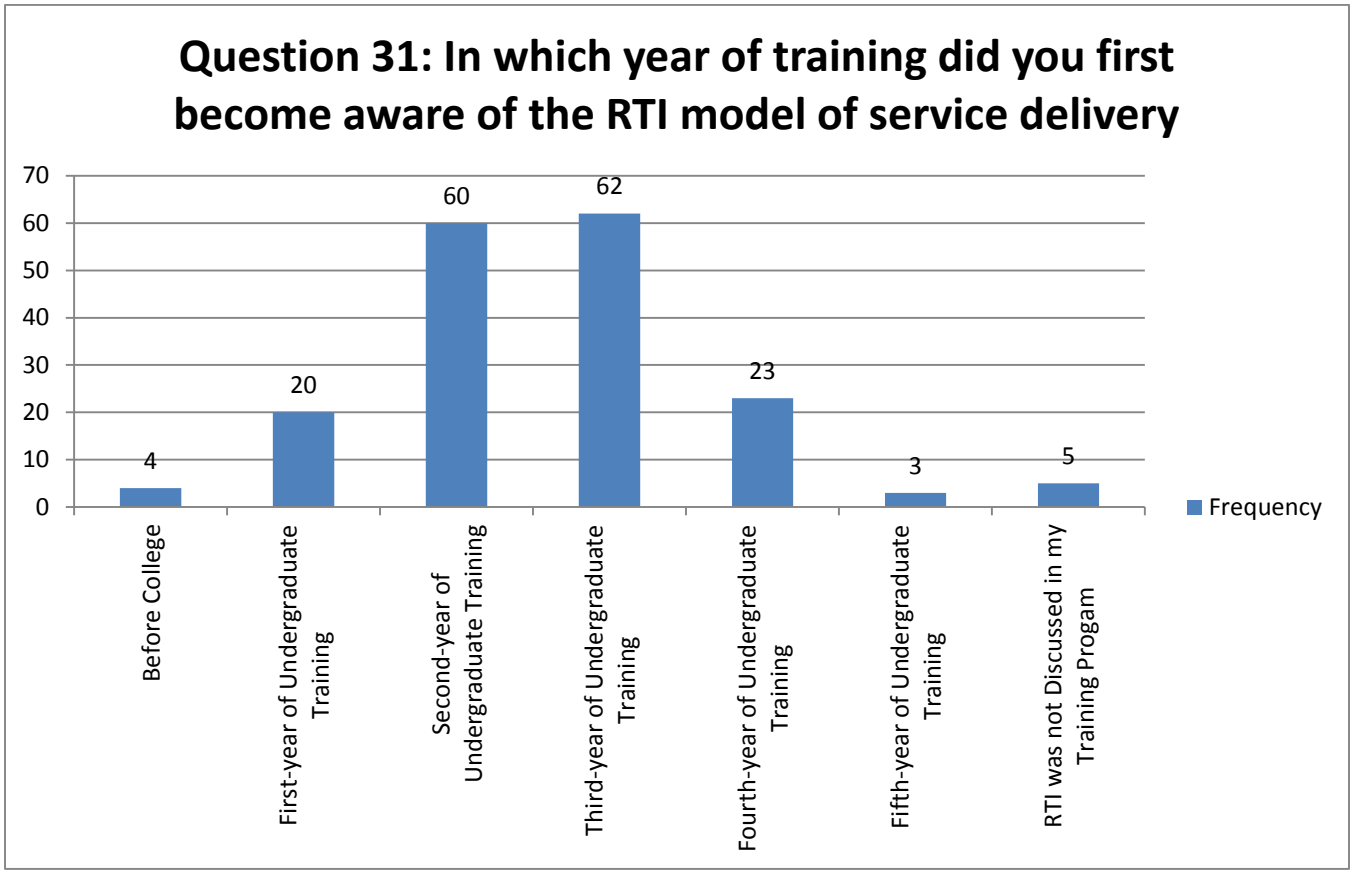

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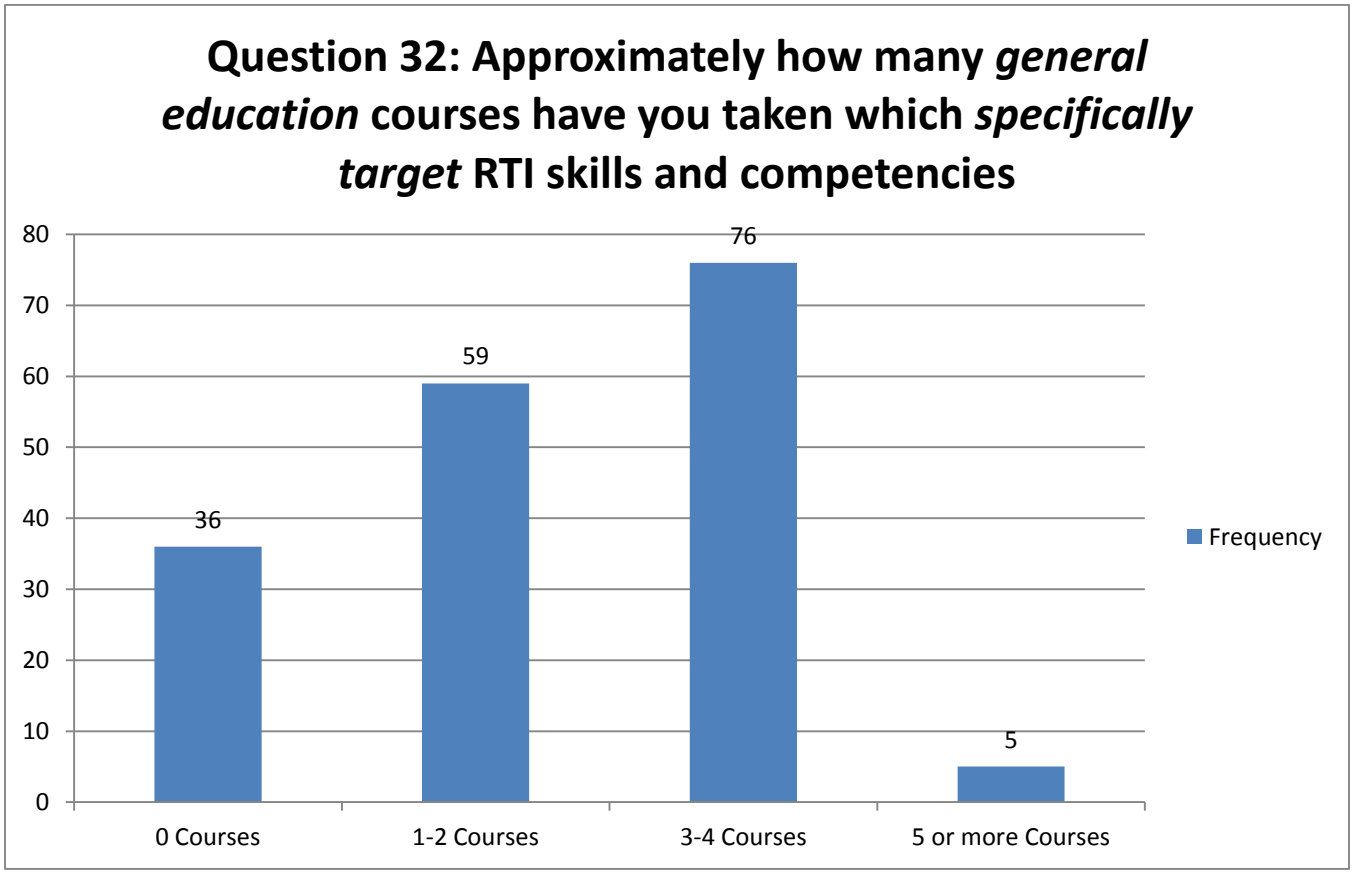

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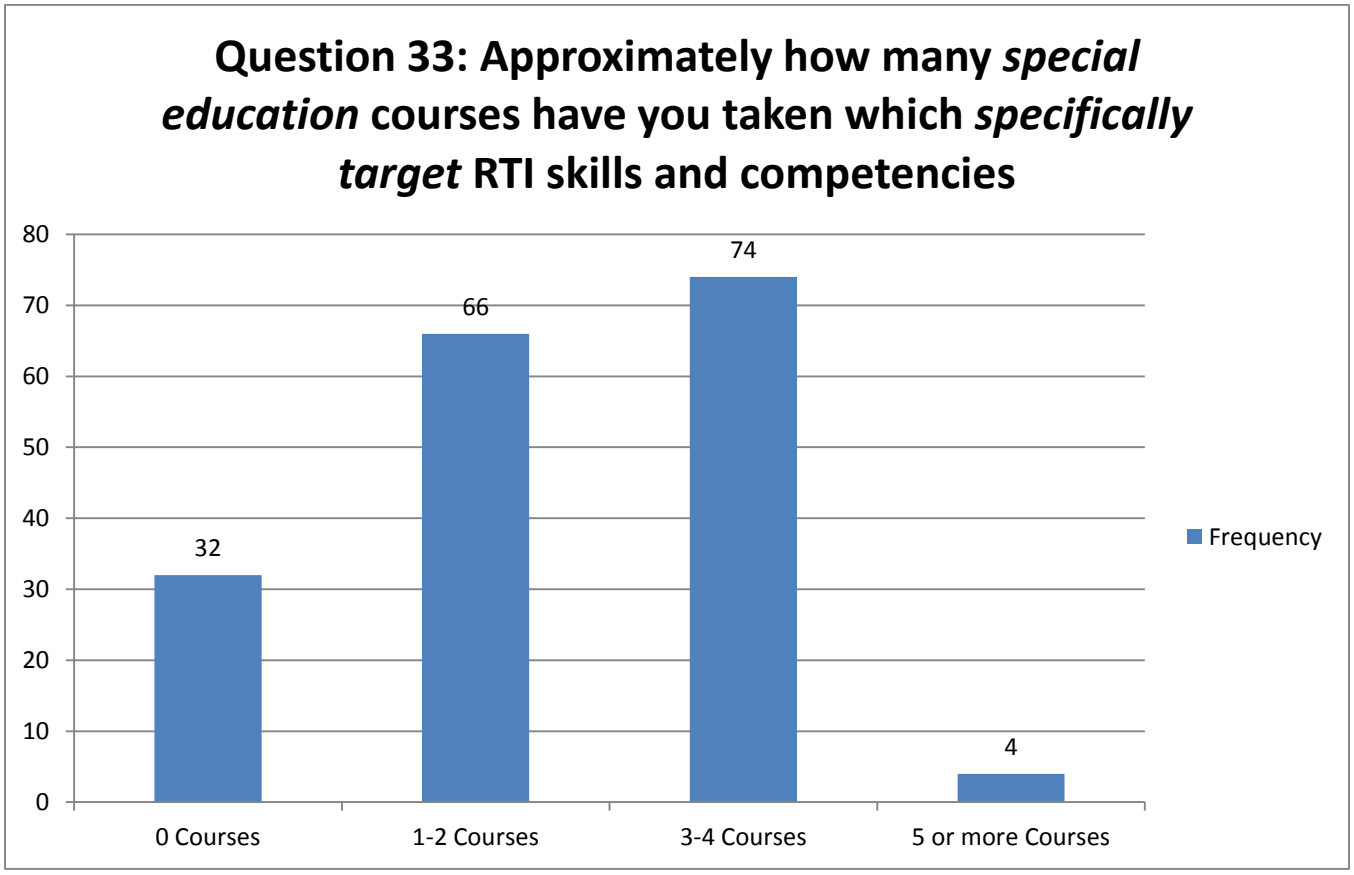
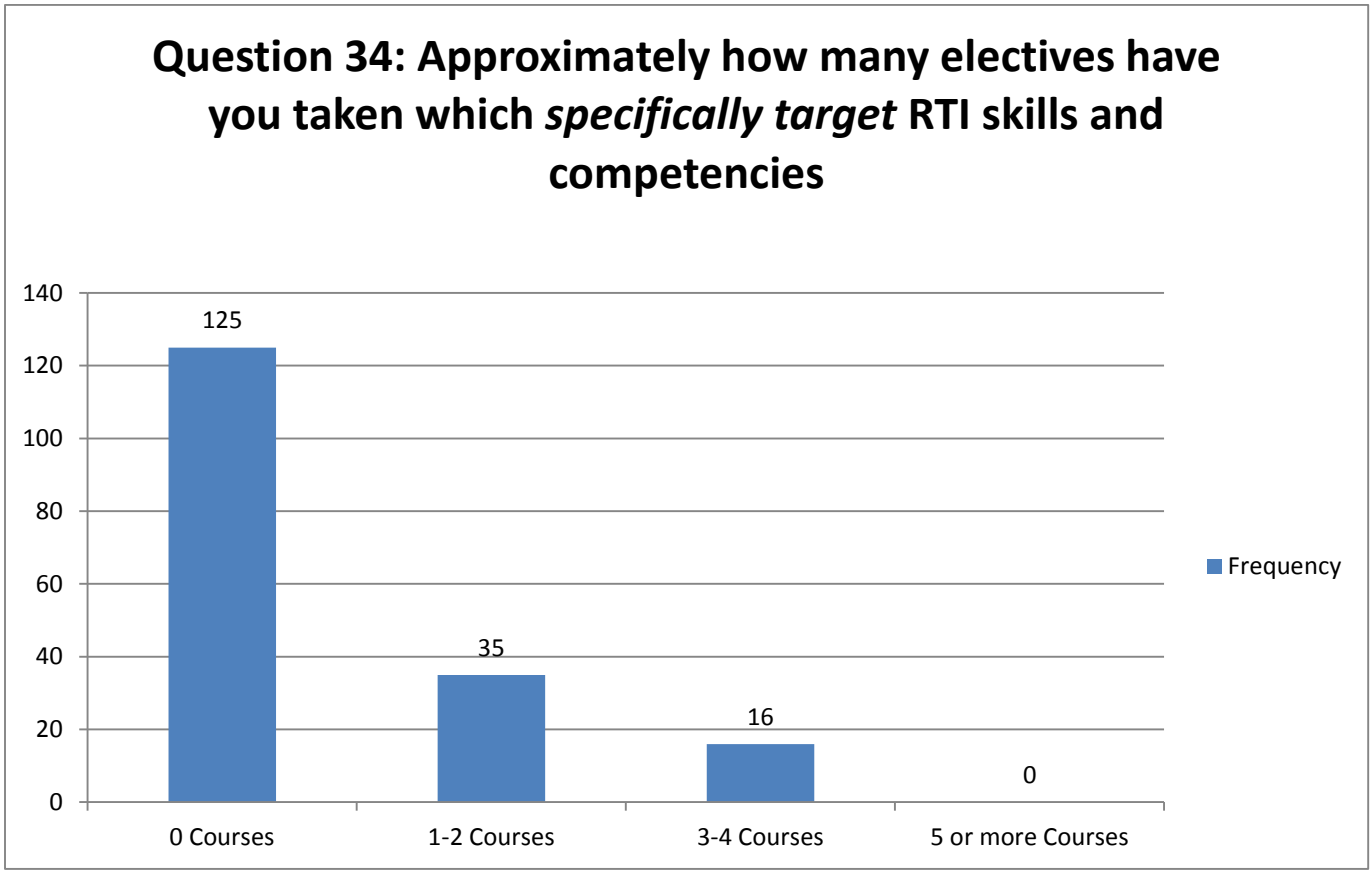


Figure 36. Survey Question 34 Data



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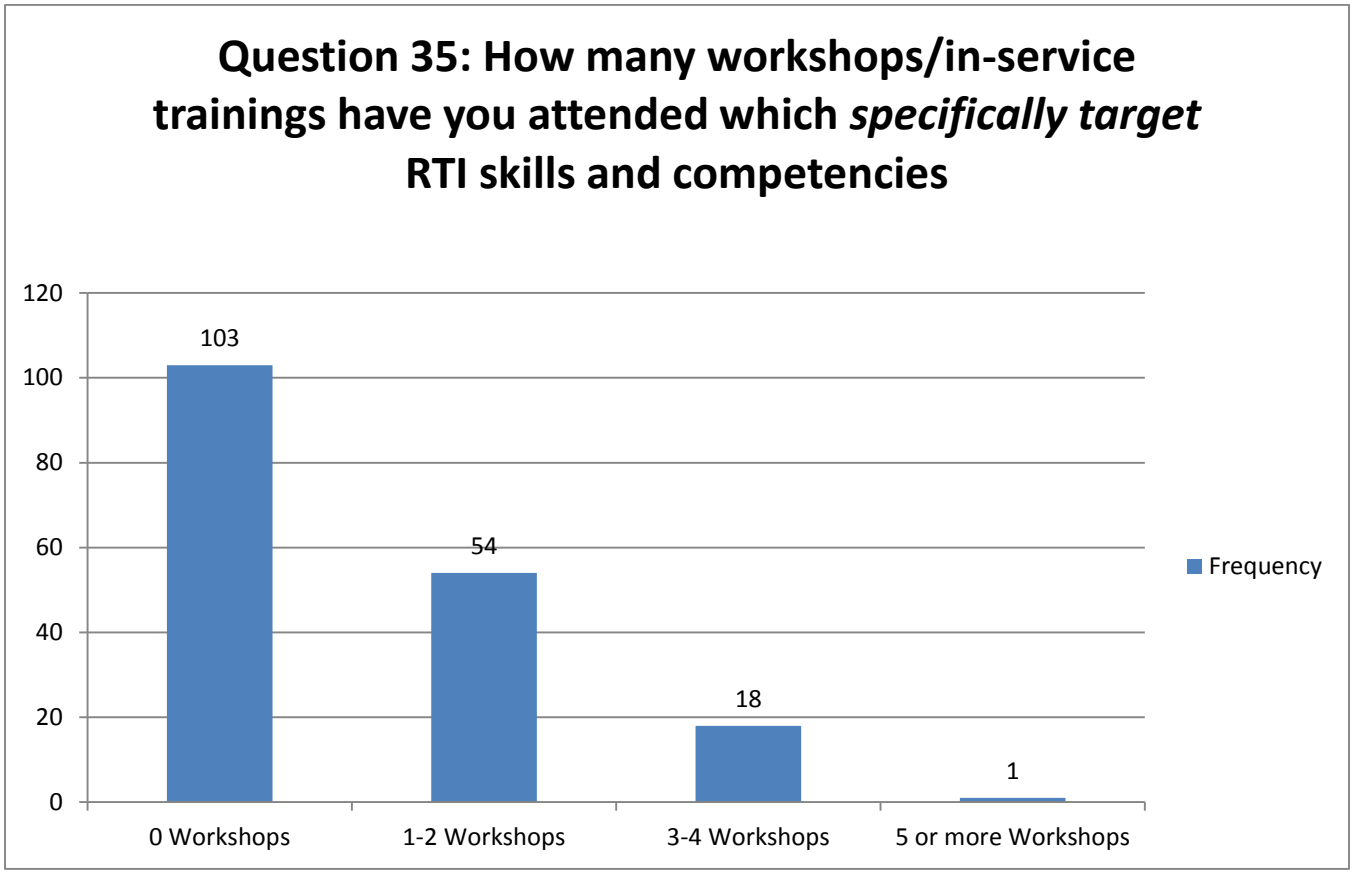
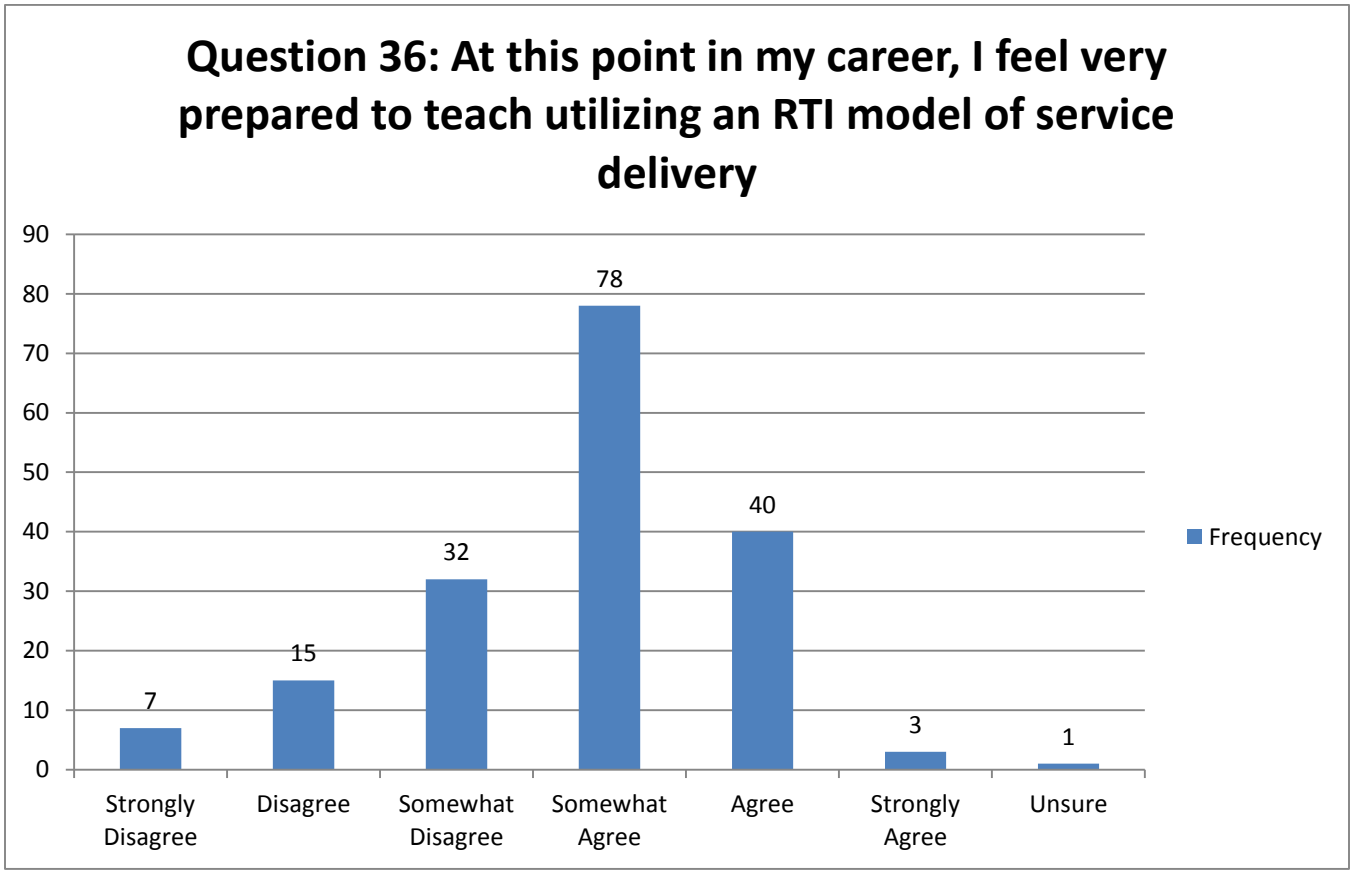


Figure 38. Survey Question 36 Data



Appendix A

*Informed Consent*

**Participant Consent Form**

***Alfred University***
***1 Saxon Dr.***
***Alfred, NY 14802***

***College of Professional Studies***

## Division of Counseling and School Psychology

**Purpose:**
The purpose of this study is to gain insight into whether or not teacher training programs are preparing their pre-service teachers to work in a Response to Intervention (RTI) model of service delivery. This study is part of a doctoral dissertation in the field of school psychology, under the supervision of Dr. Lynn O'Connell.

**Procedure:**
If you agree to be in this study, you will be asked to complete a survey focused on your attitudes towards the RTI model, level of competency and skill in regards to the implementation of the RTI model of service delivery, and how your training program prepared you to teach in this framework. The total time required to complete the survey should be approximately 15-20 minutes.

**Benefits/Risks to Participant:**
Participants will provide answers based on their own perceptions about their attitudes, level of competency and skill, and training program preparation in regards to the RTI model of service delivery. The information obtained by the participants will contribute to the body of knowledge about teacher training programs and preparation for working within the RTI framework. Individual information will not be shared with individual participants or to any training programs. There are no anticipated risks to completing this survey.

**Voluntary Nature of the Study/Confidentiality:**
Your participation in this study is entirely voluntary and you may refuse to complete the study at any point, or refuse to answer any questions with which you are uncomfortable. You may also ask the researcher any questions you may have regarding this study. Your name will never be connected to your results or to your responses on the questionnaires; instead, a number will be used for identification purposes. Information that would make it possible to identify you or any other participant will never be included in any sort of report. The identification of your teacher training program will be linked with the survey data in order to compare different training programs. Participants and the participating training programs will be offered to view aggregate

data from this study, but individual student data will not be disseminated. The data will be accessible only to the researchers working on the project.

**Participant Incentive:**
All participants who complete the survey will be eligible to enter a prize drawing. Ten $50 gift cards to Barnes and Noble Bookstore will be awarded to participants drawn at random. Participants can provide their name and email address on the Follow-Up form to be entered into the drawing.

**Contacts and Questions:**
If you have questions regarding this study, you may contact:
Kimberly Arroyo at kaw7@alfred.edu

The faculty supervisor of this study may be contacted with questions as well:
Dr. Lynn O'Connell at oconnelm@alfred.edu

Questions or concerns about institutional approval should be directed to Dr. Danielle D. Gagne, Chair of the Institutional Review Board for Human Subjects, gagne@alfred.edu or (607) 871-2213.

**Statement of Consent:**
I have read the above information. If I have any questions regarding the research and/or the procedures, they have been answered to my satisfaction. I consent to participate in this study.

Name of Participant _____ Date: _____

*Thank you for your participation!*

Appendix B

*RTI Model of Service Delivery Survey*

*These questions focus on specific skills that classroom teachers will utilize in the implementation of the Response to Intervention (RTI) model of service delivery. Please answer honestly, as this research is not designed to look at your individual knowledge, but to gain a better understanding of areas that need further attention in Teacher Training Programs.*

**Section 1: Attitudes about *Response-to-Intervention* (RTI)**

*Please rate yourself on each of the items below.*

1. I feel knowledgeable about the RTI model of education?
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
2. In order for children to receive assistance in reaching their academic potential, a multi-tiered model that allows students be in a least restrictive environment is important.
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
3. RTI is a better option for identifying a child with a learning disability than evaluating the student's ability-achievement discrepancy.
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
4. I feel very positive about the RTI model of service delivery:
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree

(d) Somewhat Agree
(e) Agree
(f) Strongly Agree
(g) Unclear about the information being requested

5. I feel that an RTI model meets the needs of all students.
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
6. Based on your perceptions, the level of RTI implementation that your practicum site has achieved would be considered "full implementation".
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
7. Since completing my coursework and beginning student teaching, my view of the RTI model has changed:
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested

**Section 2: Personal Level of Self-Efficacy Regarding the Necessary Skills to Implement RTI**

*Please rate yourself on each of the items below.*

8. I understand and endorse the theoretical background and rationale for the use of RTI as an organizing structure for instruction, assessment, and intervention.
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree

(f) Strongly Agree
(g) Unclear about the information being requested

9. I have a substantial understanding of the critical elements of the developmental continuum in *reading* skill acquisition.
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
10. I can competently implement the use of the core *reading* curriculum as it is designed to be taught.
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
11. I am able to instruct students using effective teaching principles. (i.e. engaged time, high success rates, opportunity to learn content, direct and supervised teaching, scaffolded instruction, strategic instruction, explicit instruction).
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested
12. I can effectively collaborate with my fellow teachers in planning class-wide/grade-wide instruction.
   (a) Strongly Disagree
   (b) Disagree
   (c) Somewhat Disagree
   (d) Somewhat Agree
   (e) Agree
   (f) Strongly Agree
   (g) Unclear about the information being requested

13. I am able to examine universal screening data to identify students that are at-risk for academic difficulties.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
14. Based on universal screening data, I am able to identify trends in skill deficiencies.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
15. Based on universal screening data, I am able to sort students into homogenous skill-based groups.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
16. I can effectively collaborate with my fellow teachers to design and implement group interventions for at risk students.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
17. I am able to *identify* scientifically-valid interventions to remediate key skill deficits.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree

(e) Agree
(f) Strongly Agree
(g) Unclear about the information being requested

18. I am able to competently *deliver* scientifically-valid interventions to small groups of students that have been identified as needing additional support in developing key academic skills.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
19. I am able to conduct self-evaluations of intervention implementation integrity.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
20. I am able to identify and administer appropriate progress monitoring tools.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
21. I am able to graph the data in order to conduct a visual analysis of the effectiveness of the intervention.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
22. I am able to interpret progress monitoring data by *level of skill development* in order to inform educational decisions.
    (a) Strongly Disagree

(b) Disagree
(c) Somewhat Disagree
(d) Somewhat Agree
(e) Agree
(f) Strongly Agree
(g) Unclear about the information being requested

23. I am able to interpret progress monitoring data by *rate of improvement* in order to inform educational decisions.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
24. I am able to work effectively with the school's *problem-solving team* in order to plan, implement, and evaluate evidence-based interventions for students.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Disagree
    (g) Unclear about the information being requested
25. I am able to conduct appropriate diagnostic assessments for *reading* in order to identify the instructional needs of an individual student.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
26. I can effectively collaborate with intervention specialists (i.e. support teachers, remedial teachers, special education teachers) to design and implement individual interventions for *seriously at-risk learners*.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree

(e) Agree
(f) Strongly Agree
(g) Unclear about the information being requested

27. I am able to competently deliver *intensive* scientifically-valid interventions to *seriously at-risk learners*.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested

**Section 3: Training Program Preparation**

*Please rate yourself on each of the items below.*

28. My training program placed a significant emphasis on the RTI model of service delivery.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
29. *Prior to graduation*, I believe that it is very important for pre-service teachers to engage in professional development training on RTI concepts.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree
    (g) Unclear about the information being requested
30. *After graduation*, I believe that it is very important for teachers to engage in professional development training on RTI concepts.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree
    (f) Strongly Agree

(g) Unclear about the information being requested

31. In which year of training did you first become aware of the RTI model of service delivery?
    (a)Before College
    (b) First-year of undergraduate training
    (c)Second Year of undergraduate training
    (d) Third Year of undergraduate training
    (e) Fourth Year of undergraduate training
    (f) Fifth year of undergraduate training
    (g) RTI was not discussed in my training program
32. Approximately how many *general education* courses have you taken which *specifically target* RTI skills and competencies?
    (a) 0 Courses
    (b) 1 Course
    (c) 2-4 Courses
    (d) 5 or more Courses
33. Approximately how many *special education* courses have you taken which *specifically target* RTI skills and competencies?
    (a) O Courses
    (b) 1 Course
    (c) 2-4 Courses
    (d) 5 or more Courses
34. Approximately how many electives have you taken which *specifically target* RTI skills and competencies?
    (a) 0 Courses
    (b) 1 Course
    (c) 2-4 Courses
    (d) 5 or more Courses
35. How many workshops/in-service trainings have you attended which *specifically target* RTI skills and competencies?
    (a) 0 Workshops
    (b) 1 Workshop
    (c) 2-4 Workshops
    (d) 5 or more Workshops
36. At this point in my career, I feel very prepared to teach utilizing an RTI model of service delivery.
    (a) Strongly Disagree
    (b) Disagree
    (c) Somewhat Disagree
    (d) Somewhat Agree
    (e) Agree

(f) Strongly Agree
(g) Unclear about the information being requested

**Section 4: Demographics**

37. Sex:
    (a) Male
    (b) Female
38. Race:
    (a) Caucasian
    (b) African-American
    (c) Asian
    (d) Hispanic or Latino
    (e) American Indian or Alaska Native
    (f) Other: _____
39. Age:
    (a) 19-20
    (b) 21-22
    (c) 23-24
    (d) 25 or above
40. Year in College:
    (a) Junior (3rd Year Undergraduate Student)
    (b) Senior (4th Year Undergraduate Student)
    (c) Senior (5th Year Undergraduate Student)
    (d) Graduate Student
41. Are you currently student teaching during the Spring 2013 academic semester?
    (a) Yes
    (b) No
42. What grade(s) have you completed a student teaching practicum? Select all that apply.
    (a) Kindergarten
    (b) 1st Grade
    (c) 2nd Grade
    (d) 3rd Grade
    (e) 4th Grade
    (f) 5th Grade
    (g) 6th Grade
43. Choose all of the certifications that you are working to attain
    (a) Early Childhood (Pre-Kindergarten-2 years-old)
    (b) Early Childhood—Students with Disabilities (Pre-Kindergarten-2nd Grade SWD)
    (c) Childhood (1st Grade-6th Grade)
    (d) Childhood—Students with Disabilities (1st Grade-6th Grade SWD)

44. Do you plan to work in New York State?
    (a) Yes
    (b) No
45. Identify the University/College that you are currently attending.
46. Is your training program:
    (a) Accredited by NCATE
    (b) Accredited by TEAC
    (c) Non-Accredited
    (d) I do not know if my program is accredited

Appendix C

*Follow-Up Form*

**Follow-Up Form**

If you would like to be included in the random raffle drawing for a chance to be randomly selected to win one of ten, $50 gift card to Barnes and Noble, please provide your name and address below:

Name: _____

Email: _____

If you would like a copy of the results from this study, please provide your name and address below:

Name: _____

Email: _____

*Professional Resume*

Kimberly Arroyo, MA/CAS, NCSP
7953 Amor Drive, Clay, NY 13041
(315) 460-6524, kimberlyarroyo1008@gmail.com

**Education**

**Alfred University** Alfred, NY
*Doctoral Candidate* Expected Graduation: May 2013
*School Psychology* ***Overall Grade Point Average: 3.90***

***Honors and Awards***:

- Phi Kappa Phi Honors Society (Spring 2011)
- Psi Chi Member (Psychology Honor Society since Fall 2006)

**School Psychologist** Mexico, NY
*Mexico Academy and Central School District* Fall 2012-Present

- Work at Mexico High School (Grades 9-12) as a School Psychologist.
- Daily tasks include completing assessments, one-on-one counseling, consulting with school faculty, staff and parents.
- Co-facilitate the Instructional Support Team (IST) meetings at the High School level.
- Chair and present results and recommendations at Committee on Special Education (CSE) meetings.
- Assist in the supervision of a graduate student intern.

**Doctoral School Psychology Internship** Syracuse, NY
*Westhill Central School District* Fall 2011-Spring 2012

- Work at Onondaga Hill Middle School (Grades 5-8) and Westhill High School (Grades 9-12) as a School Psychology intern.
- Daily tasks include completing assessments, one-on-one counseling, group counseling, consulting with school faculty, staff and parents.
- Present assessment results and recommendations at Committee on Special Education (CSE) meetings.
- Engage in one-on-one supervision with two School Psychologists on a weekly basis.

**Practicum Experience**

*Allegany Rehabilitation Associates, The Counseling Center* Wellsville, NY
***Advanced Practicum*** Fall 2010-Spring 2011

- Worked with a diverse client base: ages ranging from five to thirty-five years old and includes ADHD, anxiety, depression and bipolar disorders.
- Engaged in group supervision to increase skills as a counselor and supervisor.

*Child and Family Services Center* Alfred, NY
***Graduate Clinician*** Fall 2009 -Spring 2010

- Worked with a diverse population of clients from Allegany and Steuben Counties.

*Arcade Elementary School* Arcade, NY
***School Psychology Pre-Practicum*** Fall 2008-Fall 2009

- Served as a one-on-one mentor with a third grade student to work on her reading skills.
- Practiced testing students using cognitive and achievement assessment tools.
- Engaged in client-centered consultation with a fourth grade general education teacher on a bi-weekly basis.

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**Book Chapter Review, Presentation, and Publication** Alfred, NY
*Book Chapter Review* Spring 2011
***Graduate Student Reviewer***

- Invited reviewer of two chapters of a case book on teaching pre-service consultation in preparation, edited by Dr. Sylvia Rosenfield, Professor of School Psychology, University of Maryland. April, 2011.

*National Association of School Psychologists Conference* Boston, MA
***Graduate Student Presenter*** Spring 2009

- Presented a poster called "Training Models and Applied Experiences in School Psychology: The Match Between Models and Practice".

*Captivating Classes with Constructivism* Canton, NY
***Publication*** Summer 2006

- Published lesson plan ideas based off of the work completed at a constructivist education conference.

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**Professional Affiliations**

- Mexico Academy and Central Schools Faculty Association (MACSFA) [Fall 2012-Present]
- New York State United Teachers (NYSUT) [Fall 2012-Present]
- New York State Association of School Psychologists (NYASP) [Fall 2011-Present]
- National Association of School Psychologists (NASP) [Fall 2008-Present]