

Embedding Multi-Tiered System of Supports/Response to Intervention into Teacher Preparation

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INTRODUCTION

Teachers today are called on to have an ever expanding knowledge base and skills that support working within a multi-tiered system of supports, including Response to Intervention (MTSS/RtI). Yet, most teachers do not possess these skills. Current field-based professional development initiatives focus on the existing teacher corps. However, our Pk-12 schools require an entering teacher corps that has acquired this knowledge and skills during their teacher preparation program. This article addresses the need for initial teacher preparation programs to prepare teacher candidates who graduate with this knowledge base and clinical skills, presents an overview of RtI domains of knowledge and practice that should guide pre-service preparation programs, and describes a teacher preparation program's efforts to accomplish this goal.

BACKGROUND

Ultimately, the national goal of improving learning outcomes for all students and reducing, if not eliminating, the achievement gap requires a teacher corps that brings a knowledge base and professional competencies that have a positive impact on diverse learners in diverse settings.

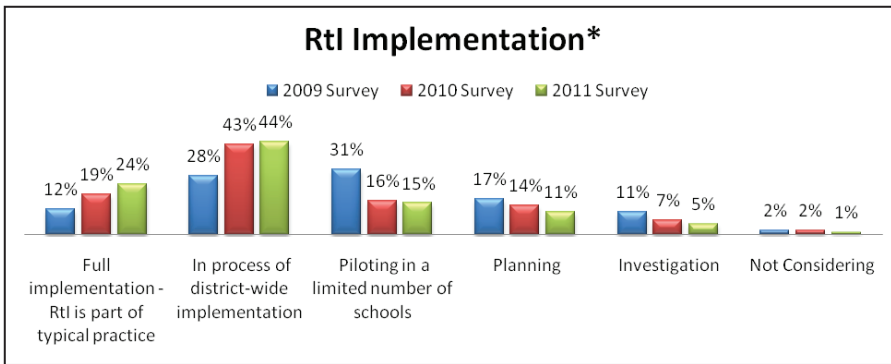
During the past 10–15 years, the professional knowledge base in curriculum and pedagogy, along with technological developments that support student performance data systems evolved to permit a more focused and research-based teacher preparation core curriculum that better prepares teachers to improve student learning outcomes. The well-documented research supporting scientific based instruction and intervention was significantly advanced by major national studies in reading and math. The National Reading Panel report, *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (National Institute of Child Health and Human Development, 2000) established what teachers must know about reading instruction and how to teach reading. Similarly, *The final report of the national mathematics advisory panel* (U.S. Department of Education, 2008), delineates the scientific foundation for the scope and sequence of mathematics instruction. Since the release of each report, teacher preparation programs are increasingly reviewed by how well their candidates

and graduates instruct students via these scientifically based findings (Chall, 2000; Joshi, 2009; Walsch et al., 2006).

Much of the knowledge base and the professional competencies expected of a well-prepared teacher are embedded in a Multi-tiered Response to Intervention (MTSS/RtI) delivery system. As a model for improving student outcomes (and that is the focus and purpose), MTSS/RtI uses a multi-tiered interventions delivery system with the intensity of intervention increasingly based on frequent student performance monitoring (Batsch et al., 2005; Brown-Chidsey & Steege, 2010; Reschly & Bergstrom, 2009). Most models use three tiers with the first tier focused on core instruction directed at all students. Student responses (always data-based) to core instruction and interventions delivered with fidelity determine the need for increasing interventions. Teacher-based skill sets essential for success within an MTSS/RtI model include data-based decision making, collecting and using student progress monitoring data for instructional planning, delivering scientific-based instruction and interventions, and working collaboratively within a problem-solving framework.

CURRENT STATUS OF STATE/DISTRICT IMPLEMENTATION

Growth in the implementation of MTSS/RtI is documented in a report released in August, 2011 (Spectrum K12 School Solutions, 2011). The report shows a steady growth of school and district level implementation, with 68% of responding districts in full implementation or in the process of implementing district wide. That is a marked increase from 40% reporting such MTSS/RtI engagement in 2009 and 62% in 2010.



*RtI Implementation Survey data reproduced with permission.

Other findings were:

- A majority of districts report that MTSS/RtI is a unified effort between special education and general education.
- 56% of districts have a formal MTSS/RtI implementation plan. This compares to 48% of districts in 2010.
- A higher percentage of staff has now been trained in MTSS/RtI compared to 2010. Nearly all schools have given staff an overview of the MTSS/RtI process. Next most common MTSS/RtI training topics are core curriculum and differentiation.

- Schools are increasingly using MTSS/RTI to create personalized instruction for ALL students with an increase from 49% in 2010 to 62% in 2011.
- About five in ten districts have data on referrals to special education. Of these, eight in ten report reductions in referrals to special education compared to those who report no change.

In addition to data providing the growth in the school and district implementation of MTSS/RTI, studies have been conducted (Zirkel & Thomas, 2010; State Laws for RTI: An Updated Snapshot) to answer the question: In response to the 2006 IDEA regulations' directive, which state laws have opted for mandating or merely permitting MTSS/RTI, permitting or prohibiting severe discrepancy, and providing for the third other research-based alternative?

At the time of this study, the major finding was that 12 states had adopted MTSS/RTI as the required approach for Specific Learning Disability (SLD) identification. These 12 mandatory states fell into the following clusters:

- Colorado, Connecticut (by guidelines), Louisiana, Rhode Island, and West Virginia utilize a MTSS/RTI approach with express or implicit prohibition of the severe discrepancy approach.
- Florida, Illinois, and, possibly for the combination, both Georgia and (by guidelines) Maine – use a MTSS/RTI approach but allow the addition of a combination with severe discrepancy and/or the other, alternative approach.
- Delaware, New Mexico, and New York – partially.

As implementation unfolds in the nation's K-12 districts, preliminary data from higher education indicate support for MTSS/RTI as a component of teacher preparation. However, it is evident that teacher preparation programs have yet to consistently and comprehensively produce a teacher corps that accomplishes these outcomes. Challenges of preparing a quality teacher, particularly within the context of traditional schools of education (Larabee, 2004, 2010) are well documented, as are the potential answers to developing a quality teacher (Ball & Forzani, 2009; Zumwalt & Craig, 2005, 2010). While substantive reform is occurring and evidence of improvement in teacher education emerges, systemic change that contributes to better Pk-12 student outcomes remains elusive (Darling-Hammond, 2010).

A survey of special education faculty (Gallagher & Coleman, 2009) revealed that 100% of respondents indicated that including MTSS/RTI in teacher preparation is important. Respondents also reported concern that too many colleagues in general education still view MTSS/RTI as a special education initiative, in contrast to special education teachers who understand MTSS/RTI as an "every student" initiative.

There is a lack of data available on the status of MTSS/RTI being embedded in higher education curriculum in initial teacher preparation programs. A study (Institutes of Higher Education Checklist (IHE) Report, 12-09) was conducted by the Loyola University Chicago Center for School Evaluation, Intervention and Training (CSEIT) to evaluate the extent to which the IHE curricula included MTSS/RTI content. This study identified the current status of integration of MTSS/RTI in a sample of Illinois universities. The results indicated that there was little implementation of MTSS/RTI content overall in the universities surveyed. Responses from university

faculty indicated that knowledge and implementation of MTSS/RtI was mostly addressed in practicum and student teaching experiences. Recommendations for further implementation of MTSS/RtI in higher education curricula were provided.

An article entitled, "RtI makes few inroads into the nation's education schools" (*Education Week*, March 2, 2011) substantiates the paucity of information about the extent that MTSS/RtI knowledge and content is embedded in teacher preparation programs. This article provides results of a survey completed by school district officials saying that "inadequate teacher training, a lack of resources, and limited data management capabilities are key barriers to their efforts to install response to intervention practices" (p. 2).

TEACHER PREPARATION PROGRAMS

Preparing educators with the professional knowledge and pedagogical skills necessary to positively impact student learning outcomes is the responsibility of teacher preparation programs. The knowledge base and clinical skills is well defined and easily measured. The competencies are summarized by Reschly and Wood-Garnett (2009) and include:

- Attitudes and beliefs of the teacher including the belief that *all* students can learn.
- Instructional competencies that include a deep knowledge of content delivered with high levels of student engagement matched to learning needs.
- Classroom organization and behavior management skills necessary for creating positive and effective learning environments.
- Problem-solving skills that include the ability to collect and analyze data, monitor student progress via formative assessment, observe and measure behavior, interpret student performance via gap analysis (current v. desired levels of behavior between a standard or peer group), and develop and deliver evidence-based interventions with integrity.

While implementation continues to expand in school districts across the country, survey data suggest gaps in the requisite knowledge base and professional competencies even among more recent graduates. Findings from recent surveys of classroom teachers by the Florida Problem Solving/Response to Intervention State-wide Implementation Project (2010) suggest that initial teacher preparation programs need to do more to prepare teachers with regard to their beliefs about student learning and beliefs that all students can learn as well as expanding their core professional competencies and skill sets essential for teaching in K-12 systems that operate via a MTSS/RtI model.

Results from those surveys are summarized below across two broad areas – classroom teacher beliefs about students and learning and teacher self-perceptions of MTSS/RtI skills. As this article focuses on teacher preparation, survey data were analyzed only for beginning teachers (i.e., those with less than one year of experience) and teachers with one to four years of experience. The following findings represent those two groups of early career classroom teachers.

BELIEFS

Teachers' responses to each belief statement could range from "strongly disagree" to "strongly agree" with "neutral" also being an option.

- Regarding the belief that "all students can learn," many teachers (60-62%) affirmed that belief. On the other hand, almost 40% of those surveyed did not hold the belief that all students can learn.
- When asked if students with high incidence disabilities (such as learning disabilities or behavioral disorders) are capable of achieving academic benchmarks, only 33% of beginning teachers and less than 40% of teachers with 1-4 years of experience reported believing that these students are capable of achieving academic benchmarks.
- Only slightly more than half (55%) of beginning teachers believed using data to determine the effectiveness of interventions is better than using "teacher judgment."
- While about 2/3 of the responding teachers believed graphing student data makes it easier to make decisions about performance and interventions, a majority of teachers reported they are neither able to graph data nor to use graphed progress monitoring data to make decisions about a student's response to intervention.

PERCEPTION OF MTSS/RtI SKILLS

Teachers were asked to rate their own skill level (the extent to which he or she had that skill and the level of support they would need to use that skill) relative to each statement about a skill considered important within an MTSS/RtI model.

- With regard to using data to make decisions about individuals and groups of students for core academic curriculum, 25% of beginning teachers reported a need for substantial support, but almost 2/3 said they needed some level of support.
- With regard to using data to make decisions about individuals and groups of students for core building discipline plans, nearly a third of beginning teachers said they would need substantial support, and 76% would need some level of support.
- When considering using data to define the current level of academic performance for a target student, 58% of beginning teachers and 36% of 1-4 year teachers said they needed some level of support to use this skill.
- Using gap data (between a standard or peer group) to determine whether core instruction should be adjusted or whether supplemental instruction should be directed to the target student is crucial to a RtI system. Approximately 40% of beginning teachers report needing substantial support, while 76% would need some level of support to use gap data.
- Between 60% and 75% of beginning teachers report needing some level of support for accessing resources to develop evidence-based academic and behavioral interventions at each tier.

- When it comes to selecting data to use for progress monitoring, 16% of beginning teachers need substantial support while 58% need some support.
- When asked about skills to graph data, 2/3 of beginning teachers indicated insufficient skills, and only 30% reported having the skills to interpret graphed progress monitoring data.
- Less than half of beginning teachers reported being able to collect universal screening data (e.g., early literacy skills).

A follow-up study to the one previously cited on teacher beliefs and skills (The Florida Problem Solving/RtI Project (PS/RtI, May 2011) found that with systematic professional development, educator beliefs and skills increased significantly across time. This study reported preliminary outcomes of three years of implementation (2007-2008 through 2009-2010 school years) of the Florida Problem Solving/Response to Intervention Project. This Project is a collaborative effort between the Florida Department of Education (FDOE) and the University of South Florida, created to 1) provide training, technical assistance, and support across the state on the PS/RtI model, and 2) systematically evaluate the impact of PS/RtI implementation in a limited number of demonstration sites. It supports the findings of Joyce and Showers (2002) that multi-stage professional development including coaching results in most educators implementing new practices.

These findings emphasized that scaling-up of MTSS/RtI across schools/districts requires considerable commitment, sustained effort and systematic professional development by schools/districts. The need for this type of intense professional development is an indictment of initial teacher preparation programs to provide MTSS/RtI knowledge and skills to teacher candidates as they enter the teaching field. It also affirms the need to proactively develop these skills in pre-service preparation programs, as resources to do this via a professional development model are not sustainable in the current environment.

TEACHER PRACTICES AND MTSS/RtI

There is a growing body of research that demonstrates the important relationship between teacher efficacy and positive student learning outcomes. Schools and districts implementing MTSS/RtI with integrity *and* committing to teacher professional development that develops their MTSS/RtI skills consistently demonstrate better student outcomes for those areas targeted by their MTSS/RtI initiatives (Burns et al., 2005). For example, Zigmond, Kloo, and Stanfa (2011) describe successful changes in student achievement (MP3 Project) and the importance of changing teachers' instructional practice to that successful outcome. The authors report dramatic "changes to teachers' understanding and application of research-based reading practice" (p. 192), changes that contributed to higher student outcomes for students in low-performing schools. Clemens et al. (2011) report positive increases in student achievement after MTSS/RtI implementation but not across all sites.

Where student outcomes did not improve the authors describe an instructional staff that did not want to implement the MTSS/RtI program. Many research studies report the positive effects using the MTSS/RtI elements of early literacy screening followed with research-based interventions on significantly reducing later

reading and learning disabilities. When teachers participate in data-based screening for at-risk learners, followed by delivering core curriculum interventions, significant numbers of students improve early literacy skills and go on to be proficient readers (Al Otaiba & Torgensen, 2007; Vellutino et al., 2007).

DOMAINS OF MTSS/RTI – ESSENTIAL ELEMENTS

The *Domains of Practice* and accompanying *Indicators* reflect the professional literature and school-based practice of multi-tiered systems and response to intervention. A multi-tiered system is characterized by its content and structure. The essential content of MTSS/RTI is three-fold: 1) a focus on high-quality instruction/intervention that is matched to student need; 2) decisions regarding students are based on learning rate and level of performance; and 3) educational decisions about intensity and duration of interventions (academic and behavioral) are data-based – data that is generated from student response to instruction delivered across multiple tiers of intervention. Increasing levels of intensive interventions are based on needs, not labels. Ongoing assessments and student progress monitoring (formative) provide the student performance data base upon which student needs are determined (Batsche et al., 2005).

Supported by professionals with broad expertise and experience in developing and implementing MTSS/RTI K-12 systems (<http://RtI-innovations.com/index.html>), seven essential areas of MTSS/RTI concepts and content have been identified that focus on the key professional knowledge, behaviors and skills that are required for pre-service teacher candidates to enter classrooms equipped to provide appropriate curriculum and pedagogy and to implement them effectively in PK–12 settings. These areas represent the Domains of Educational Practice for Higher Education Teacher Preparation. The Domains and their accompanying indicators present a guide for what is considered to be effective practice for both academic and behavioral interventions across three tiers in the multi-tiered system of supports. Essential to understanding the domains is the recognition of basic competencies that address attitudes and beliefs, instructional competencies, problem solving, and classroom organization and behavior management skills. The Domains emphasize both beliefs and professional competencies, and they highlight the role of the family as partners in students' learning progress. A brief description of the seven essential areas is listed below.

Domain A: Multi – Tiered Model

Classroom teachers must recognize the significance of providing high quality core instruction, referred to as Tier I, or Universal instruction, for all students. In addition to this, they must be prepared to provide more intensive interventions for students at the Tier II, “targeted” and Tier III, “intensive” levels. They must take professional responsibility for the teaching and learning of all students and commit to making it a priority. In order to effectively accomplish this, classroom teachers must be prepared to collect data through use of appropriate valid and reliable assessments. They need to know how to analyze this data and to plan evidence based interventions targeted to the needs of all students. As part of this, teachers must be able to assess student progress by using universal screening and continuous progress monitoring.

Domain B: Data-Based Decision Making

Classroom teachers must recognize the connection between the use of assessments and the design of effective instruction targeted to both students' academic and behavioral needs. This includes the knowledge of a variety of curriculum-based measurements and criterion-referenced assessments in addition to understanding how to develop and utilize formative and summative classroom based assessments. They need to be able to organize and analyze group and individual data and to be able to articulate and explain it to a variety of stakeholders. Periodic review of this data is necessary in order to develop, implement, evaluate and adjust instructional practices. Utilization of technology is essential in the collection, analysis and review of the data.

Domain C: Problem Solving Process

Classroom teachers need to recognize that the cycle of assessment and instructional practices for both students' academic and behavioral skills is linked and ongoing. Key to the effective implementation of the problem solving process are the definition and identification of desired academic and behavioral competencies appropriate for the age and developmental levels of students. In this context, student performance data is continually reviewed and measured against relevant school wide, regional and national benchmarks. Supported by the classroom teacher, students should be involved in monitoring their individual progress. Teachers collaborate as part of problem solving teams within their schools and districts.

Domain D: Curriculum and Instruction

Essential to the effectiveness of classroom instruction is the teacher's knowledge and implementation of evidence-based curriculum and pedagogy. This includes competence with both assessment and instructional practices. Classroom teachers must be familiar with state adopted standards and teach with an appropriate level of rigor. They need to be skilled at developing differentiated levels of instruction within lessons and know how to intensify instruction within a multi-tiered system of supports. Effective instructional practices are designed with a framework that includes evidenced based instructional elements. The instruction should be systematic, direct, explicit, scaffolded, and appropriately paced. In order to engage students, the instruction should include modeling, guided practice and a variety of opportunities to respond involving critical thinking. High, observable and measurable academic and behavioral goals and expectations should be set for all learners.

Domain E: Classroom Environment

In order for effective instruction and learning to occur, classroom teachers must be prepared to be able to create positive learning environments that use evidence-based classroom and school wide behavior management in a variety of grouping options. Teachers must be knowledgeable about learning theory and skilled in developing environments that are supportive of human differences and that embrace diversity. Practices important in effective classroom environments include teaching typical routines within school wide expectations, maximizing students' academic engaged time, and using positive approaches to teaching and rewarding desirable student behaviors.

Domain F: Collaboration

Classroom teachers must recognize the significance of establishing professional relationships that contribute to meeting the needs of all learners. This includes engaging in team processes that utilize the expertise of all professional colleagues along with parent, family and community supports. The problem solving process is most successful when teachers demonstrate highly competent interpersonal, communication and listening skills and work supportively within collaborative team structures.

Domain G: Professional Attitudes and Beliefs

First and foremost classroom teachers need to demonstrate through words and actions their belief that all students can learn. They need to commit to improving achievement for all students and embrace lifelong learning. They must recognize the role and impact that teachers have on student learning by taking personal responsibility for all learners. Within this structure, teachers must be able to determine and set individual professional goals.

Initial inspection of the Domains can cause some anxiety for inclusion of seemingly voluminous content in existing teacher preparation programs, but closer inspection discloses a number of competency indicators that are already part of any teacher preparation programs. Thus, the matter of inclusion of MTSS/RtI in a program becomes one of restructuring rather than adding content.

This restructuring involves inspection and reorganization of current program components that include clinical experiences, specific courses and alignment among courses. The crucial understanding is for successful inclusion of behavioral and academic MTSS/RtI in a teacher preparation program is that material must be embedded in the program and not viewed as something extra to be taught. The Domains provide insight into how MTSS/RtI can be embedded into a program. The competency indicators lend themselves to be embedded in a variety of program components. For example, Domain G: Professional Attitudes and Beliefs, are necessarily integrated into every course in the program, where Domains A: Multi-Tiered Model and B: Data-Based Decision Making can be embedded in an assessment course: Curriculum and Instruction in methods courses and Classroom Environment in clinical experiences.

Case example. The challenge to incorporate the Domains within a teacher preparation program at Loyola University Chicago was met through the collaborative efforts of faculty. Several factors contributed to this effort.

1. The structure in the School of Education is unique. There are no departments which might declare territorial rights to certain courses in the program. Rather, faculty are members of affinity teams that have voluntarily come together based on research and professional interests. Since the artificial boundaries of departments are no longer present, faculty who formerly taught courses in special education or educational foundations now view themselves as a part of the teacher preparation faculty.
2. When the faculty made the decision to incorporate the Domains, they came together to determine what changes were necessary and where

those changes would be incorporated in the program. Faculty members were part of a group of professionals that agreed on the revisions.

3. Both full time and adjunct faculty were committed to the addition of the Domains within the program. As a result, instruction is consistent across course sections with a common syllabus that all instructors use.

The existence of a different structure (i.e., affinity teams) does not preclude a university with a typical departmental structure from success integrating the Domains within a teacher preparation program.

Another important factor to consider is the integration of beliefs, knowledge and skills about multi-tiered systems within the programmatic course framework (i.e., not in addition to). Competencies within Domains and the Domains themselves should be mapped across the span of the program and be related to candidate's coursework, clinical experience, and capstone activities. In the examples below, the course framework for the teacher preparation programs at both the elementary and secondary level are described. The contexts highlight the integration of Domains related to course content and clinical experiences. Again, it is not a matter of whether or not a university has a certain course, but more about the nature of knowledge and skills a candidate is expected to demonstrate and how that aligns with the Domains.

ACADEMIC MTSS/RtI IN TEACHER PREPARATION FOR ELEMENTARY TEACHERS

The structure of the Loyola University Chicago Elementary Education program provides three valuable features for addressing the Domains. These include 1) two semester long sequences of learning experiences embedded at clinical sites, one at an elementary school and the other at a middle school, 2) extensive collaboration among University faculty who teach the on campus and clinical school based experiences and who provide the supervision and mentoring to teacher candidates, and 3) long term relationships with clinical teachers/schools that are committed to mentoring the LUC elementary teacher candidates. The curriculum and school based experiences have been designed and revised continually to incorporate both the knowledge and pedagogical skills addressed in the Domains and to introduce, revisit and provide opportunities for candidates' to observe best practices in elementary and middle school classrooms. More importantly, candidates are provided opportunities to design and implement instruction, learn appropriate assessment practices, develop collaborative relationships with school based professionals, and respond to the needs of a diverse population of students. Due to the fact that long term relationships have been developed over the past 10 to 15 years with clinical school sites, the school based classroom teachers have developed skills effective for mentoring teacher candidates and course assessments have been developed and revised with input from these teachers. Through these course assessments, teacher candidates have multiple opportunities to work with a variety of students in individual, small group and large group lessons, which are supervised by their LUC course faculty. Immediately following the observations of classroom teachers' lessons and teacher candidates' teaching of their own lessons, University faculty discuss and debrief with the teacher candidates in large groups what has been observed or taught, while still at the school sites.

In addition to first hand teaching experiences, teacher candidates help classroom teachers to evaluate student products or responses on classroom forma-

tive and summative assessments, and they assemble group assessment data including item analysis. Teacher candidates develop their own small and large groups' lessons and develop rubrics utilized to assess and collect data on student outcomes. These lessons include emergent literacy lessons, oral reading fluency lessons, large group social studies lessons, discipline specific content area lessons, and the design and teaching of lessons utilizing Universal Learning Design. Candidates are assigned to work in schools with teachers who have demonstrated a consistent dedication to and implementation of school wide and classroom based Positive Behavioral Support programs over the past 10 years. In order to fully implement all of this, University faculty responsible for these experiences, meet as a team prior to each semester and communicate consistently during the course of the semester with each other and in site visits with classroom teachers in order to maximize opportunities to prepare teacher candidates in all areas of the Domains.

Within the elementary program, MTSS/RtI content and concepts are taught in a combination of within courses, across courses and in clinical experiences. Early in the program, the emphasis is on identifying elements and strands of highly effective Tier One instruction. For literacy, this includes teacher candidates learning the five pillars of reading instruction as identified by the National Reading Panel (National Institute of Child Health and Human Development, 2000). In order to teach children to read successfully, teacher candidates need to be knowledgeable about and well prepared to teach the five essential components of reading instruction: phonemic awareness, phonics, fluency, comprehension and vocabulary. They need to teach reading skills with multiple texts including informational texts and a variety of types of texts, to teach close reading with small pieces of text, and to address all outcomes of the English Language Arts Common Core Standards (2010). Opportunities for students to respond in creative and critical oral and written language should be emphasized. Substantial efforts need to be made to ensure that readers are meeting benchmarks by the end of third grade, with quality Tier One instruction providing opportunities for all students to meet this goal. Elementary teacher candidates must recognize that the responsibility for teaching all children to read belongs to them, and they need to be able and willing to teach all students (Allington, 2011; Scharlach, 2008).

The elementary program's strong element of professional faculty collaboration began several years ago between the professors of the special education course and the reading foundations course. Rather than approaching the introduction of MTSS/RtI content, skills and pedagogy separately, it was determined that both the knowledge and skills base of teacher candidates was enhanced through multiple collaborative efforts across and throughout the program. One example of this is in the addressing of needs of struggling readers. This presents an opportunity for a specific application of the MTSS/RtI tiers. Teacher candidates begin to understand the significance of presenting highly effective Tier I, Core Instruction for all students. When the question is asked, is the struggling emergent reader's problem a reading problem or behavioral problem, teacher candidates quickly recognize that it is most often both of these. In this context, teacher candidates develop an understanding of universal screening and the value of utilizing Curriculum Based Measurements in Reading and the elements typically assessed (i.e., letter naming fluency, phoneme segmentation fluency, letter-sound fluency, nonsense word fluency, oral reading fluency, and maze

fluency). Candidates learn what a benchmark is (evidence-based reading skills that are typically mastered by a certain age or grade level), and how to use assessment data to determine if readers' are meeting them. Candidates practice using assessment data to design appropriately targeted instruction and to utilize program monitoring and diagnostic practices to measuring progress or probe deeper to determine what problems might exist and interventions suggested. Candidates learn to use evidence-based resources for developing targeted reading interventions and for motivating and engaging struggling readers (Smartt & Glaser, 2010) (Domain A: Multi – Tiered Model & B: Data-Based Decision Making).

Across courses and clinical experiences in the elementary blocks, evidence-based teaching practices for academic and behavioral instruction are introduced, reinforced and continually revisited. Teacher candidates learn that effective practices include techniques supported by research, instructional essentials, and the design of highly interactive and supportive teaching environments. All candidates are expected to become familiar with the 2010 Common Core Standards and to create lessons with appropriately leveled rigor for all students. They learn to write corresponding observable and measurable learning objectives along with formative ways to measure student success. Through their multiple opportunities to teach to a variety of groupings, teacher candidates quickly recognize the value of establishing routines, modeling desirable behaviors and providing opportunities for students to practice these, creating interesting and engaging "hands on" experiences, pacing the instruction appropriately, explicitly teaching academic discipline specific vocabulary and considering methods for providing differentiated scaffolding and expectations for diverse learners. Most of all, teacher candidates often quickly recognize that the best way to avoid behavior problems is to plan effectively with specific students' behavior, social and academic needs in mind. In order to best motivate students, instruction should be explicit, purposeful, intensive and systematic. Important in developing these instructional skills, teacher candidates reflect on their teaching and set goals for improving their individual professional practices (Domain D: Curriculum and Instruction & Domain E: Classroom Environment).

Teacher candidates learn how to gather and utilize a variety of types of data to determine complete, accurate, valid and reliable analyses of student performance. For all classroom based lessons that they teach, teacher candidates are required to develop and utilize assessment plans. This provides an opportunity for them to develop rubrics and determine specific expectations and outcomes for individual students and for their own instructional delivery. It also provides a purposeful opportunity for them to learn to collect and analyze data so that they can make instructional adjustments for subsequently taught lessons. As part of their classroom experiences, they learn which benchmarks are developmentally appropriate and how to collect screening data three times yearly in order to assess this (Domains B & C: Data-Based Decision Making & Problem Solving Process).

Working with a classroom teacher for a five-week school site based experience also provides teacher candidates in the elementary program with a valuable opportunity to observe and practice professional skills with teachers and administrators. All of the clinical sites provide a variety of push-in classroom based professional support programs. The schools' MTSS/RtI teams function effectively as models for

our teacher candidates, who not only learn to work effectively with K–8 classroom teachers, but also with teachers working within classrooms who are responsible for a variety of learning and behavioral interventions, i.e., special education, reading, ESL. Candidates routinely participate in MTSS/RtI grade level team meetings and offer suggestions in order to assist with problem solving, including their own responsibility for core instructional planning and the design of targeted classroom interventions. They frequently also have opportunities to observe or even administer progress monitoring CBMs for reading. Due to the duration of their clinical sessions, most teacher candidates have the additional opportunity to meet and work with students' parents who volunteer in classrooms or who may join them on field trips. Many candidates are asked to write letters of introduction that are forwarded to the parents (Domain F: Collaboration).

However, what may be most significant about the experiences elementary teacher candidates have in their clinical site experiences prior to student teaching are the multiple across grade opportunities with diverse learners and communities in K–8 classrooms where they develop their emergent professional attitudes and beliefs. Many of the teacher candidates in our program have enjoyed the benefit of exceptional educational opportunities and support throughout their personal home and school experiences. Through the elementary program's clinical experiences, they are able to recognize the demands placed on schools today and the depth of preparation required of them in order to meet these when they begin their professional careers. Just as they will be involving their students in tracking their own data in learning, teacher candidates become actively engaged in setting their own goals for becoming highly prepared teachers (Domain G: Professional Attitudes and Beliefs).

ACADEMIC MTSS/RtI IN TEACHER PREP FOR SECONDARY TEACHERS

Preparation of secondary pre-service teachers offers unique challenges due in part to the departmental structure of most high schools but more so to the responsibility of finalizing students' preparation for college and work. This is made clear in ACT's 2006 Policy Report: *Ready for College and Ready for Work: Same or Different?* "The primary mission of our public education system is to give every student the opportunity to live a meaningful and productive life, which includes earning a wage sufficient to support a small family. All students need to develop the knowledge and skills that will give them real options after high school. No student's choices should be limited by a system that can sometimes appear to have different goals for different groups. Educating some students to a lesser standard than others narrows their options to jobs that, in today's economy, no longer pay well enough to support a family of four." Pursuit of this mission begins with student embrace of the belief all students can succeed. This Professional Attitudes and Beliefs Domain competency must be an ingrained conviction of every course taught in a teacher preparation program and cannot be taken for granted. As mentioned earlier, 40% of the teachers responding to the belief statement of the survey did not hold the belief that all students can learn. This attitude is even more troubling when considering students with disabilities where expectations are already low. Once the success belief is firmly in place, it is easy and logical, to make the case that a multi-tiered system of support is the best chance of completing the mission.

MTSS/RtI instruction becomes a focal point for secondary teacher candidates at Loyola University Chicago during the first semester of year 3 when candidates have course and clinical experiences related to curriculum, assessment, classroom management and exceptional child. Domain A: Multi-Tiered Model becomes the organizational structure of the assessment course. The traditional MTSS/RtI model is presented on the first day of class through explanation of the tiers and pyramid graphic. In subsequent classes, a short time is taken to give alternative representation of academic MTSS/RtI that uses flowcharts and narrative. These depictions have the advantage of clearly identifying decision points in the process. This MTSS/RtI structure allows important components of assessment to naturally unfold in a relevant context. For example, when candidates are asked **what** should be assessed in tier 1, a discussion of objectives and outcomes naturally occurs. Not only are the required components of effective objectives requisite, but candidates reflect on the appropriate specificity and scope of objectives relative to their assessments in tier 1 and instruction in tier 2. When candidates are asked **how** students should be assessed in tier 1, the role of summative assessment and its relationship to objectives becomes fertile and productive. This also provides a segway to the profound importance of formative assessment and the need to inform teacher instruction and monitor student achievement. MTSS/RtI reveals the value of other assessment concepts such as the need for data-based decision making (Domain B) as well as the Problem-Solving Process (Domain C) when students are identified for tiers 2 and 3.

Domain E: Classroom Environment is initially addressed in the five-week clinical experience where candidates have the assignment to describe and analyze the MTSS/RtI system in place at their site. They then make recommendations for system improvement such as refined data analysis procedures, how to motivate students to participate in tier 2 interventions in the secondary setting, and identifying untapped intervention resources within the system. Candidates are expected to take initiative to be involved in all tiers. This provides an avenue for the candidate to be assertive in their active involvement at the clinical site that is usually welcomed by the system typically in need of help. The candidates often report they are invited to MTSS/RtI meetings as active participants in the problem-solving process that surrounds MTSS/RtI implementation at the secondary level. It is here they can experience Domain F: Collaboration.

To reinforce and spiral on key MTSS/RtI concepts, the assessment course calls for candidates to reflect on all assignments after initial submission. When assignments are returned to candidates with professor's comments, students are required to make corrections and improvements, utilizing an assignment revision protocol that requires meaningful reflection. They generate essential questions relative to the assignment as well as an analysis of how the content of the assignment is used and applied in a multi-tiered system of support.

The Curriculum and Instruction Domain is a focus of the curriculum seminar and content specific methods courses taught the following semester. Here, the focus is on tier 1 and the necessity of a strong core curriculum that is effective for all learners. This includes the differentiation needed for the struggling and emergent learner that in turn requires knowledge of evidence based practice, universal screening and data-based decisions. Candidates come to understand that the successful

education of all learners requires a highly effective tier 1, and that the existence of tiers 2 and 3 is not used as a means to support an ineffective core curriculum, tier 1.

BEHAVIORAL MTSS/RTI IN TEACHER PREPARATION

Teacher preparation at Loyola University Chicago expects all candidates (i.e., elementary, secondary, special education) to gain an understanding of learning theory, learn how to establish a classroom climate that respects and supports diversity, as well as develop a classroom management plan using evidenced-based practices. Essential skills for effective classroom-wide behavior management in Domain E: Classroom Environment were embedded as weekly class topics (e.g., ‘Establishing Expectations’ and ‘Developing Routines and Procedures’) and reflected as course objectives (e.g., candidates will analyze the impact of particular classroom management practices on diverse groups of students and refine practices to meet the needs of all students).

University faculty meet on-site with candidates to instruct, coach, and provide immediate feedback. There is a direct link for candidates between what they are learning in courses, are observing and practicing on site, as well as synthesizing in reflection assignments (Domain G: Professional Attitudes and Beliefs). For example, candidates complete reflections during their clinical experience that require them to critically evaluate what they observe with what the research says is effective. Candidates use these reflections as a foundation as they develop their own approach to classroom management, as evidenced in a culminating project of a classroom management plan that includes teaching expectations, establishing routines and procedures, developing methods for acknowledging appropriate behavior and effectively correcting problem behaviors.

One additional aspect integral to preparing candidates to work within multi-tiered systems is ensuring that candidates know how to find, read, and evaluate research to determine if an intervention is indeed evidenced-based (Domain A: Multi-Tiered Model). Candidates complete an assignment requiring them to identify a classroom management issue, search and review the research literature on interventions addressing the issue, and decide on what interventions should be used given the evidence base. It’s important to highlight that although the content of this course is classroom management, candidates develop knowledge and practice skills identified in domains other than Domain E: Classroom Environment.

Candidates’ knowledge and skills related to behavior management cannot be limited to the classroom level alone, as depicted by the range of competencies addressed in Domain E: Classroom Environment. Candidates must know how to engage in the problem solving process for students who are not responding to universal school- and classroom-wide behavior management practices. An essential competency for today’s teachers is the use of evidenced-based individual behavior management strategies. Loyola’s teacher preparation programs reshaped how candidates are introduced to working with students with exceptionalities, such as students with learning disabilities or behavioral disorders and shifted the focus from learning basic characteristics of each disability category to identifying needs based on data (Domain B: Data-based Decision Making).

Candidates apply the steps in the problem solving model as they learn to develop individualized intervention plans from functional assessment information. For example, a core assessment completed by all candidates requires them to interview teachers, operationally define an individual student's behavior of concern, and observe in the classroom while taking data on the targeted behavior. Candidates engage in problem identification and analysis in order to identify functionally appropriate replacement behaviors to teach as part of the individual student's behavior intervention plan. Candidates also learn how to examine learning environments for possible events that trigger and maintain problem behaviors and practice identifying strategies to prevent future occurrences of problem behaviors. Ensuring that all teacher preparation candidates complete projects where they gain practical experience in the problem solving process, as well as learn how to link behavioral assessment to intervention planning for individual students will promote success with multi-tiered systems during their first years in the field (Domain A: Multi-Tiered Models).

CULMINATING PROJECT EMBEDDING MTSS/RTI

The knowledge base and skill sets that candidates acquire during the four years of preparation are evidenced in the Impact on Student Learning project which is completed during a 15-week student teaching semester. The Impact on Student Learning project requires the candidate to focus on the creation of a content area unit using a framework that reflects what was learned throughout the teacher preparation program. The components include: 1) educational context; 2) unit learning goals, standards, and objectives; 3) assessment plan; 4) assessment and analysis of learning outcomes; and 5) reflection on teaching and learning.

First, student teacher candidates must know the educational context in which their students exist. Candidates gather data from previous performances on assessments as well as observation of student learning approaches, students' prior knowledge of the proposed unit content and current skill sets. Consideration is also given to the classroom, school and community factors that influence learning at the school and in the classroom. The collaboration between the student teacher and the mentor classroom teacher is encouraged (Domain E: Classroom Environment and Domain F: Collaboration) and is essential to the successful planning of the unit.

As the student teachers articulate the unit learning goals, standards and objectives, they are demonstrating what they have learned to meet Domain D: Curriculum and Instruction. This component requires that clear, developmentally appropriate, measurable unit learning objectives are linked to Common Core Standards and that they are addressed and taught with the appropriate level of rigor.

The assessment plan is crucial to the Impact Project; the student teacher candidates must identify both pre- and post-assessments as well as formative assessments, and incorporate the pre-assessment and formative assessment results in the planning and daily implementation of the unit (Domain A: Multi-tiered Model; Domain B: Data-based Decision Making; Domain C: Problem Solving Process). While the assessments are different at each grade level, all candidates are expected to use or create assessments that reflect the goals and objectives they have presented.

Candidates must be able to demonstrate that the assessments are indeed measuring the stated objectives and that their instructional decisions have been de-

terminated by the frequent and on-going assessments they have used to monitor student progress.

It is during the assessment and analysis of the learning outcomes that the student teachers synthesize what was learned throughout their program (Domain A: Multi-tiered Model; Domain B: Data-based Decision Making).

Assessment responses are summarized and graphed and appropriate quantitative and qualitative analyses are reported. Student teachers are required to analyze the data and compare results for subgroups (for example, students with IEPs and those without) as well as individual students. Interpretation of the data allows the student teacher to draw appropriate conclusions as to whether the instruction has had an impact on the student learners. The analysis provides opportunities for the student teacher candidate to gain experience using the data generated by the planned unit. This is not an academic exercise but rather a real-time activity with implications for the classroom and the individual students.

The final component of the Impact Project is the reflection on teaching and learning which allows the student teacher candidate to identify successful and unsuccessful teaching activities and assessments and to provide plausible reasons for success or lack of success. Student teachers then reflect on possible ideas for redesigning the objectives and lesson components to improve student learning. Included in this section are the student teacher's goals for continuing professional development. Using the insights and experiences learned in this project to plan for future professional development allows the student teacher candidates to think beyond their student teaching experience and to set professional goals that will be accomplished during the beginning years of teaching (Domain B: Data-Based Decision Making; G: Professional Attitudes and Beliefs).

When seeking their first teaching position candidates report that Principals/hiring teams are impressed with the scope of the work that the Impact Project requires and the knowledge and skills that are represented in the Impact Project report. All of this assists candidates answer district interview questions dealing with data-based decision making, evidenced based practices, student progress monitoring, and other components of MTSS/RtI.

SUMMARY AND RECOMMENDATIONS

Data suggest that many early career teachers, through their own self-reports, do not enter the schools with either the beliefs or professional competencies needed to positively impact student learning and without the necessary understanding of professional practice with a multi-tiered system of educational services. Moreover, direct assessment of a sub-sample of teachers of the skills deemed essential for successfully implementing MTSS/RtI, indicate that the ability to actually use such skills is even more limited than is indicated in teacher self-reports. For example, less than 10% of the teachers sampled demonstrated mastery of core skills associated with data-based decision making. Teacher preparation was identified by responding school districts as one of the major obstacles to successful implementation of MTSS/RtI in the schools (Spectrum K-12, 2010).

Initial teacher preparation programs need to address these shortcomings. Both state and national program approval and accreditation standards and candidate

credentialing requirements must have these expectations of programs and graduates. A professional teacher corps prepared to work within MTSS/RtI education systems is necessary if schools are to realize the qualitative improvements in student learning and behavior outcomes.

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