BRINGING RESPONSE TO INTERVENTION AND PROFESSIONAL DEVELOPMENT TOGETHER

by

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A DISSERTATION

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DISSERTATION ABSTRACT

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Doctor of Education

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Title: Bringing Professional Development and Response to Intervention Together

This descriptive, exploratory case study examined changes in teacher understanding and practice after completing fourteen online, self-paced professional development modules. The modules included instruction on response to intervention, data-based decision making, and reading instruction from the easyCBM® Data for RTI project. The two-year study included 39 kindergarten through fifth grade teachers and two elementary school reading specialists from a semi-rural school district in the Pacific Northwest. Some participants completed the training twice, returning as repeat participants in the second year. Data were collected via pre- and post-tests of the T-RTI (a test of teacher knowledge and skills related to the implementation of Response to Intervention), focus groups, and repeated surveys made up of open-ended narrative-response questions. Teacher response to the format and content of the lessons was overwhelmingly positive, and they recommended that all school staff complete the professional development to improve instruction and provide common language and understanding of response to intervention in schools. Recommendations for future research include examining the connection between teacher completion of the lessons and student outcomes.

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For Bill: Here is our doctorate. Thank you for setting me on the path
and pointing me in the right direction, and never doubting I could manage.

To *all* of my children: Education is never a waste. You either learn what you want or what you don't want, and they are equally valuable lessons.

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CHAPTER I

INTRODUCTION AND LITERATURE SYNTHESIS

Response to Intervention (RTI) became part of common educational practice after the authorization of the No Child Left Behind Act (NCLB) (Paige et al., 2002) and the Individuals with Disabilities Education Improvement Act (IDEIA) (U.S. Department of Education, 2004). Prior to the guidance provided by these acts, students with disabilities were identified as eligible for special education (SPED) services through a dual-discrepancy model, which demonstrated that a student's intelligence did not "match" their performance on a standardized test. The dual-discrepancy model had been in place since 1975 (Maier et al., 2016) and had resulted in disproportionate numbers of students of color and English Learners being identified as disabled.

When the guidance from NCLB and IDEIA was put in place, states were told they could use the RTI model instead of the dual-discrepancy model as part of the process in identifying specific learning disabilities (SLDs). One objective of this guidance was to reduce the disproportionality in the identification of SLDs; another objective was to provide an updated framework in which students could receive instructional support as soon as they showed need of it (Maier et al., 2016; Preston et al., 2016; Wilcox et al., 2013). Under the dual-discrepancy model, students often struggled for years before receiving eligibility for SPED services and its resultant supports (Fuchs et al., 2012; Preston et al., 2016). Under the RTI model, the emphasis shifted to providing high-quality instruction for all students and then layering supports on top of that instruction to meet student needs.

According to the National Center on Response to Intervention (NCRTI; 2010), the four main components of RTI are universal screening, a multi-tiered instructional system, progress monitoring, and data analysis. Universal screening usually takes the form of curriculum-based measures (CBMs) that are administered two to three times per year. CBMs were designed to be used in any instructional area to measure student progress in discrete skills (Wagner et al., 2017). They are standardized and normed assessments, usually timed and brief in nature, and are intended to identify students who may be at risk of academic failure (Hall & Mahoney, 2013; Maier et al., 2016; Preston et al., 2016; Wilcox et al., 2013). Over time, some concern has arisen about CBMs generating false positives as to which students are at risk, and so a more judicious interpretation of their use might be to determine which students are *not* at risk of academic failure. Many schools and districts are implementing a two-step assessment process in which CBMs determine which students are ready to proceed in the typical classroom setting, and then following up with diagnostic assessments that identify specific student needs (Fuchs & Fuchs, 2017; Fuchs et al., 2012).

The instructional system recommended by the NCRTI is typically made up of three tiers. All students should participate in Tier 1 of the RTI framework, with the premise that when Tier 1 is implemented well, the instructional needs of about 80% of students should be met. Tier 1 is comprised of the core instruction that takes place in the classroom setting, and any of the day-to-day supports that are at a teacher's disposal (Fuchs & Fuchs, 2017; Fuchs et al., 2012; Hall & Mahoney, 2013). Teachers should use universal screening and diagnostic assessment data to meet student needs as best they can through differentiated instruction in the classroom setting, and they should monitor

student progress for a specified period of time (Dougherty Stahl, 2016; Preston et al., 2016). If students do not make progress by way of differentiated classroom instruction, then the teacher and the RTI team, typically made up of the building principal, SPED teacher, school psychologist, reading specialist, and other professionals at the school may decide to move the student to Tier 2.

In Tier 2 of the RTI framework, students receive supplemental instruction in addition to the core instruction they receive from their classroom teacher. Tier 2 instruction should be delivered in small groups, with instruction targeted to address specific skill needs using an evidence-based curriculum, and should be provided by a trained instructor (Fuchs & Fuchs; Fuchs et al., 2012; Preston et al., 2016). While receiving Tier 2 supports, students' progress should be monitored frequently, minimally twice per month. The progress monitoring measures should be aligned with both the students' academic needs and their intervention curriculum. The Tier 2 instructional support should remain in place for a specified period of time while progress is being monitored frequently, and at the end of the intervention period, a determination should be made about next steps. If the student has made enough growth to meet grade-level expectations, then the RTI team will likely decide to have the student return to Tier 1 instruction exclusively. If the student is making growth but hasn't yet reached grade-level expectations, the RTI team may decide to "stay the course" and continue to monitor the student's progress closely, or they may decide to make some adjustments to the Tier 2 supports in an effort to accelerate the student's progress.

When students have not responded to Tier 2 intervention, the RTI team may decide to "intensify" the instruction and assign the student to Tier 3. Intervention can be

intensified by reducing the group size (perhaps only one or two students receiving instruction at a time) or by increasing the frequency or duration of intervention instruction times. Progress monitoring frequency also increases so interventionists can keep a close watch on student progress, and adjustments may be made frequently to pinpoint what works for a specific student. In this tier, instruction becomes much more individualized and in some settings, Tier 3 is reserved for special education (Fuchs & Fuchs, 2017; Fuchs et al., 2012; Preston et al., 2016).

If a student continues to show a lack of progress with Tier 3 supports in place, then the RTI team may use all of the data gathered while the student was progressing through the increasingly intensive tiers of instruction to determine if the time is right for a formal evaluation for SPED eligibility. All of the data gathered in the RTI framework can help the evaluator (typically a school psychologist) determine what types of formal assessments are needed to identify further supports a student should receive.

The RTI framework encompasses schools' entire operational systems, and the shift toward full implementation can be long and arduous. From the beginning, RTI has seen inconsistent student outcomes from place to place, likely because implementation has varied so widely. Over time, researchers have found that it is nearly impossible for schools to scale up their RTI practices without leadership support at the district level (Maier et al., 2016; Meyer & Behar-Horenstein, 2015; O'Connor & Freeman, 2012). District leaders can provide perspective across schools, help with allocation of funds, and facilitate PD opportunities in a cost-effective manner. RTI is commonly implemented in one of a few ways: The first approach is a problem-solving approach, one that utilizes all

of the data and all of the members of the RTI team to identify specific student needs and then determine what supports might help a student be more successful.

The second approach is the standard protocol approach, in which a "cut score" is used to determine which students are in need of support based on universal screening outcomes. Students are then placed in Tier 2 intervention supports, and progress monitoring data are collected to make sure students' outcomes improve. A third method is to use a problem-solving/standard protocol hybrid model, in which a cut score is used to make the initial identification of students who will receive Tier 2 supports, and then problem-solving is used as the follow-up when students are not making adequate growth (Fuchs et al., 2012; Preston et al., 2016; Wilcox et al., 2013).

Much of the success of RTI depends on classroom teacher efforts. From universal screening to individualized Tier 3 student supports, classroom teachers are the very backbone of RTI, and it is critical that they understand the theory and rationale behind it. The practical aspects of implementing RTI are complex and call for teachers to not only become proficient in data collection, but in analyzing those data to guide their instructional decisions. Many researchers have reported that teachers become proficient in data collection in relatively short order, but turning all of that data into student instruction is a big jump (Castillo et al., 2016; Hall & Mahoney, 2013; Preston et al., 2016; Regan et al., 2015; Spear-Swerling & Cheesman, 2012; Wilcox et al., 2013). It is not uncommon for building leaders and specialists such as the principal, school psychologist, SPED teacher, and reading specialist to receive training in data-based decision making (DBDM), with the expectation that they return to their schools and train classroom teachers (Regan et al., 2015; Wilcox et al., 2013). The reality is, though, that

everyone who works in a school is busy, opportunities for PD and collaboration are hard to come by, and teachers may not receive the training that would most help them with RTI implementation.

Data-Based Decision Making

Data-based decision making lies at the heart of RTI, and all members of an RTI team must be well versed in it. According to van den Bosch, Espin, and Chung (2017), DBDM requires reading, interpreting, and linking data to instruction. Their study of teachers' data literacy when studying students' CBM graphs revealed that while teachers are typically proficient in *reading* data, they struggle to fully *interpret* it, and then to link that analysis to instruction. This is worrisome in part because teachers are often expected to share data-based reports of student performance with families, but more especially because interpreting data and linking them to instruction is critical to the work of RTI. As students move through the RTI tiers, perhaps toward a SPED evaluation, the RTI team relies on the data that have been collected to guide their decision making. When teachers have not collected data regularly, or the data they have collected doesn't accurately reflect a student's performance gaps, it can put RTI team members such as the school psychologist in the uncomfortable position of having to delay a SPED evaluation. As one might expect, this can cause tension among team members, and classroom teachers may leave an RTI meeting feeling frustrated that their student is not going to get the support they need (Meyers et al., 2017).

Professional Development

To begin addressing the professional development (PD) needs that will support teachers' implementation of the RTI framework, it is important to understand the

elements of PD that have a lasting, positive impact on teacher practice and student outcomes. In a 2001 study, Garet, Porter, Desimone, Birman, and Yoon explained that many PD opportunities take place in a workshop format, in which teachers are brought together for a one-time event that focuses on a particular PD need: it might be about a classroom management strategy, a pedagogical approach, or a curriculum feature. Since then, multiple researchers (Albritton & Truscott, 2014; Garet et al., 2001; Guskey, 2002) have determined that effective PD should be content specific, include active learning opportunities, promote coherence among standards, expectations, and teachers' background knowledge, be sustained over long periods of time, and be designed to maximize collective participation. It is important to note that while PD is required for teachers to renew their licensure, many teachers attend and participate in PD events because they want their students to do well (Guskey, 2002; Wood et al., 2016).

The emphasis on PD being content-specific does not refer just to sharing strategies for teaching subject content. Albritton and Truscott (2014) and Garet, Porter, Desimone, Birman, and Yoon (2001) explained that content-specific PD should deepen teachers' understanding of their content area *and* show them how students learn that content. Workshop-style PD events may not allow enough time to do both. Using reading as an example, teachers may leave a workshop enthusiastic about trying a new strategy for teaching phonics, but if the workshop has not sufficiently deepened the teachers' understanding of what phonics is and why students need phonics instruction, the new strategy may be abandoned if the teacher fails to see student progress after trying it. Time constraints are always a factor in providing PD for teachers, but the Oregon Department of Education (2014) encourages PD facilitators to attempt deep instruction that is narrow

in focus rather than the opposite. By taking the time to help teachers achieve deep conceptual understanding of their content area, it is hoped that PD efforts will have a more positive influence on student outcomes. When teachers deeply understand their content, they will be more able to apply their understanding to the wide range of abilities their students show in their classrooms.

Active learning for PD sessions includes intentionality in planning and executing those activities. During PD sessions, teachers should not only have time for guided practice which will allow them to feel more confident in trying something new when they return to their classroom, but they should also receive feedback about their practice (Carlisle & Berebitsky, 2011a; Garet et al., 2001; Hochberg & Desimone, 2010a). The session should also include time to collaborate with colleagues about planning and implementation of whatever the new expectations are. In follow-up sessions, teachers should have an opportunity to review student work together and use that time to help each other problem-solve implementation issues (Albritton & Truscott, 2014; Garet et al., 2001).

Effective PD should foster coherence in education. For one thing, it should keep teachers up to date on the latest research relevant to the PD topic in question (Wood et al., 2016) because many teachers do not have time to engage in research outside their workday. Ideally, PD opportunities should act as a bridge from teachers' background knowledge and past practice to current research and new expectations. Coherent PD offerings also help teachers align new expectations and information with their local policies and context (Anderson et al., 2014; Hochberg & Desimone, 2010). One size does not fit all, and what works for one district may not be appropriate for another, even if

they are neighboring districts in the same geographical area (Hochberg & Desimone, 2010; Oregon Department of Education, 2014; Wood et al., 2016).

Sustained PD efforts can be incredibly challenging to implement and maintain. That being said, Guskey (2002) wrote that it may take teachers a full year to become comfortable with a new technique. Albritton and Truscott (2014) found that a minimum of 20 PD hours was required to create lasting change in teacher practice. By sustaining a PD focus over a longer period of time and allowing cohorts of teachers to come back together to share progress and questions, PD facilitators can both continue to help teachers deepen their content understanding, and also create meaningful learning for teachers. Another point Guskey made is that teaching is very personal to teachers. They care deeply about their students and are sometimes reluctant to try new approaches for fear of setting their students back. Sometimes teachers will not change their mindset about a new practice or expectation until after they have seen positive results for their students. Stretching a focused area of PD over months (or even more than one year), may provide the time needed for student results to catch up with the intention of the PD activity.

A lot of energy is put into planning how to get teachers to learn new information or how to implement new ideas, but another consideration is that some reform efforts require teachers to abandon an old practice or idea (Freeman et al., 2017). Anyone who has tried to quit a bad habit knows that stopping a learned behavior is incredibly challenging. It is no different for teachers who are being asked to stop doing things the way they have always done them. Linking back to Guskey's (2002) point that teaching is very personal to teachers, it is important to note that trying to implement a new strategy

while forgoing a known one requires that teachers make themselves vulnerable. This is where support from administrators can make a huge difference for teachers. Administrators are in a position to provide teachers with feedback in an authentic setting, and that feedback can make or break teachers' willingness to try new things and feel safe to make mistakes (Freeman et al., 2017; Hochberg & Desimone, 2010a; Learningforward.org, n.d.)

When the budget allows, PD should be planned for groups of teachers who have subject areas or student ages in common (Carlisle & Berebitsky, 2011; Hochberg & Desimone, 2010; Wood et al., 2016) in order to avoid a "one size fits all" approach, which is unlikely to be effective. Bringing "like" groups of teachers together enhances the natural opportunity for collaboration and rich conversation (Albritton & Truscott, 2014; Garet et al., 2001). While this is important for initial PD offerings, it is even more important in follow-up sessions where teachers of similar students can compare what worked, what did not work, offer each other support and feedback, and plan what to do next (Hochberg & Desimone, 2010; Wood et al., 2016). Collective participation is not just about who is attending the PD sessions, it is also about who provides feedback to guide future PD planning. It is critical for PD facilitators to gather not only immediate feedback at the end of a PD session, but also to follow up between sessions (Oregon Department of Education, 2014). By checking in with teachers, facilitators can maximize teacher learning and student outcomes.

Given the prevalence of RTI practice in education today, one might expect it to be well-aligned with PD, but there is actually not much research tying the two together. Albritton and Truscott (2014) reported that 67% of participants in their study on

improving problem-solving skills (n = 18) had little to no preservice training in the specific assessments they were expected to use and interpret as inservice teachers. The best way forward with RTI implementation is to develop teachers' understanding of both the framework and DBDM (Castillo et al., 2016; Wilcox et al., 2013). Learning to analyze and interpret data can be intimidating for teachers at first, in part because it can feel somewhat threatening. Again, teaching is personal for teachers and they judge their own success by how well their students are doing. By teaching teachers to confidently analyze and interpret student data, much of that intimidation can be broken down. With familiarity comes capacity to address student needs (Deno, 2003; Meyers et al., 2017; Van Den Bosch et al., 2017).

Another aspect of RTI and PD that is not well-documented is the use of an RTI model in PD planning. If PD is well planned and implemented, about 80% of teachers' needs should be met (Wood et al., 2016). A school's RTI framework and student performance should act as a filter for teacher PD needs. If students are showing gaps in a particular aspect of reading, such as phonological awareness, then the teachers who instruct those students should be provided with PD that will help them better meet those instructional needs.

The Current Study

The relative lack of research on PD specific to RTI implementation formed the impetus for this dissertation study, in which I addressed the following research questions.

Research Questions

1. How does an online self-paced PD program that focuses on data analysis, response to intervention, and reading intervention affect teacher understanding of student needs?
2. What are teachers engaged in the online PD doing to implement their learning?
3. How do teachers feel about the differences between this online self-paced program and traditional workshop-style offerings?
4. What suggestions do teachers who engaged in the online PD make for how best to implement this learning district-wide?

CHAPTER II

METHODS

Methodology

This descriptive, exploratory case study explored the relation between participating in brief online PD units and teacher knowledge and skill in implementing a Response to Intervention/Multi-Tiered Systems of Support model. Sources of data included pre- and post-tests of teacher performance on an assessment of PD knowledge, online surveys to collect data on self-reported implementation of new learning, and focus groups.

Setting and Participants

The study took place in a semi-rural school district in the Pacific Northwest. To present a clear picture of the district's community context, school district demographic data were averaged across the three years preceding this study. The district was comprised of approximately 7300 students, with six elementary schools located within city limits, two rural elementary schools, two middle schools, and two high schools. The district had an on-time graduation rate of 82%. Students were predominantly white, with fewer than 25% of students from other racial or ethnic groups, and 93% of teachers were white. The district employed 360 full-time equivalent (FTE) teachers and 112 FTE instructional assistants. It had a free and reduced-price lunch (FRL) rate of 51% (Oregon Department of Education, 2021). The city in which the district was located had a population of 32,000, with a median annual household income of $65,000. The median home value was $258,000, and the average monthly rent was $1100 (U.S. Census Bureau, 2021).

Participants in the study were elementary classroom teachers whose teaching experience ranged from 2 to 35 years (M = 15). All teachers had at least a Bachelor's degree, and taught kindergarten through fifth grades.

Description of the Treatment

Participating teachers completed a series of 14 online PD units (Alonzo & Irvin, 2018) delivered through a project-specific website to which they were only granted access when they were in the active treatment condition. In other words, teachers in the Delayed Treatment Group did not have access to the PD units until after the Treatment Group's pre- and post-test data were collected, to enable comparison between Treatment and Delayed Treatment Group change in performance on the T-RTI. The PD focused on DBDM and the RTI model (see Table 1).

Table 1

easyCBM® Data for RTI Lesson Modules and Assessments

Module	Title: Key content	Video Length	Questions to Check Understanding
1	RTI & MTSS Introduction: Key features of RTI/MTSS; tiers of instruction and associated student support	4:50	6
2	Test Administration: training resources; importance of standardized test protocols; differences in protocols based on universal screening or progress monitoring	3:34	4
3	Fall Benchmark Screening: easyCBM® system logistics and utility as universal screener to identify students at risk	7:33	4
4	When to Progress Monitor in Fluency: phoneme segmenting, letter names, letter sounds, word reading, and passage reading are included along with student performance patterns that indicate which fluency measure is appropriate for specific students	6:05	7
5	When to Progress Monitor in Vocabulary: these measures target students' emergent comprehension skills	3:28	4

Table 1

easyCBM® Data for RTI Lesson Modules and Assessments (Continued)

Module	Title: Key content	Video Length	Questions to Check Understanding
6	When to Progress Monitor in Comprehension: CCSS Reading and Multiple Choice Reading Comprehension measures are included along with explanation of how to choose the appropriate measure for a student based on their performance	4:23	3
7	Winter Benchmark Screening: interpretation of benchmark assessments and how to use easyCBM® reports is included	4:53	2
8	Interpreting Progress Monitoring: how to interpret progress monitoring data and student performance, including growth or lack thereof by using individual student reports	6:48	5
9	Assigning Interventions: the importance of logging interventions and modifications in the easyCBM® system as a way to improve decision making and student outcomes	5:31	3
10	Instructional Approaches to Build Fluency: importance of identifying and targeting students' independent reading level and using diverse practice strategies	6:48	3
11	Instructional Approaches to Build Vocabulary: evidence-based approaches include developing understanding of new words by seeing and using them many times across diverse contexts	5:11	2
12	Instructional Approaches to Build Comprehension: relationship between comprehension and other reading skills; different strategies that can help improve comprehension; importance of teaching students how to think across different levels of comprehension	9:18	3
13	Reciprocal Teaching: An Evidence Based Practice: instruction about reciprocal teaching that helps students actively improve comprehension through roles in group learning contexts	6:58	2
14	Self-Regulated Learning: An Evidence Based Practice: a learning strategy to help students take ownership of setting and meeting targeted learning goals	6:42	2

Data Collection

Instruments. The study used three instruments: the T-RTI (Alonzo & Irvin, 2016); repeated survey data to gather self-reports of implementation of new knowledge, and notes from focus groups with the teacher participants.

The T-RTI included 16 selected response items that were used to gather pre/posttest data to assess teacher understanding of DBDM and RTI. In field testing (Alonzo & Irvin, 2018), the T-RTI showed that many teachers struggled to interpret student performance using basic statistics such as percentiles. The implication was that teachers need PD in data analysis, and how to turn that analysis into instructional decisions such as placement in an appropriate curriculum or small intervention group. Results of the field testing further indicated the need for short-duration PD lessons that could be easily applied to teachers' current students.

After teachers completed the pre-test and PD lessons, their implementation of new knowledge was checked by online survey every two weeks for six (delayed treatment group) to twelve weeks (treatment group/repeat participants). All but the final survey included just three open-ended, narrative response questions. The final survey included one additional question (see Table 2).

Table 2

Survey Questions

What have you done to implement your learning from the Data for RTI modules in the last week? Please list all topics you can recall.
How and what kind of data have you used to guide your instructional decision-making in the last two weeks?
What resources (people, curricular programs, other) did you use to meet student needs based on your answers to the above questions?
Additional question on final survey: What else would you like me to know about your experience in this research study?

Focus groups were held in Spring 2020 and Winter and Spring 2021 with all teachers who had participated in the PD. Each focus group consisted of 5-7 participating teachers, intentionally drawn from different schools where the PD had been implemented. I facilitated each focus group, while two more experienced researchers (one a fellow D.Ed. student who worked in a research center at the University of Oregon, and one the Principal Investigator on the Institute of Education Sciences grant that funded the research) observed and took detailed notes. These detailed notes, along with the transcripts from the focus groups, were later analyzed, with themes identified. Table 3 lists the questions asked of each focus group.

Table 3

Focus Group Questions

Compare your experience with the PD provided as part of this project with previous PD experiences you have had. How did the online/self-paced format work for you?
How has the PD changed your practice so far?
Describe something you learned as you were completing the PD as part of this project that you want to remember.
Discuss your thoughts about who should receive this PD: beginning teachers, experienced teachers, instructional assistants, administrators? Why?
For those of you who used the Interventions feature on easyCBM®, what did you think? Will you continue to use the feature? Why or why not?
Thinking back to when the district first implemented RTI, what building-level resources accompanied the new expectations of teachers? District level resources?
What struggles did you have when you first came into an RTI system?
Before you were working in an RTI system, what was in place for struggling learners?
How do your principal and/or specialists support you in the RTI problem-solving process? In providing the interventions students need?
What changes do you believe are still needed in your team, school, and the district in order for RTI to be sustained?

Procedures. In both Years 1 and 2, participants were recruited for the study by email solicitation from the researcher via a district administrator, thereby conveying the

school district's interest in, and approval of, the research study. The solicitation included an overview of participant commitments, as follows:

- Complete a demographics survey
- Complete a pretest (T-RTI) before completing the PD modules
- Complete and pass the proficiency requirement for all PD lessons
- Complete the post-test
- Complete at least 80% of the three-question surveys that were sent every two weeks during the study (Year 2 only)
- Participate in a focus group with the researcher to gather qualitative information about participants' perceptions of the content of the PD and whether/how it influenced their classroom practices or their plans for future practice.

Upon being accepted into the study in Year 1, participants were administered the T-RTI pre-test and then randomly assigned to either a Treatment or Delayed Treatment group. Participants in the Treatment Group were given access to the online PD, and their progress through the PD modules was tracked, with prompts sent out when they failed to progress in a timely fashion. All participating teachers were asked not to share their experiences or the lessons they were learning in the PD with others to reduce the potential for treatment diffusion. After participants completed the PD, they were invited to participate in a focus group seeking to determine what new knowledge they had gained through the PD, how it had changed their teaching practices thus far, and what changes they hoped to implement and/or sustain in subsequent years.

Originally, the study was intended to be run exclusively in SY 2019-2020, but the COVID-19 pandemic and resulting shift to online instruction in early March 2020 resulted in a change to the research design. Fortunately, all Treatment Group teachers participated in focus groups in May of 2020. Because all schools in the state shifted to online instruction when the governor ordered in-person classes to be halted, the research team requested and received permission from the IES project officer to extend the study another year. The extension enabled the research team to recruit an additional group of teachers to serve as a new Delayed Treatment Group in SY 2020-2021, while those in the original Treatment Group continued as a Year 2 Repeat Treatment Group and those in the original Delayed Treatment Group received the PD as the Year 2 Treatment Group. Thus, data for this study span two years and include T-RTI pre- and post-test assessment data for all Treatment and Delayed Treatment groups, survey results from Year 2 only, and focus group notes from Spring 2020, and Winter and Spring 2021. Table 4 presents the timeline for study activities in Year 1.

Data Analysis

This study included both qualitative and quantitative data. The qualitative data were analyzed following guidance from Miles and Huberman's (1994) recommendations for qualitative analysis. I engaged in noting patterns and themes, and clustering and categorizing. I used descriptive statistics to analyze the demographic data and t-tests to analyze data from the T-RTI, given both as a pre-test and a post-test. Table 6 gives an overview of analyses that were used during the study.

Table 4

Timeline for Year 1 of Study

Month	Year 1 Treatment Group	Year 1 Delayed Treatment Group
1	Participants were solicited via District Office email were randomly assigned to Treatment/Delayed Treatment groups. All participants completed demographics survey and T-RTI pre-test.	Participants were solicited via District Office email were randomly assigned to Treatment/Delayed Treatment groups. All participants completed demographics survey and T-RTI pre-test.
2	Participants were asked to complete Data for RTI PD Modules within 2 weeks (see Table 1). They were instructed not to discuss the PD with colleagues (to reduce the risk of treatment diffusion).	Participants were asked to continue their typical practice and were reminded not to ask their colleagues about the PD.
6	Email from the study's principal investigator was sent to all participants explaining the study had been granted an extension due to the pandemic; all participants were thanked for persevering and asked to participate an additional year (with additional stipend).	
6.5	Participants completed T-RTI post-test, participated in focus group discussions (two participants answered focus group questions in an online survey because they were unable to attend any of the scheduled focus groups. All participants were invited to solicit participants for Year 2 (snowball recruitment)	Participants completed T-RTI post-test and were invited to solicit participants for Year 2 (snowball recruitment).
7	Year 1 stipends distributed	Year 1 stipends distributed

Table 5 presents the timeline for study activities in Year 2.

Table 5

Timeline for Year 2 of study

Month	Year 1 Repeat Treatment	Year 2 Treatment Group	Year 2 Delayed Treatment Group
	Participants solicited via District Office email		
	T-RTI pre-test administered		
1	Reviewed PD modules as indicated by pre-test performance	Completed all PD modules	
2	Participants reminded to complete remaining PD modules and document student interventions within easyCBM® online system		
2-4	Participants completed three surveys over a six-week period		
3	Completed T-RTI post-test and participated in focus group		
4			Completed PD modules, documented student interventions within easyCBM® online system, completed T-RTI post-test, participated in focus group
6	Stipends distributed to all participants		

Table 6

Data analyses for Years 1-2 of study

Data	Analysis tool	What I want to learn from the data
Teachers' pre/posttest scores on easyCBM® Data for RTI	t-Test	Did posttest scores increase by a statistically significant margin? Is there a statistically significant difference between performance on the T-RTI for teachers in the Control Group, as compared to teachers in the Treatment Groups?
Teachers' responses to open-ended data collection survey questions sent every 2 weeks for 6 weeks	Look for emerging themes or categories and code accordingly Report constructs that emerge	Treatment group • What have you done to implement your learning from the Data for RTI modules in the last two weeks (list topics)? • How and what kind of data have you used to guide your instructional decision-making? • What resources (people and/or curricular programs) did you use to meet student needs based on your answers to questions 1 and 2? Delayed treatment group • What have you done to track student achievement in the last two weeks? • What have you done to support student achievement based on your response to Question 1?
Focus group notes	Look for emerging themes or categories and code accordingly Report constructs that emerge	• What PD needs did this fulfill? • How did the online/self-paced format work for participants? • How has the PD changed participant practice thus far? • What recommendations would participants make to the school district based on this PD experience?
Demographics	Frequencies and percentages	Context

CHAPTER III
RESULTS

I used a t-test to analyze the T-RTI data related to RQ1 (*How does an online self-paced PD program that focuses on data analysis, response to intervention, and reading intervention affect teacher understanding of student needs?*). The other three research questions (RQs) (*What are teachers engaged in the online PD doing to implement their learning? How do teachers feel about the differences between this online self-paced program and traditional workshop-style offerings?* And *What suggestions do teachers who engaged in the online PD make for how best to implement this learning district-wide?*) were addressed via transcripts and notes from multiple focus groups and a series of three brief, repeated surveys made up of open-ended questions (See Table 2). Using Miles and Huberman's (1994) recommendations for qualitative analysis to make meaning out of my data, I engaged in noting patterns and themes, and clustering and categorizing.

Quantitative Data Results

Participants in the study demonstrated a mean score of 12.76 on the pre-test (*SD* = .283), and 13.64 on the post-test (*SD* = .276). Appendix A presents the results of the t-test comparing pre- and post-test performance on the T-RTI for each of the groups and comparing post-test performance on the T-RTI of teachers in the Treatment and Control groups in the study. There was one statistically significant finding in the pre- to post test results for the Y2 Delayed Treatment Group. There was a significant difference in the scores for the T-RTI pre-test (M=12.69, SD=12.69) and the T-RTI post-test (M=13.73, SD=13.73); $t(14)=2.81$, $p < .05$. However, given the multiple analyses run, if the Bonferroni correction was applied to the p-value, none of the t-test analyses were statistically significant.

Noting Patterns and Themes from the Qualitative Data Collected

The time I spent reading focus group notes and survey responses was initially focused only on noting patterns and themes. The patterns in responses presented themselves readily, and I found it made the most sense to write an overarching conclusion, or theme, for each focus group question as I went. I also found repetition in the focus group and survey responses to the point of saturation while compiling the findings (See Appendix B for a complete list of meaningful discussion quotes from focus groups). When I returned to my notes to consider how best to present them to my audience, the most straightforward approach seemed to be to report my findings within the context of each of my four research questions.

RQ 1: How does an online self-paced PD program that focuses on data analysis, response to intervention, and reading intervention affect teacher understanding of student needs?

Teacher participants reported via both focus groups and surveys that they felt better prepared to interpret and use student data overall. "I think the PD has given me more of a voice in the [RTI] process because I have a better idea of what the students might need," one participant shared in a focus group. Another teacher said, "Now I could really pinpoint things, where in the past I was really just guessing. Now I have a data point or two and know why I'm doing things." Teachers had also started using data to prioritize student reading needs and creating small instructional groups accordingly. They reported using data to determine appropriate progress monitoring measures *and* levels for those instructional groups. "My teaching partner and I completed a one-on-one reading assessment this week…I used this information to switch a few students in my small

reading groups," a participant shared. "I've spent time interpreting…winter benchmark[s]…to see who may need additional progress monitoring…[and] used the new information to target students who were struggling with vocabulary," said another. This was a shift for several participants because they had not really considered the appropriateness of checking a student's progress at their *instructional level* as opposed to their grade level.

A group of teachers who participated in Year 1 of the study were able to join as repeat participants in Year 2. Despite trying to implement their Data for RTI learning during a pandemic, they reported that what stuck with them over the second exposure to the PD content was the importance and make-up of the progress monitoring measures and levels, and how they might indicate student growth. "I know [now] that you don't have to [progress monitor] every single kid for every single area every single time," one veteran teacher said. "I have a better understanding of how the assessment pieces work together to determine where a student needs support," added another.

The PD lesson modules provide an in-depth look at the easyCBM® website, its features, assessments, and reports. Teacher after teacher stated they had no idea about what could be assessed and tracked in the easyCBM® system. In focus groups, they shared that they were more comfortable navigating it and interpreting reports. One of the participant requirements for the study was to use the Interventions feature in the easyCBM® online system. This feature allows teachers to log the intensity of an intervention (i.e., instructional tier, teacher to student ratio, duration, and frequency), curricular program, and specific strategies included in the intervention (e.g., direct instruction, reciprocal teaching, guided practice). Participants who spoke about this

feature during focus groups reported that they were unfamiliar with it prior to the study but that they really liked its potential to improve decision making for their students. Some students had interventions that had been logged in previous years by other instructors, and the participating teachers liked being able to look back on what interventions had already been tried with a specific student in the past and what progress the student made with that intervention in place. They also liked the idea of being able to provide information for subsequent teachers, particularly because it could be used to discontinue interventions that had already been tried and did not work.

In addition, teachers came away from the study realizing that student growth might be accelerated by intensifying an intervention, and that it was in their power or knowledge base to ask questions about intervention intensity for a student. They recognized that students need time, and to demonstrate a pattern of need or improvement before changes to those interventions are made. "It's made me more cognizant…I have data…but before I change things I need more data points." Participants also shared a new or deepened understanding that growth in raw scores is not all it takes for a student to make progress toward grade-level standards and spoke about percentile growth often. "[It was a] great reminder to get away from that raw score…especially when you're looking from fall to winter to spring…and [to] look at the percentiles."

RQ 2: What are teachers engaged in the online PD doing to implement their learning?

In reviewing both focus group notes and survey results to glean what teachers were doing to implement their learning, a theme emerged about how teacher participation in meetings with their building reading specialists and colleagues had changed. Some of the meetings incorporated their new understanding of student needs, or the need to seek

out resources to address those needs. After using the intervention logging feature in easyCBM®, one teacher spoke up at a meeting to say, "X intervention has been tried for this student already, and it didn't work. Let's try something else." The teacher reported feeling empowered by reviewing interventions that had been tried in the past. Before the Data for RTI training, she hadn't known about that feature.

In the repeated survey, teachers shared the wide types of data they were consulting and analyzing to guide their instructional decision-making (see Table 8). Teachers also shared that they were reviewing data reports from easyCBM® closely and carefully. This primarily meant that they were reviewing the thrice-annual universal screening benchmark reports, but it also meant they were reviewing individual student progress in preparation for sharing with families at conferences. In the words of one teacher, "I just felt more solid in sharing…data with families." Multiple teachers shared that they were specifically looking at student percentile growth in a new light, recognizing that an increased percentile score indicated that a student's achievement gap was narrowing. "I feel more confident in using the reports, and looking at the trends from the data points."

Table 7
Data Used by Teachers to Guide Instruction

Survey question: How and what kind of data have you used to guide your instructional decision-making in the last two weeks?	Number of reports
easyCBM® measures (all measures were reported)	97
Formative classroom assessments	39
CORE Phonics	15
iReady Reading Diagnostic assessment	11
Classroom observation	12
Student work	4
Lexia Core 5 reports	3

Teachers also used the benchmark reports to identify like needs in their classrooms and used that data to form skill-based instructional groups. Their new understanding of the various program monitoring measures available in easyCBM® allowed them to choose a measure that was matched to the instructional focus of each small group, thus ensuring that they were monitoring student growth effectively. One pair of teachers recognized a need for strengthened vocabulary instruction for a group of students. “I changed the seating assignment to cluster a group of students struggling with vocabulary,” said one. “We talked about the focus on vocabulary and the importance of it…and it was a good reminder for us to not let that go,” said her teaching partner. In their efforts to address their students’ needs, teachers reported they were using a variety of curricular programs and instructional strategies to provide effective instruction. A number of teachers mentioned how helpful the lesson module about vocabulary was for them, and one of the repeat participants shared that he went back and reviewed that video because he “needed a refresher.” This complemented another theme, one in which teachers reported seeking out resources to meet student needs (see Table 9)

At a school leadership team meeting focused on school improvement, I observed two study participants leading a discussion about which progress monitoring measures should be written into the improvement plan. They questioned which measures would align with student needs but also provide useful data within the timeframe of the improvement plan’s goals. Another study participant who is a reading specialist reported something similar happening during her school’s equivalent meeting. It was very gratifying to hear teachers applying their new understanding to school-level decisions, and to know they were empowered with enough knowledge to do so

Table 8

Types of Resources Teachers Utilized to Support Student Needs

What resources (people, curricular programs, other) did you use to meet student needs based on your answers to questions 1 and 2?	Number of reports
People	
Reading Specialist	40
Teaching colleagues (partner or team)	29
Instructional Assistants	15
Counselor	5
Parents	5
Principal	5
Special Education Specialist	5
English Language Development Specialist	3
District Instructional Coach	2
School Psychologist	2
Students	2
District Title 1 Coordinator	1
Speech and Language Pathologist	1
Curricular programs	
Reading Wonders curriculum	47
Ready Reading (diagnostic or curriculum)	22
Florida Virtual School curriculum	15
Phonics for Reading	5
Read Naturally	5
SPIRE	5

Table 8, continued

What resources (people, curricular programs, other) did you use to meet student needs based on your answers to questions 1 and 2?	Number of reports
95% Group (Phonological Awareness or Phonics)	4
Lexia Core5	4
Sound Partners	4
Reading Mastery-Signature Edition	2
Words Their Way	2
How to Teach Reading and Spelling	1
Road to the Code	1
Spalding	1
Other	
easyCBM® website	35
Teachers Pay Teachers	8
CORE Phonics assessment	6
Novel studies	4
Flipgrid	3
YouTube	3
Epic Books	2
Scholastic Social Studies	2
Super Teacher Worksheets	2
Data for RTI site	1
District Assessments	1
Pinterest	1

Table 8, continued

What resources (people, curricular programs, other) did you use to meet student needs based on your answers to questions 1 and 2?	Number of reports
Time for Kids	1
ZooPhonics	1

eloquently. Below you will find a table that further delineates the activities in which teachers were applying their new learning.

RQ 3: How do teachers feel about the differences between this online self-paced program and traditional workshop-style offerings?

Teacher participants overwhelmingly responded that they liked the flexibility of completing the PD on their own time, as their schedule allowed. “[Some] previous PD trainings have been "sit and get" experiences in a staff meeting after a long day of teaching. My brain is tired at that point and it is not the best time to learn something new. This project allowed me to learn on my own time and to review certain parts of it when I needed clarification,” shared an experienced teacher. This also meant they could ruminate on the lesson content before moving on to the next lesson if they liked. “[I liked] that I didn’t have to do it all at once…I could do it when I wanted to and…I could re-watch the videos.” They stated that they liked the length of the video lesson modules themselves (none longer than 10 minutes), because they were taking in new information in “snippet videos.” Each of the video lesson modules was followed by a short mastery quiz. Teachers had to answer questions with 80% or greater accuracy in order to pass, and

Table 9

Application of Teacher Learning

What have you done to implement your learning from the Data for RTI modules in the last two weeks? Please list all topics you can recall.	Number of Reports
Analyze or review student data	35
Lead small group instruction with a strategy from Data for RTI	35
Created or changed an instructional group based on student data	24
Administered progress monitoring assessments	18
Provided intervention instruction in a small group	12
Prepared to share student data with families (report cards, conferences, etc.)	9
Sought resources to meet student needs	8
Administered easyCBM® Benchmark assessments	6
Logged student interventions in easyCBM®	5
Attended RTI meeting	2
Goal setting	2
Adjusted the intensity of an intervention	1
Changed seating charts to cluster student needs	1
Scheduled meeting to review data with grade-level team	1

participants liked this immediate feedback of their new understanding.

A theme that emerged in the discussion about the online, self-paced format was the deepened understanding of systems participants already knew something about (i.e., RTI and easyCBM®). "There was good background knowledge on the [RTI] process," one teacher said. "I...liked that it wasn't something brand new, that we're already using [easyCBM®] and learning how to use it better," said another. One teacher shared, "I really liked the scenarios. So much that I learned was theory-based in the past. I really liked that it was laid out for me in the PD, with examples." Teachers also expressed appreciation for the design of the PD itself. "The lessons were very organized and progressive," and "It was the most organized PD I've had in a long time," shared a couple of teachers in one focus group. "I liked that the videos were short and to the point. Not a lot of fluff. Very direct," summed up another.

One interesting result from the focus group discussions was that some teachers did *not* like working on the PD in isolation. They wanted to bounce ideas off colleagues and teaching partners, which might be more feasible if the lesson modules were presented in a group setting. One participant commented that she would have liked to complete the lesson modules with her own student data on hand, "to make it that much more applicable."

RQ 4: What suggestions do teachers who engaged in the online PD make for how best to implement this learning district-wide?

When asked who should complete this PD course, the answer from participants was a resounding, "everyone." There was a clear consensus that all school personnel, including principals, specialists, and reading instructional assistants at the elementary

level need, and would benefit from, this training. "Anybody using easyCBM® or working with students…should receiv[e] this training," and "…if everyone in RTI knew this, it would make our intervention ideas a lot more focused. Everyone needs it," were among the sentiments expressed by teachers when answering this question. They were also strongly in agreement that it should be required for "new hires," and this recommendation was often accompanied by the phrase, "it would have been nice to know this ___ years ago." They went on to add that this professional development shouldn't be a "one and done" offering, but that it should be reviewed every year or two to make sure the knowledge did not slip away over time. "I…think it would be beneficial for an entire staff at the beginning of a school year," was a contradictory statement when considering how much the participants liked the flexibility of completing the PD on their own time, but there was also a suggestion of, "If everybody watched them all, you could do [small] groups for the different things that people wanted more information on…it's not going to be the same K through 5th, so the ability to…pick one and dive deeper…would be very beneficial for a school."

An additional theme that emerged in the focus group discussions was around the variations on the implementation of the RTI model from school to school in the district. Participants reported varying levels of principal involvement or engagement, as well as widely ranging structure to the RTI meetings themselves. "I think…if principals could have the training, it would make RTI work so much better," said one participant. They reported some frustration with the inconsistency, and one participant remarked, "in a district the size of ours, we should be able to be a little more consistent." As participants

shared ideas during focus groups, some felt like their teaching teams were being shortchanged in comparison to the support offered at other buildings.

Clustering and Categorizing

After noting the overarching conclusions, or themes, for each focus group question, I extracted key words from those themes and began looking for logical categories in which to place them. After arranging and rearranging my key words several different ways, I realized they fit neatly back into the categories the study began with: Response to Intervention, Professional Development, and Data-Based Decision Making. This confirmatory finding seemed a little too good to be true. I went back through the key words again and the categories I had chosen for them and realized some fit in more than one category, which made sense because the three categories have significant overlap in their application, if not in their literature base (see Table 11). The more I examined the themes and keywords, the more strongly my theory was confirmed that teachers' focus group and survey responses were, indeed, centered around the elements of this study: Response to Intervention, Professional Development, and Data-Based Decision Making.

Table 10

Keyword Categories

Response to Intervention	Data-Based Decision Making	Professional Development
Varied implementation of RTI		
Current practice more focused on data than in years past	Progress monitoring	Flexibility of PD format
Progress monitoring	Logging interventions	Applicable scenarios
Logging interventions	Seeking resources to support student needs	Features of easyCBM®
Seeking resources to support student needs	Features of easyCBM®	Effective instructional strategies
Engaged, helpful and supportive administrators strengthen Tier 1	Effective instructional strategies	'Everyone needs this training'
'Everyone needs this training'		Varied implementation of RTI

CHAPTER IV

DISCUSSION

The results of this study were strikingly consistent across treatment groups, which took place over the course of fourteen months. This finding is especially compelling when considering that timeframe included the COVID-19 pandemic and its resulting school shutdown, implementation of Limited In-Person Instruction and Comprehensive Distance Learning, and return to onsite instruction in classrooms with COVID-19 safety and social distancing protocols in place. That the results tie so directly back to the existing literature on the focus of this study provides additional evidence in support of the statement that it is past time to bring RTI and PD together.

Controlling for Threats to Validity

There were four primary threats to validity in this study. The first threat was made up of history factors. Participants in the Treatment Group were asked to complete PD modules within two weeks of the beginning of the study, but some teachers in each treatment group did not do so and required further prompting to complete the modules. This reduced the amount of time during which they could apply their new knowledge to their students' performance or instructional needs. A second historical factor was the COVID-19 pandemic that prompted extended school closures. The loss of more than 50 school days in the 2020-2021 school year obviously limited the amount of time teachers could implement their new understanding of RTI and DBDM. A third threat to validity was treatment diffusion. In an effort to prevent this, participants were asked not to discuss the content of the PD modules with non-participants, but there is no way to be certain whether or not participants maintained confidentiality. Additionally, participants received

a stipend for their participation in the study, and this may have introduced some bias into the participants' interest in taking part in the study.

A fourth threat, instrumentation, may help explain why I found no statistically significant differences between pre-test and post-test outcomes for teachers in the Treatment groups in my study. Teachers in my study scored quite high on the pre-test of the T-RTI, with a mean score of 12.72 out of a possible 16 points (roughly 80% correct). This relatively high score on the T-RTI pre-test suggests that teachers in the district may have entered the study with a solid understanding of Response to Intervention in general and the use of the easyCBM® system to inform data-based decision making more specifically. In contrast, teachers in prior years of the Data for RTI project scored an average of 11.36 (roughly 71% correct) on the T-RTI at time of pre-test (Alonzo, personal communication). Because they started the study with such high scores, teachers in my sample had less "room to show growth" on the T-RTI. Thus, although all teachers who completed the PD had increases in T-RTI scores at time of post-test, the increase, coupled with the small sample size, was insufficient to reach the threshold of statistical significance.

Summary of Major Findings

Response to Intervention

Harkening back to the intention of Tier 1 in the three-tier RTI model, the fact that teachers were using assessment data to "pinpoint things," and administering additional assessments to "switch students in small reading groups," links directly back to Fuchs and Fuchs (2017), Fuchs et al. (2012), and Hall and Mahoney's (2013) premises that core instruction is made up of any of the supports that are in a teacher's repertoire. The teacher

participants were using assessments specifically to strengthen the first tier of instruction in their school. Another teacher commented that she "had a data point or two and knew why she was doing things" which is additional confirmation that teachers fortify Tier 1 and thus the RTI structure when they understand the system, the data, and student needs.

Whether they recognized it or not during their focus group discussions, teacher participants were likely reducing the number of students who might otherwise have been assigned to Tier 2 intervention support. They were creating differentiated small groups. logging interventions in easyCBM®, and watching a trend line over several data points before making a change, as discussed by Fuchs and Fuchs (2017), Fuchs et al. (2012), Dougherty Stahl (2016), and Preston et al. (2016). The teachers were tracking the intensity of interventions in the classroom setting and recognized that they were able to make adjustments in their own small groups that might result in accelerated growth.

One of the themes in the existing literature around RTI is the inconsistency of implementation and therefore, its results. Maier et al. (2016), Meyer and Behar-Horenstein (2015), and O'Connor and Freeman (2012) all discussed the challenges of ramping up an RTI system across an entire school or district. This theme held true in the focus groups from the current study as well, with teachers reporting wide variations on the implementation of RTI from school to school, including the climate of meetings and the lack of clarity about how or where to gather resources after recommendations for intervention are made. One teacher's sentiment that "a district this size should be able to be more consistent" reflects the difficulties of implementing RTI that have persisted from its inception. From the participants' perspective, the district-level resources that are identified as critical in existing literature (e.g., perspectives across buildings, or effective

PD) are not apparent or established in all schools and may be hampering full implementation of the RTI model.

The school district where this study was set uses what Fuchs et al. (2012), Preston et al. (2016) and Wilcox et al. (2013) would call a problem-solving/standard protocol hybrid model, in that universal screening measures are administered, and a cut score is used to determine which students need further assessment to pinpoint skill needs. The assessment process was reported to be consistent across schools, but the problem-solving portion of RTI and the roles of RTI team members varied widely. As Castillo et al. (2016), Hall and Mahoney (2013), Preston et al. (2016), and others pointed out, much of the success of the RTI model rests on teacher capacity. One aim of the Data for RTI intervention was to help teachers make the leap from data analysis and interpretation to *instruction*. The literature has shown that RTI suffers from a disconnect in this area, and participant feedback confirmed that. Teachers who did not feel empowered to speak knowledgeably in RTI meetings in the past now had "more of a voice" and might be more able to "impact the data." The fact that building-level specialists and administrators are often the ones who receive training in RTI, while classroom teachers remain at the school instructing students (Regan et al., 2015; Wilcox et al., 2013) seems counterproductive, especially when considering how many teachers commented about how "nice it would have been to know this ___ years ago." This online, self-paced PD format may provide a solution, or at least one option, for the school district to provide the same PD about RTI to all stakeholders instead of depending on school administrators being able to squeeze it in at the building level.

Data-Based Decision Making

As van den Bosch, Espin, and Chung (2017) pointed out, teachers have the responsibility of sharing information with families, but while they can read the data, they often struggle to fully interpret it and therefore share it meaningfully with families. The comment of "I just felt more solid in sharing...data with families" came from a participant whose treatment group was working through the lesson modules right before parent-teacher conferences. Multiple teachers reported an improved understanding of percentile growth as the key to narrowing a student's achievement gap.

An additional theme in the literature centered around the importance of the quality of data collected in an RTI model. The lesson modules on analyzing data and turning that data into effective small group instruction provided participants with a means to support the work that building specialists do if a student is moving toward a formal SPED evaluation. The participants were collecting data using nationally normed screening and progress monitoring assessments while documenting interventions in a way that will allow a school psychologist to examine trends over time. This process will likely reduce the number of students who are referred for evaluation in the first place, one of the initial intentions of RTI (Maier et al., 2016; Preston et al., 2016; Wilcox et al., 2013). Students can't "progress" through the instructional tiers to a formal SPED evaluation without reliable data (Meyers et al., 2017), and several participating teachers pointed out that if everyone on an RTI team completed the Data for RTI training and had both common understanding and common language to use, RTI meetings might be "more focused," and ultimately, students might proceed to a needed evaluation more quickly if the data represent an accurate portrayal of the students' skills and needs.

Professional Development

The strong opinions teachers expressed in focus groups also linked back to the best practices found in existing PD literature (*content specific, active learning, promotion of coherence, sustained timeframes, maximized collective participation*). One theme in the need to provide content-specific PD was that it should deepen teachers' understanding of their own content (Albritton & Truscott, 2014; Garet et al., 2001). There were many comments made in focus groups about the vocabulary instruction lesson module and how useful it was, along with several references to the reciprocal teaching strategy. Other teachers commented on their new understanding of how various assessments reflected student needs (e.g., how the easyCBM® Vocabulary measures can be used to monitor reading comprehension). Some teachers also commented on how the lesson modules were a reminder of things they used to do and wanted to start implementing once more as part of their regular practice. As one teacher put it, "[we] tend to forget about some of the tools at the bottom of [our] toolbox." Aligned with the Oregon Department of Education's (ODE) 2014 guidance that PD should be narrow in focus and deep in understanding, teachers' enhanced understanding of data and the RTI model encouraged them to stay with a student intervention long enough to see if it worked. One teacher remarked that logging an intervention in easyCBM® made it "feel more formal," and because she had logged the intervention, she reported that she stuck with something that she might typically have abandoned, helping to ensure that the student had sufficient time to benefit from the intervention or – if no benefit were documented – that she had sufficient data points to make a sound decision about discontinuing the intervention.

Designing active learning for teachers during PD opportunities requires planning and intentionality (Carlisle & Berebitsky, 2011; Garet et al, 2001; Hochberg & Desimone, 2010). Some teacher participants in this study reported that they liked the quizzes after each lesson module because they got immediate feedback on their understanding after completing a lesson. Other teachers reported that they did not like working in isolation on the modules because as ideas occurred to them about how they might apply their learning to support students, they did not have anyone to share those ideas with. Another teacher pointed out that she would have liked to have her own students' data in front of her during the lesson modules because it would have made her learning "that much more applicable." All of these concepts loop back to the need for active learning and why it is integral to sustained improvement for students.

Teachers also expressed appreciation that this PD opportunity deepened their understanding of an existing system rather than having it focused on something entirely new. Other teachers proclaimed this as the "most organized" PD they'd had in some time. The organized and progressive structure of the lessons promotes coherence among standards, expectations, and teachers' background knowledge (Albritton & Truscott, 2014; Garet et al., 2001; Guskey, 2002), acting as a bridge to current research for teachers who may not have easy access to it. Instructing teachers specifically about professional development in RTI, data-based decision making, and reading is also in accordance with ODE's (2014) guidance about deep conceptual understanding. Just as Guskey (2002) pointed out, the participants in this study were willing to engage in a training course because they want to know how best to help their students, and this

deepened dive into structured content they teach everyday was both helpful and empowering.

With the ever-changing demands on the education system and the range of skills elementary teachers need to apply with mastery, it is difficult to sustain PD initiatives over time. Guskey (2002) and Albritton and Truscott (2014) discussed the need to provide teachers with enough time to both understand and implement new ideas. Teachers in this study were very clear that this PD opportunity should not be a "one and done" activity. There were several suggestions that all staff complete the lesson modules annually. In focus groups, the repeat participants spoke more fluently about the components of the study, some of them reflecting that their increased comfort with the topics were tied to the fact that they had been digesting the information for a year. Several participants wanted to know if they would still have access to the videos after the study because they wanted to revisit one or two. Others reported that one of the features they liked most about the format of this PD was that not only were the lesson modules brief in nature, but that they could rewind and review if something resonated with them or if they didn't absorb an idea completely the first time through. This finding may also connect to the difficulties of "unlearning" old ways of doing things, as Freeman et al. (2017) pointed out. By going back to review lesson modules, teachers may have felt more able to implement a new idea well, something most teachers expect of themselves, regardless of what they tell their students about "practice makes perfect."

Collaborative participation in PD requires planning for differentiated instruction and small group discussions (Carlisle & Berebitsky, 2011; Hochberg & Desimone, 2010; Wood et al., 2016). By taking the time to create effective small groups of teachers during

PD and providing opportunities for collaboration, facilitators may find that their instruction has a longer-lasting impact than traditional "sit and get" offerings. A suggestion was made in focus group discussions that either T-RTI post-test scores or educator interest/grade level might be good starting points for forming interest groups within schools. By using post-test scores, it would be assured that the small groups were a follow up to the completed PD; as noted in the existing literature cited above, the follow-up discussions after beginning to implement new ideas allow teachers to engage in rich discussion and problem solving. In focus group discussions, there was a discernible difference in the background knowledge with which repeat participants answered questions. The desire for opportunities to further deepen their learning came out in their discussion.

As noted by Albritton and Truscott (2014), many teachers' preservice programs are not preparing them to step into an RTI instructional model. The teacher participants in this study were adamant that this training should be required for educators who were joining the district. The refrain "It would have been nice to know this _ years ago" often accompanied this opinion. These experienced teachers recognized that this PD would set new educators—and their students—up for success by arming them with this information up front.

Implications of the Findings

At the district level, there was nearly unanimous agreement among participants that all new hires should complete the Data for RTI training during orientation, or over the course of their first year. The frequency of the response, "I wish I had known this X

years ago" made it clear that participants thought the training would help new teachers get off on a solid footing.

An additional implication for the district was the theme of inconsistency in the RTI structure across buildings. A teacher from the school that had the most participants in the study remarked, "[the principal] has his finger on the pulse of every grade level." Teachers from that building reported that they could count on their principal to help both with the RTI problem-solving process and with getting the resources they needed. Participants from other buildings shared that RTI meetings often felt "negative" and that teachers left feeling that they weren't doing enough. One teacher expressed a wish that RTI "just be completely reimagined at our school." Although it is important to realize that each principal brings to their school their unique instructional leadership style, the feelings of inequity that arose during focus groups based on the varying implementation of RTI bear consideration.

Schools in the district have some clear feedback from the study participants: all staff members should complete this training, either annually or every other year. The recommendations to complete it in a group setting during PD time, with teachers' class data in front of them were sufficiently consistent to merit consideration. Reviewing the PD regularly would address some of the needs that arise out of staff turnover and would also provide a way for all staff members to get (and stay) on the same page each year. Participants also recognized that being able to go back and review the lessons or look back for a particular instructional strategy was helpful and asked several times if they would have access to the videos moving forward through the rest of this year. This finding affirms that access to sustained PD initiatives is important to teachers. Following

up on this training, even by completing a survey or participating in a focus group, helped participants continue to synthesize their thinking. In the words of one survey respondent, "[It's] great to do surveys frequently. It helps keep this at the forefront of my mind."

Perhaps some of the most relevant implications are for individual staff members. Participants reported over and over their improved understanding of student data. One of the treatment groups was finishing the lesson modules as teachers were preparing for parent-teacher conferences. Participants stated they felt much more confident in explaining to families what their child's benchmark scores meant, and what it might take for their child to reach grade-level standards. I also observed two participants at a School Improvement planning meeting using their new understanding to advocate for different assessment practices that aligned with the goal-setting that was being crafted. They shared with me later that they felt empowered to speak up because of the understanding they gained from this PD opportunity. A reading specialist participant from another school reported similar discussion at her school's improvement planning meeting. Shortly afterward, another participant at my school engaged in some data-driven and reflective work trying to problem-solve the right instructional group placement for a new student who showed confounding abilities and needs.

Conclusion

I engaged in this study because I wanted to find a way to support my veteran colleagues in their roles within the RTI system. I developed a sense over time that what they needed was training on RTI, data-based decision making, and reading instruction. The Data for RTI project aligned perfectly with my interests, and it also filled in some gaps for teachers who are now prepared to support their students more effectively. I am

hopeful that the school district might roll these lesson modules out across all elementary schools in the future, to provide all staff members with common understanding, language, and improved capacity.

If I were given an opportunity to design the implementation of this PD for my district, I would use it strategically across a school year for all staff members involved in reading instruction. I would begin during inservice with the modules that provide an overview of RTI and MTSS, test administration, and fall benchmark screening. After data were collected and analyzed, and students were placed in instructional reading groups for the year, I would have school staff complete the modules on progress monitoring and the reading instruction lessons. Appendix C shows a calendar of how I would recommend implementing all modules across a school year (some more than once), to provide staff members with common language and understanding, while improving outcomes for all students. This approach is written for a first year of implementation, and I would recommend it for two years in a row. After that, administrators could gauge the need for repetition against staff turnover and student outcomes.

Opportunities for Future Research

The original plan for this study was to link student outcomes to teachers' new learning through the PD lesson modules. Due to the impacts of the COVID-19 pandemic and concerns about the integrity of assessment administration in the distance learning model, I was unable to research that link. I would highly recommend this as a next step for the Data for RTI project.

Given the teachers' revelations about the varying implementation of RTI across the elementary schools in this district, another opportunity for research may include

examination of RTI meeting efficacy, perhaps through the Team-Initiated Problem Solving (TIPS) model and fidelity scale.

APPENDIX A

T-TEST RESULTS

	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Y1 Treatment Group Pre-Test	12.68	1.80			
Y1 Treatment Group Post-Test	13.63	1.83			
Y1 Treatment Group Pre-Test to Post-Test			1.74	18	.09
Y1 Control Group Pre-Test	12.76	1.79			
Y1 Control Group Post-Test	13.50	1.82			
Y1 Control Group Pre-Test to Post-Test			-1.35	15	.20
Y2 Treatment Group Pre-Test	12.15	1.68			
Y2 Treatment Group Post-Test	13.23	2.49			
Y2 Treatment Group Pre-Test to Post-Test			1.40	12	.19
Y2 Delayed Treatment Group Pre-Test	12.69	2.21			
Y2 Delayed Treatment Group Post-Test	13.73	1.49			
Y2 Delayed Treatment Group Pre-Test to Post-Test			-2.81	14	.01
Control v. Y2 Treatment Group Post-Test			.30	28	.77
Control v. Y2 Delayed Treatment Group Post-Test			-.44	30	.67
Control v. All Treatment Groups Post-Test			-.33	57	.74

APPENDIX B
QUOTES FROM FOCUS GROUPS

RQ 1: How does an online self-paced PD program that focuses on data analysis, response to intervention, and reading intervention affect teacher understanding of student needs?	RQ 2: How do teachers feel about the differences between this online self-paced program and traditional workshop-style offerings?	RQ 3: What are teachers engaged in the online PD doing to implement their learning?	RQ 4: What suggestions do teachers who engaged in the online PD make for how best to implement this learning district-wide?
Now I could really pinpoint things, where in the past I was really just guessing. Now I have a data point or two and know why I'm doing things. …lots of good reminders of things I already knew…I found it nice to have a reminder about practices I used to do that I'd forgotten about…[it] gave me new ideas about how to support my higher-performing…kids. I get kind of rigid with [instructional] groups. I need to remember that groups can evolve over time. That students might change groups.	I could complete it on my own time...that I could pause and rewind. I liked the way it was broken down into these snippet videos… The best part was being able to go re-watch and rewind [if] I wasn't "getting it." It was the most organized PD I've had in a long time. [The lessons] were very organized and progressive. I liked that the videos were short and to the point. Not a lot of fluff. Very direct.	I didn't really realize all the capabilities of easyCBM It's kind of whet my appetite to dig deeper and seek more PD on how to become a better teacher of reading comprehension. I just felt more solid in sharing…data with families. I didn't know you could log interventions to see if they were effective or not … …when you have a highly transient population, you can easily pull [intervention] information up [to see] what	I really wanted to keep the training videos to come back to, to keep directing me in being really intentional. [It should be available to] everybody, and should be required of new hires. This would have been really awesome information to have six years ago. …it sure would have been nice to have the training videos right up front. I think administrators should do the PD so they understand the "why" behind what we're doing…understand the big

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I have a better understanding of how the assessment pieces work together to determine where a student needs support. I think the PD has given me more of a voice in the [RTI] process because I have a better idea of what the students might need. It's made me more cognizant…I have data…but before I change things I need more data points. [It was a] great reminder to get away from that raw score…especially when you're looking from fall to winter to spring…and [to] look at the percentiles.	[I liked] that I didn't have to do it all at once. …I could do it when I wanted to and…I could re-watch the videos. I…liked that it wasn't something brand new, that we're already using [it] and learning how to use it better. I really liked the scenarios. So much that I learned was theory- based in the past. I really liked that it was laid out for me in the PD, with examples. [Some] previous PD trainings have been "sit and get" experiences in a staff meeting after a long day of teaching. My brain is tired at that point and it is not the best time to learn	interventions have been [used]. I learned a lot more about easyCBM and how I could use it…to organize students into groups…look at the data…to make a plan for my kiddos based on what they really need. …there was a lesson about instructional strategies for Vocab[ulary]…that was a great resource for me to…have. I never knew how to navigate easyCBM…how to use the reports… I feel more confident in using the reports, and looking at the trends from the data points.	picture…understand what the data are saying. I think it would be beneficial to have all our staff do the training because there was so much information about which skills students were struggling with and how to target them. …these should be available (required??) to all staff [and] administrators… Anybody using easyCBM or working with students…should receiv[e] this training. I think…if principals could have the training, it would make RTI work so much better.

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I know [now] that you don't have to [progress monitor] every single kid for every single area every single time. There have been times when I know I dropped the ball by not really knowing what the intervention should be. We knew how to *read* the data, but we were never trained to impact the data…and we want them to get there…I would watch [a video] and think, 'oh, that's perfect for X student, that's the impact he needs'… I am using percentile scores to determine growth from…fall…to winter.	something new. This project allowed me to learn on my own time and to review certain parts of it when I needed clarification. I was able to pause and take notes during the videos. There was…good background knowledge on the [RTI] process. Having the lessons available throughout the year, so I could go back in and review was a real strength. You WILL learn something new that you can immediately take to your classroom and use. I thought the lesson modules were really good, I liked	I thought it was helpful to get reading resources for kids who are struggling. At the 3rd grade level, I think we don't always have the training or resources to help students who are struggling… Something that stuck with me is the need to progress monitor. I used the CCSS Reading Comprehension checks (during Comprehensive Distance Learning)…[it was] a great tool that was available that I didn't know about before. I think [logging interventions is] a really cool feature so they don't repeat	…if everyone in RTI knew this, it would make our intervention ideas a lot more focused. Everyone needs it. If only everyone in the district could have this same training, I think we would be more effective as a whole. It would be great for new teachers entering the district, but also teachers who have been doing RTI for a long time to make sure we're all streamlined and on the same page. If it's something we're going to be doing, then we should do it right. …this is so cool. I wish I had known this six years ago.

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I changed [student] groupings to better match student skill sets. …working on…letter sound and name [fluency]…monitoring every two weeks with easyCBM… [I gave] lower-grade progress monitoring [measures] for my struggling learners… I've spent time interpreting…winter benchmark[s]…to see who may need additional progress monitoring…[and] used the new information to target students who were struggling with vocabulary. My teaching partner and I completed a one-	the length of them…it was easy to get through one and recall the information…	things that didn't work. I needed a refresher so I…watch[ed] the vocabulary and comprehension videos. They were great reminders of simple things you can do and embed in your conversations with kids… I didn't know about logging interventions [or] the use of data points in between benchmark tests. I think it will really help me integrate easyCBM into my practice. The [easyCBM] system will do work for me that I have been doing on my own. It's going to save me a lot of time.	To have my data in front of me as I was going through the PD would have been more helpful to really push me to use it as best…I could. It had so much great information… I think it should be part of induction week when you're new to the district. I've been with Redmond for almost five years, and easyCBM still felt foreign to me. I think it would have been so cool to be able to use this all along… I think everyone could benefit from doing this every two years. I think everyone could benefit from this experience…even if we just did

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on-one reading assessment this week…I used this information to switch a few students in my small reading groups.		I learned how to interpret the data…better…especially… percentile ranks Vocabulary feels like something I have a little more control over. I feel like those lessons are something that I can implement right away. …we were recently looking [student] skills that were lacking, and…an intervention was suggested but this same intervention had been tried and [didn't] work…it was never documented…and (another participant) spoke up and said, 'that hasn't worked…so let's try something different.' When they're not making enough growth, you need to	little bits at a time, it could really help. I feel like this information would have been helpful…15 years ago when I first started teaching. It would be nice to…go back through [the lessons] that were very impactful because they were very skill oriented… I…think it would be beneficial for an entire staff at the beginning of a school year. I wish we would have had [this PD] at the beginning of the school year because I think I would have been better about implementing more of the [RTI] items.

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		change intervention, and…that was really eye-opening for me…in the past I would have just stayed with [an] intervention…but didn't realize that you can actually make even more growth by finding the right one… [My colleague] and I talked about the focus on vocabulary and the importance of it…and it was a good reminder for us to not let that go … …because I had logged [a phrase reading fluency intervention], I stuck with it…it was a little more formal…	…anybody who has students whose [reading scores they're responsible for] should have the PD and have options to revisit [the] lessons. If everybody watched them all, you could do [small] groups for the different things that people wanted more information on…it's not going to be the same K through 5th, so the ability to…pick one and dive deeper…would be very beneficial for a school. I think there's a disconnect between each school as far at RTI goes…I feel like the district is small enough to be…more cohesive. I would love it if our district had…a

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			library of resources at each school…so [if a] group is not doing well…this is the place I go…this is the best resource…so that I'm not scrambling trying to look for resources…I would like something that was…research based…

APPENDIX C

RECOMMENDED IMPLEMENTATION OF DATA FOR RTI PROFESSIONAL DEVELOPMENT MODULES

Month	Modules	Rationale
August	1. RTI & MTSS Introduction	Get everyone on the same page.
September	2. Test Administration 3. Fall Benchmark Screening	Ensure standardized administration of assessments.
October/ November	9. Assigning Interventions 10. Instructional Approaches to Build Fluency 11. Instructional Approaches to Build Vocabulary 12. Instructional Approaches to Build Comprehension 13. Reciprocal Teaching 14. Self-Regulated Learning 4. When to Progress Monitor in Fluency 5. When to Progress Monitor in Vocabulary 6. When to Progress Monitor in Comprehension: CCSS Reading 8. Interpreting Progress Monitoring	By October, staff members will have their complete data available to review during training. They will know their students well enough to recognize which strategies may be most beneficial for specific learners. Expectations can be established for progress monitoring that is well-aligned with student needs and interventions.
January	2. Test Administration 7. Winter Benchmark Screening	Ensure standardized administration of assessments.
February/ March	1. RTI & MTSS Introduction 9. Assigning Interventions 10. Instructional Approaches to Build Fluency 11. Instructional Approaches to Build Vocabulary 12. Instructional Approaches to Build Comprehension 13. Reciprocal Teaching 14. Self-Regulated Learning 4. When to Progress Monitor in Fluency 5. When to Progress Monitor in Vocabulary 6. When to Progress Monitor in Comprehension: CCSS Reading 8. Interpreting Progress Monitoring	After winter benchmarks are completed, it is likely that instructional groupings will shift substantially. Another run through these modules will start to solidify teacher understanding of how the RTI structure applies to their students.

REFERENCES CITED

Albritton, K., & Truscott, S. (2014). Professional development to increase problem-solving skills in a response to intervention framework. *Contemporary School Psychology*, *18*, 44–58. https://doi.org/10.1007/s40688-013-0008-0

Alonzo, J., & Irvin, P. S. (2018, April). Test of Teacher RTI Knowledge and Skill: Field test results. Poster presented at the meeting of the American Educational Research Association (AERA), New York, NY.

Anderson, D., Alonzo, J., Tindal, G., Farley, D., Irvin, P. S., Lai, C.-F., … Wray, K. A. (2014). *Technical manual: easycbm®*. Retrieved from https://files.eric.ed.gov/fulltext/ED547422.pdf

Bureau, U. S. C. (n.d.). U.S. Census Bureau QuickFacts: Redmond city, Oregon. Retrieved February 14, 2020, from https://www.census.gov/quickfacts/fact/table/redmondcityoregon/PST040219

Carlisle, J. F., & Berebitsky, D. (2011a). Literacy coaching as a component of professional development. *Reading and Writing: An Interdisciplinary Journal*, *24*, 773–800. https://doi.org/10.1007/s11145-009-9224-4

Carlisle, J. F., & Berebitsky, D. (2011b). Literacy coaching as a component of professional development. *Reading and Writing*, *24*(7), 773–800. https://doi.org/10.1007/s11145-009-9224-4

Castillo, J. M., March, A. L., Yin Tan, S., Stockslager, K. M., Brundage, A., Mccullough, M., & Sabnis, S. (2016). Relationships between ongoing professional development and educators' perceived skill relative to rti. *Psychology in the Schools*, *53*, 893–910. https://doi.org/10.1002/pits.21954

Deno, S. L. (2003). Developments in curriculum-based measurement. *THE JOURNAL OF SPECIAL EDUCATION*, *37*, 184–192.

Dougherty Stahl, K. A. (2016). Response to intervention: Is the sky falling? *The Reading Teacher*, *69*, 659–663. https://doi.org/10.1002/trtr.1457

Education, O. D. of. (n.d.). At-A-Glance School and District Profiles - Oregon Department of Education. Retrieved February 14, 2020, from https://www.ode.state.or.us/data/reportcard/reports.aspx

Freeman, J., Sugai, G., Simonsen, B., & Everett, S. (2017). MTSS coaching: Bridging knowing to doing. *Theory Into Practice*, *56*, 29–37. https://doi.org/10.1080/00405841.2016.1241946

Fuchs, D., & Fuchs, L. S. (2017a). Critique of the national evaluation of response to intervention: A case for simpler frameworks. *Exceptional Children*, *83*, 255–268. https://doi.org/10.1177/0014402917693580

Fuchs, D., & Fuchs, L. S. (2017b). Critique of the national evaluation of response to intervention: A case for simpler frameworks. *Exceptional Children*, *83*(3), 255–268. https://doi.org/10.1177/0014402917693580

Fuchs, D., Fuchs, L. S., & Compton, D. L. (2012a). Smart RTI: A Next-Generation Approach to Multilevel Prevention: EBSCOhost. *Exceptional Children*, *78*, 263–279. Retrieved from http://web.a.ebscohost.com.libproxy.uoregon.edu/ehost/pdfviewer/pdfviewer?vid=8&sid=17275524-59ec-44ad-931b-efb09eef7e5b%40sdc-v-sessmgr04

Fuchs, D., Fuchs, L. S., & Compton, D. L. (2012b). Smart rti: A next-generation approach to multilevel prevention. *Exceptional Children*, *78*, 263–279. https://doi.org/10.1177/001440291207800301

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Suk Yoon, K. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal Winter*, *38*, 915–945.

Guskey, T. R. (2002). Professional Development and Teacher Change. *Teachers and Teaching*, *8*(3), 381–391. https://doi.org/10.1080/135406002100000512

Hall, C., & Mahoney, J. (2013). Response To intervention: Research and practice. *Contemporary Issues in Education Research (CIER)*, *6*, 273–278. https://doi.org/10.19030/cier.v6i3.7939

Hochberg, E. D., & Desimone, L. M. (2010a). Professional Development in the Accountability Context: Building Capacity to Achieve Standards. *Educational Psychologist*, *45*, 89–106. https://doi.org/10.1080/00461521003703052

Hochberg, E. D., & Desimone, L. M. (2010b). Professional Development in the Accountability Context: Building Capacity to Achieve Standards. *Educational Psychologist*, *45*(2), 89–106. https://doi.org/10.1080/00461521003703052

Learningforward.org. (n.d.). Learning Forward. Retrieved July 13, 2020, from https://learningforward.org/

Maier, M. P., Pate, J. L., Gibson, N. M., Hilgert, L., Hull, K., & Campbell, P. C. (2016). A quantitative examination of school leadership and response to intervention. *Learning Disabilities Research & Practice*, *31*, 103–112. https://doi.org/10.1111/ldrp.12100

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Meyer, M. M., & Behar-Horenstein, L. S. (2015). When leadership matters: Perspectives from a teacher team implementing response to intervention. *Education and Treatment of Children*, *38*, 383–402. https://doi.org/10.1353/etc.2015.0022

Meyers, B., Graybill, E., & Grogg, K. (2017). Preparing teahcers for data-based decision making and response to intervention team collaboration. *Teacher Education and Practice*, *30*.

O'connor, E. P., & Freeman, E. W. (2012). District-level considerations in supporting and sustaining RtI implementation. *Psychology in the Schools*, *49*, 297–310. https://doi.org/10.1002/pits.21598

Oregon Department of Education. (2014). *Increasing the effectiveness of professional learning*. Salem.

Paige, R., Hickok, E., & Neuman, S. B. (2002). No child left behind: A desktop reference 2002. *Nation*. https://doi.org/10.1136/bmj.2.1489.110

Preston, A. I., Wood, C. L., & Stecker, P. M. (2016). Response to intervention: Where it came from and where it's going. *Preventing School Failure*, *60*(3), 173–182. https://doi.org/10.1080/1045988X.2015.1065399

Preston, A. I., Wood, C. L., & Stecker, P. M. (2016b). Response to intervention: Where it came from and where it's going. *Preventing School Failure: Alternative Education for Children and Youth*, *60*, 173–182. https://doi.org/10.1080/1045988X.2015.1065399

Regan, K. S., Berkeley, S. L., Hughes, M., & Brady, K. K. (2015). Understanding practitioner perceptions of responsiveness to intervention. *Learning Disability Quarterly*, *38*, 234–247. https://doi.org/10.1177/0731948715580437

Spear-Swerling, L., & Cheesman, E. (2012). Teachers' knowledge base for implementing response-to-intervention models in reading. *Reading and Writing*, *25*, 1691–1723. https://doi.org/10.1007/s11145-011-9338-3

Teaching, B. R. &. (n.d.). easyCBM® DATA for RTI. Retrieved February 28, 2020, from rti.easycbm.com/

U.S. Department of Education. (n.d.). Building the legacy: IDEA 2004 - individuals with disabilities education act. Retrieved April 25, 2020, from https://sites.ed.gov/idea/building-the-legacy-idea-2004/#bs_tab150290691146380

Van Den Bosch, R. M., Espin, C. A., Chung, S., & Saab, N. (2017). Data-based decision-making: Teachers' comprehension of curriculum-based measurement progress-monitoring graphs. *Learning Disabilities Research & Practice*, *32*. https://doi.org/10.1111/ldrp.12122

Wagner, D. L., Hammerschmidt-Snidarich, S. M., Espin, C. A., Seifert, K., & Mcmaster, K. L. (2017). Pre-service teachers' interpretation of CBM progress monitoring data. *Learning Disabilities Research & Practice*, *32*, 22–31. https://doi.org/10.1111/ldrp.12125

Wilcox, K. A., Murakami-Ramalho, E., & Urick, A. (2013). Just-in-time pedagogy: teachers' perspectives on the response to intervention framework - University of Oregon. *Journal of Research in Reading*, *36*, 75–95. Retrieved from https://alliance-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=TN_wj10.1111%2Fj.1467-9817.2011.01494.x&context=PC&vid=UO&lang=en_US&search_scope=everything&adaptor=primo_central_multiple_fe&tab=default_tab&query=any,contains,just in time

Wood, C. L., Goodnight, C. I., Bethune, K. S., Preston, A. I., & Cleaver, S. L. (2016). Role of professional development and multi-level coaching in promoting evidence-based practice in education. *Learning Disabilities: A Contemporary Journal*, *14*, 159–170. Retrieved from https://go-gale-com.libproxy.uoregon.edu/ps/i.do?p=AONE&u=euge94201&id=GALE%7CA469527388&v=2.1&it=r