

# A Review and Synthesis of the Response to Intervention (RtI) Literature: Teachers Implementations and Perceptions

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## Abstract

This paper briefly reviews the Response to Intervention (RtI) framework. It explains how Individuals with Disabilities Education Improvement Act (IDEIA, 2004) and No Child Left Behind (NCLB) enhanced RtI implementation in general education classrooms. The main focus of this paper is to identify general educators' roles when implementing RtI components such as evidence-based interventions and assessment. In addition, empirical studies that focused on general educators' perceptions of RtI reforms were presented. The reviewed literature shows the need for more research on the impact of professional development, general educators' perceptions and implementation of RtI.

**Keywords:** high quality instruction, learning disability, discrepancy model, identification.

**DOI:** 10.7176/JEP/10-15-02

**Publication date:** May 31<sup>st</sup> 2019

## Introduction

Response to Intervention (RtI) has been an important subject for research in special and general education disciplines (Fuchs & Deshler, 2007). RtI involves early intervention services for students who are struggling and identifies students for special education services who qualify for learning disability and related disability categories (Fuchs, & Deshler, 2007). The response to intervention (RtI) model utilizes high quality research-based interventions as well as a continuum of multiple assessments to measure students' progress toward tiered intervention (Richards, Pavri, Golez, Canges, & Murphy, 2007).

The Individuals with Disabilities Education Improvement Act (IDEIA, 2004) discontinued the use of Intellectual Quotient (IQ)-achievement discrepancy formulas as the only tool for identifying students with learning disabilities (LD) (Bradley, Danielson, & Doolittle, 2005; Klingner & Edwards, 2006). Gersten and Dimino (2006) explained that RtI does not only deliver interventions for students who are at risk for school failure but also establishes a more valid assessment to identify students with LD. The effectiveness of RtI implementation is related to the quality and consistency of instruction students receive at each tier because continuous progress monitoring through each tier informs instructional delivery, which can be altered as needed (Brown-Chidsey & Steege, 2005). Implementing RtI effectively requires a shift in how school administrators and teachers collaborate with each other to support the RtI process, especially when it comes to the collaboration between special and general education teachers (Richards et al., 2007).

## Historical Context of RtI

In 2004, U.S. federal law changes, with the reauthorization of IDEIA and previously with the 2001 NCLB legislation, resulted in rapid RtI implementation in the American schools (Villarreal, Rodriguez, & Moore, 2014). Fuchs, Fuchs and Stecker (2010) explained that IDEIA of 2004 and NCLB share a common goal in RtI initiative, which is using research-based interventions to support students in general education settings. Stuart, Rinaldi, and Higgins-Averill (2011) stated that RtI's approaches are included in IDEIA regulation that suggests a systematic process of monitoring, intervention, and screening to determine the response of a child to research, scientific-based intervention. They added that in RtI, multiple tiers of intervention are more valid to determine if a student has a disability (Stuart et al., 2011). One of the attempts of RtI from IDEIA perspective was to address the problems of over identification as well as the disproportionate of minority students in special education (Cartledge, Kea, Waston & Oif, 2016). RtI begins with universal screening for all students (Tier 1) and identifies students who are at risk of academic failure. Progress monitoring continues to measure students' responses to research-based instruction. Students who do not respond adequately will receive supplemental tier 2 instruction in order to receive more intensive support in addition to tier 1 core instruction (Fuchs & Fuchs, 2006). Fuchs and Fuchs (2006) point out that the IDEIA considers RtI instruction as a test to determine students' ability to respond to instruction. They also assert that the RtI intervention must be valid, evidence based and implemented based upon previous researchers' suggestions (2006).

The NCLB views RtI as part of the general education system, asserts that students with disabilities have the right to be educated in general education classroom and are involved in state assessments, and mandates that states, districts, and schools are accountable for students' performances (Fuchs & Fuchs, 2006). The NCLB requires high-quality teachers for this reason. Additionally, the intent of hiring high quality teachers is to reduce the number of unnecessary special education referrals of high incidence disabilities such as LD and emotional behavioral

disturbances (EBD) by providing effective instruction in hopes of preventing learning and behavioral difficulties. The NCLB supports services for students with disabilities in general education classrooms through tiered support (Fuchs & Fuchs, 2006). The IDEIA established valid and reliable way to prevent low achieving students from being labeled as having a disability by providing universal screening and RtI.

### **RtI Alternative Method**

Many researchers have discussed the instruments used to identify students with LD. Since 1975, there has been a debate related to identifying and serving students with LD, and how to serve those who are at risk of failure (Bradley et al., 2005; Richards et al., 2007, Werts et al., 2009). Prior to the IDEIA (2004), the diagnosis of specific learning disabilities (SLD) was predominately demonstrated by the discrepancy model (Werts et al., 2009). IDEIA (2004) defines SLD as a significant discrepancy between achievement and cognitive ability in oral expression, reading, writing, listening, or math (Bradley et al., 2005).

Multiple researchers have critiqued the discrepancy model as only tool to identify students in learning disability category. For instance, Aaron (1997) was concerned with how much discrepancy was required to identify students with LD. Bradley and his colleagues (2005) found that the eligibility criteria for diagnosing LD were not well operationalized. Policies related to diagnosing LD vary from a state to another (Hosp & Reschly, 2004), and discrepancy between intellectual ability and achievement is difficult to decipher in early elementary grades (MacMillan & Siperstein, 2002). The discrepancy model does not identify all students with SLD, which often leaves them struggling academically well into the upper grades of elementary school until the discrepancy becomes significant enough to require services (Bradley et al., 2005). Further, students who are at risk of failure cannot receive services until they fall behind and qualify for special education services (Richards et al., 2007).

Moreover, the discrepancy model is not helpful to provide information about how to deliver instruction to teach students; thus, it does not benefit teachers when planning instruction (Bradley et al., 2005). Additionally, with IQ- discrepancy tool, the prevalence of students classified as having LD has grown more than 200% since 1977 (Vaughn, Linan-Thompson, & Hickman, 2003). Historically, students who are from a minority culture and are English language learners (ELL) have been over-represented in the high-incidence disabilities such as SLD category (MacMillan & Reschly, 1998) leading to these students being placed in more segregated special education settings compared to White and Native American students (MacMillan & Reschly, 1998). In response to the variability and difficulties in the discrepancy model, the National Joint Committee on Learning Disabilities (NJCLD) expressed their concern about the accuracy of discrepancy as the only tool to identify students with LD (2005). OSEP's response to the NJCLD was an LD intuitive, which proposed that an IQ-discrepancy test was not sufficient or necessary to identify students with LD. Instead, OSEP suggested that teachers could evaluate their students through their response to evidence-based interventions (Bradley et al., 2005). Policymakers and professionals in the field of special education suggested RtI as a more effective method for identifying students with LD (Bradley et al., 2005). This shift of LD identification also shifted researchers' focus from the inaccuracy of discrepancy model to the effectiveness of RtI implementation (Bradley et al., 2005).

In 2004, the reauthorization of IDEIA changed the eligibility standards for LD (Richards et al., 2007). Based on RtI model, students should receive effective instruction with progress monitoring before being referred for special education services (Fuchs, Fuchs, & Speece, 2002) School district encouraged by IDEIA (2004) to use 15% of special education fund to provide early intervention support through the implementation of school-wide academic and behavior assessment (Fuchs & Fuchs, 2006). RtI advocate groups believe that RtI is an effective tool for making special education referral decisions based on scientific data, problem solving, and progress monitoring through tiers of intervention (Bradley et al., 2005). A possible reason for the wide acceptance of RtI is because it benefits all students through ongoing assessments that identify students who need services early (Cortiella, 2009). Subsequently, the IDEIA reauthorization in 2004 suggested documenting the use and using evidence-based interventions and instruction before referring a student to special education. In agreement with IDEIA (2004), Swanson, Solis, Ciullo, and McKenna (2012) stated that this step would ensure that the quality of instruction would never be a substantial reason for receiving special education services. As such, IDEIA (2004) allows states to implement RtI as the model for providing evidence-based instruction at the state level (Wiener & Soodak, 2008).

To summarize the benefits, RtI promotes early identification and prevention of school failure for students who are at risk or have a disability, which leads to a decrease in the number of referrals to special education. RtI has potential for reducing the overrepresentation of minority students in special education and address the issue of disproportionality because it provides multiple tiers of evidence-based interventions with increasing intensity (Harris-Murri, King & Rostenberg, 2006). RtI system also focuses on student data and seeks to identify instructional strategies that address student need in general education classroom (Hosp, 2008). Therefore, RtI model intends to avoid an immediate or unnecessary referral for special education, and students get support through tiered intervention. Thus, aforementioned are some of issues why RtI is considered as a promising tool to address the underlying issue lighted by disproportionality perspectives.

RtI also serves students who may be suspected of having disability without first labeling them as having a disability. For instance, students in Tier 3 may be eligible to receive long term intense intervention/instruction, in which students may receive the intervention for months or even years (Ringlaben & Griffith, 2013). RtI also has the potential for enhancing the collaboration between teachers and administrators in schools in order to provide effective interventions (Fuchs & Vaughn, 2012; Learning, 2009; Division of Learning Disabilities, 2012 As cited in Johns & Lerner, 2015).

However, the Council of Exceptional Children (CEC), and the Learning Disabilities Association (LDA, 2006), point to concerns about RtI may be the potential cause of delays in comprehensive evaluation for students with suspected disabilities, and requires therefore, partnership of all school staff and families to identify and meet the needs of students (Mellard, Stern, & Woods, 2011). In addition, many schools lack the personnel and resources to implement RtI with fidelity (Fletcher & Vaughn, 2009). Thus, the National Association of State directors of Special Education (NASDES), 2006) and Hughes and Dexter (2011), stated that “the most successful factors for RtI implementation are continuation of professional development, ongoing support from administration, and extensive meeting time for coordination” (p.10).

### **RtI Tiers**

There is no standard procedure of implementing RtI (Fuchs & Deshler, 2007; Werts et al., 2009). RtI is a framework that ensures high-quality instruction and ongoing assessments in general education classrooms (Berkeley, Bender, Peaster, & Saunders, 2009; Richards et al., 2007; Werts et al., 2009). Barnes and Harlacher (2008) defined RtI as a multitier approach of teaching support in which students receive appropriate levels of support based on their needs. Within RtI, schools are responsible for providing a range of evidence-based instruction in tiers, and teachers place students into these tiers based on the students’ data from screening and progress monitoring (Cummings, Atkins, Allison, & Cole, 2008). Current research focuses on two critical principles of RtI: implementation of evidence-based intervention and ongoing assessment to monitor student response (Cummings et al., 2008). General education teachers deliver instruction based on scientifically validated research and collect data on individual students’ performance. Students who do not respond to general education instruction in Tier 1 receive supplemental Tier 2 interventions in addition to Tier 1 instruction, which providing these students with more intensive instruction compared to Tier 1 instruction only. If students still do not show progress with supplemental Tier 2 instructions based on assessment data, they receive even more intensive Tier 3 intervention support (Werts et al., 2009).

### **RtI Models**

RtI mostly utilizes one of two models, which are the problem-solving and standard treatment models. The problem-solving model utilizes interventions that a particular team selects, which serves each student’s needs. Fuchs and Deshler (2007) also identified problem solving in three ways. Problem solving describes the process of how to identify differentiated instruction at Tiers 1 and 2 to indicate evidence-based interventions for teachers to use for the students with most significant academic needs, and then how building – based teams collaborate to support general educators to address the needs of students demonstrating increased academic difficulties. “Problem solving evolved from the work of curriculum – based measurement (CBM) research which sought to develop systematic decision- making processes that would promote effective use of data collected through CBM and enhance outcomes for children” (VanDerHeyden et al., 2007, p. 226). Kovaleski and Pedersen (2008) suggested that RtI teams could use problem-solving techniques to analyze data from universal screening at the tier 1 level to support teachers in designing and utilizing instructions that are different based on the level of students’ needs. Problem solving teams should determine what tier intervention matches the students’ needs after reviewing the benchmark assessment (Kovaleski & Pedersen, 2008). Therefore, team discussion is a critical part of RtI implementation, especially when designing interventions and making decision related to placement of students in tiered systems. Fuchs and Deshler (2007) called for further research to measure the effectiveness of the problem solving RtI approach in designing intervention that improves students’ outcomes.

The standard treatment model utilizes one consistent intervention that the school selects, which addresses the needs of multiple students based on universal screening and continuous progress monitoring through CBM. Standard treatments are those that have an evidence base as to their effectiveness. For instance, general educators could use an evidence based standard treatment intervention for students in Tier 2, which targets students who did not respond to an evidence based intervention in Tier 1 (Barnes & Harlacher, 2008). So, both models utilize universal screening to inform tiered instruction and to support all students.

There are at least three tiers of instruction/intervention in RtI (Fuchs & Fuchs, 2006; Richards et al., 2007; Werts et al., 2009). In most situations, high-quality instruction in Tier 1 should meet the needs of the majority of students in the classroom (Richards et al., 2007). Tier 1 can also be labeled as a universal core program/curriculum/instruction (Council for Exceptional Children [CEC], 2008). McKenzie (2009) considered the first tier as consistent with the whole- group instruction and the administration of universal screening to identify

students who perform lower in basic skills. Students who perform higher in the basic skills are thought to not require more intensive instruction/intervention. Fuchs and Fuchs (2006) suggested that at risk students on Tier 1 should be monitored on their progress to confirm non-responsiveness to core instruction before moving at risk students to further intervention/instruction. Students who do not progress in Tier 1 will receive more support in supplemental Tier 2 (McKenzie, 2009).

Tier 2 is targeted, and systemic interventions are designed for students through small groups with progress monitoring (Vaughn & Roberts, 2007). In Tier 2, students may receive interventions for 20 minutes per day up to 20 weeks in addition to Tier 1 core instruction (Bradley et al., 2007). Richards and his colleagues (2007) indicated that some students receiving Tier 2 instruction/intervention may not demonstrate any progress with not meeting the grade level benchmark; therefore, students who do not respond to Tier 2 will receive Tier 3 instruction/intervention.

Students in Tier 3 are usually 2-5% of all students and receive instruction/intervention in smaller groups than Tier 2. Instruction/intervention in Tier 3 are more intense and explicit, and they may take 45-60 minutes (Vaughn, Wanzek, Woodruff, & Linan-Thompson, 2007). As with Tier 2 instruction/intervention, students receiving Tier 3 instruction should also receive Tier 1 core instruction (Allsopp, Alvarez-McHatton, Ray, & Farmer, 2010). Richards and his colleagues (2007) point out that the school district determines whether Tier 3 instruction/intervention is considered to be special education services or not. Berkeley and his colleagues (2009) noted that within tiered instruction, special education referral should be considered only after tiered instruction/intervention within RtI has been delivered. However, Fuchs and Fuchs and Compton (2007) point that students who do not respond to Tier 2 intervention/instruction are key for LD identification. Overall, "There is no clear methodological definition of how or when a student should be identified as non-responsive to intervention/instruction" (Hughes & Dexter, 2011, p.8).

According to Werts and his colleagues (2009), "Throughout the process, a team reviews data collected on a systemic, ongoing basis to determine the best instructional options for a student" (p. 246). In the general education classroom, all students are to receive high-quality instruction with universal screening. Students who do not respond will receive intensive instruction in small groups or individually (Werts et al., 2009) in addition to Tier 1 core instruction. Progress monitoring data is constructed in order to define if the intervention that is implemented is adequate or inadequate (VanderHyden et al., 2007, p.227). Some studies note that when RtI is implemented effectively, there is potential to reduce the proportion of students who are referred to special education (Fuchs, Mock, Morgan, & Young, 2003). Johns and Lerner (2015) noted that since the inception of RtI, the percentage of students identified with disabilities had decreased from 4.4% to 4.0% by the year of 2006.

A major element of RtI is that all students receive research-based instruction in the general education classroom. Incorporating evidence-based instruction into teachers' methods can increase students' academic achievement (Harlacher, Walker, & Sanford, 2010). General educators have to conduct screening to determine students' progress (Werst et al., 2009). For instance, if students perform poorly in a particular area, teachers could use formative assessment during or after the lesson to inform them about the efficiency of instruction and the skills that students have acquired (Gersten & Dimino, 2006).

Moreover, teachers have to make sure that the intervention and instruction are implemented with fidelity (Bradley et al., 2005). When students do not respond to research-based interventions, special education referral will be considered (Barnes & Harlacher, 2008). Hence, teachers are responsible for applying the intervention procedures with fidelity in order to ensure the accuracy of intervention implementation

### **RtI Implementations**

The implementation of RtI is different from the traditional methods used for special education referral with the emphasis on utilizing of evidence-based assessment techniques, instructional strategies, and regular progress monitoring to inform possible referral decisions (Villarreal et al., 2014). Bradely et al. (2005) stated that implementing RtI can be challenging for general education teachers. General education teachers are required to implement individual and small group intervention/instruction within the substantial numbers of students' complex needs (Kratowill et al., 2007). Fuchs and Deshler (2007) asserted the importance of school leadership in the implementation of RtI, which includes teachers' understanding the conditions and social factors that ensure the success of RtI. They claim that poor implementation of RtI can be due to the lack of support provided to teachers by administrators.

In Tier 1, general educators are required to screen all students in order to identify students who struggle or are at risk of failure (Bradley et al., 2005). General educators are also required to conduct assessment to decide which students are in need for Tier 2 interventions (Richards et al., 2007). Tier 2 instructions require teachers to select interventions that are evidence-based instruction and to be able to administer assessments to determine students' response to the interventions and then making decision about students' placement. Hagger and Mahdavi (2007) indicated that the roles of both general and special education teacher is not identified clearly in the literature, so schools can decide which teacher is responsible to deliver Tier 2 intervention/instructions. Fuchs and Deshler



(2007) argued that one of the gaps in RtI literature is which teacher is required to deliver the instructions of Tiers 2 and 3 intervention/instruction. However, in reality many schools consider general educators to deliver Tier 2 interventions /instructions in small group of four to five students in classroom (Richards et al., 2007). Thus, general educators are responsible for applying RtI components in general education classroom through the tiers intervention/instruction. To ensure the effectiveness of RtI implementation, teachers should be supported in order to deliver evidence-based interventions.

Classroom teachers can be supported by many school members such as special education teachers, reading specialists, and school psychology who can specifically interpret and analyze students' assessment in order to design strategies that meet the students' needs (Richards et al., 2007). Therefore, general educators in RtI have the responsibility of offering different levels of support, ensuring that all learners receive benchmark assessment, and delivering the core curriculum with fidelity (Villarreal et al, 2014). The degree to which general educators can implement RtI efficiently depends on the social and cultural context of their schools. It also depends on whether critical features and systems are in place since they support teachers' roles in applying RtI effectively (Reynolds & Shaywitz, 2009). Students in Tier 3 may receive intensive interventions/instruction that are delivered by special educators or reading specialists and other content specialists (e.g., mathematics), which ultimately requires skillful teachers who can effectively deliver individualized instruction and progress monitoring (Richards et al., 2007).

In addition, effective RtI implementation across any school is complicated and it requires coordination, training, and support from a team. In RtI, many schools experience difficulties that are associated with providing the necessary resources that address the academic needs of all students. A variety of interventions, instructional practices, and assessments have various levels of demonstrated effectiveness and school personnel can encounter challenges when choosing which practices have the potential to be the most effective including meeting the needs of students receiving special education services (Tilly, Harken, Robinson, & Kurns, 2008). Fletcher and Vaughn (2009) point to the need for more research focusing on how schools successfully Implemented and or struggle to implement RtI models.

Subsequently, implementing RtI on a large scale (especially across all the grade levels in an academic area) has been challenging for teachers with limited experience (Fuchs & Deshler, 2007). In essence, effective implementation of RtI has potential for improving students' learning outcomes regardless of their disabilities in the general education classroom. Fuchs and Deshler (2007) point to very critical points in RtI implementation for this to come to fruition - RtI implementation must be valid and effective because the aim for RtI is to identify students with disabilities based on respond to evidence-based instruction in tiers. Implementing RtI interventions with fidelity enables teachers to make valid decisions when referring a student to special education services (Fuchs & Deshler, 2007). If RtI is to improve upon IQ discrepancy as a means to identify students with LD, the implementation of RtI should be applied with fidelity and integrity. Further, Fuchs and Deshler (2007) asserted that effective implementation of RtI requires a significant investment in professional development in order to equip teachers with the skills needed to implement effective RtI. They noted that there are many situational supports inside and outside school that help teachers develop their skills, which ultimately lead to effective implementation of RtI (Fuchs & Deshler, 2007). Fletcher and Vaughn (2009) assert that "the effective implementation of RtI requires ongoing and close collaboration and implementation with classroom teachers, special education teacher, Title 1 and other entitlement program" (p. 33).

### **Professional Development**

To meet the RtI implementation standards, teachers should be supported by their schools and school district through professional development. In order to implement RtI efficiently, teachers need to possess knowledge of evidence-based instruction, tiered instruction, multiple assessment tools, progress monitoring, and fidelity of implementation (Danielson, Doolittle, & Bradley, 2007). In addition, ensuring the success of RtI implementation requires educators to possess knowledge of and the ability to collaborate with other education professionals (Fuchs & Deshler, 2006) and families.

However, studies have indicated that teachers and other school personnel lack knowledge related to evidence-based practices (EBPs) across tiers in RtI (Danielson et al., 2007; Harlacher et al., 2010). A report published by The National Council on Teacher Quality (2006) revealed that the majority of general education teacher preparation programs do not effectively train teachers to use research-based reading instruction. Also, most graduate programs in school psychology are not training their students to use evidence-based prevention and intervention programs (Shernoff, Kratochwill, & Stoiber, 2003).

In addition, previous studies have reflected on general education teachers' ability to work with diverse group of students. For instance, studies conducted by Baker and Zigmond (1990), and Simmons and Kame'enui (1998) demonstrated that the majority of classroom teachers in their studies were not able to: (1) meet the needs of diverse students, (2) develop instructional strategies, and (3) enhance the academic outcomes of students who were at risk of school failure. Moreover, Zigmond (2003) argued, "Researchers recognize that general education teachers cannot focus intensively on particular students to the extent that different instructional activities for different

students are being implemented at the same time” (p. 197).

In an RtI framework, general educators encounter difficulty in utilizing the student data in order to plan interventions for struggling students in Tiers 2 and 3 intervention/instruction (Greenfield et al., 2010). Moreover, Danielson and his colleagues (2007) indicated that general education teachers may require training at the first and second tiers intervention. They argued that teachers should be trained to develop their knowledge and skills in conducting assessment, and progress monitoring to link students’ performance to intervention. This training could be effective if the professional development actually helps teachers to apply such skills in their practices.

Professional development (PD) has been an important topic for teacher educators. Professional development (PD) is defined as a variety of “learning activities related to enhancing skills needed to successfully meet the expectations of one’s occupation” (Kratochwill et al., 2007, p. 621). Previous studies related to PD have demonstrated the impact of PD on teachers’ knowledge and practices as well as students’ outcomes (Kratochwill et al., 2007). Gresten and Woodward (1990) argued that if general educators were supported with the implementation of RtI aspects, especially instructional strategies, the number of students referred to special education services would be decreased. They added that classroom teachers who are aware of evidence-based instruction do not only benefit students with disabilities, but also students who struggle with assessment benchmarks.

Stuart et al. (2011) conducted a qualitative study to explore the impact of PD on teachers’ abilities to practice RtI reform, which ultimately reduces referrals to special education services. This study also explored the impact of school and university partnerships and its impact on teachers’ performance when implementing RtI elements such as progress monitoring and planning for instruction. In the first year, teachers received support for two years through collaborative planning. General and special education teachers met with a professional collaborative group to learn how to effectively link the process for progress monitoring to designing individual instruction. In this collaborative model, participants shared their classroom artifacts in order to plan instruction. Collaborative groups were utilized to help teachers with assessing their students and designing interventions based on students’ data. In the second year, the intense support continued for developing knowledge and skills in universal screening, progress monitoring, and planning for instruction. The result of a focus group interview indicated that teachers’ perceptions changed in the second year after receiving the support. Before the intervention, the number of referrals to special education was 10% of the students’ population. However, after the university-school partnership, the number of referrals to special education services was decreased to 3% (Stuart et al., 2011). In this study, teachers’ perceptions and assumptions of their students changed to be positive (Stuart et al., 2011).

Further, professional development can be focused on helping teachers to learn about and reflect on their own practices in order to develop their awareness of these practices. For example, teachers can be engaged in structured discourse around practices that are contextualized within their actual school-based experiences. Previous studies related to PD suggest that ambiguous guidelines of practices are not beneficial for teachers to successfully implement general education reform frameworks such as RtI. For instance, asking teachers to use students’ data assessment to modify their instructional strategies is not critically helpful, especially if teachers did not receive any concrete examples and the implementation procedures (Fuchs & Fuchs, 1986).

Research related to teacher knowledge of instructional strategies has indicated that teachers must have the opportunity to practice instructional strategies in order to demonstrate in-depth understanding of these strategies (Darling-Hammond & McLaughlin, 1995; Gresten & Woodard, 1990). Further, Gersten and Woodward (1990) suggested that teachers should have the opportunity to meet with other school staff to reflect about their practices, which enables teacher to reflect on their practices.

A well-known model of professional development is coaching. In RtI, general educators need coaching, especially when identifying and utilizing evidence-based intervention in order to meet the needs of all students (Gersten & Woodward, 1990, Darling-Hammond & McLaughlin, 1995). Gersten and Woodward (1990) explained the procedures of effective coaching models. Principally, coaches should model the functionality of instructional strategies and teachers’ active roles in using new techniques while the coach facilitate teachers’ learning and encourage them to assess the impact of the unique students (Gersten and Woodward, 1990). Research found that when teachers reflect on and analyze their practices, students’ outcomes significantly increase (Cruikshank, 1985). The coaching model could assist general educators who encounter challenges in conducting curriculum-based measurement (CBM) (Gersten & Woodward, 1990).

Supports from reading specialists, other content specific pedagogical specialists, and RtI facilitators are necessary in order to both provide coaching to teachers in the application of evidence-based instructional practices and to encourage them to try new practices (Gresten & Woodward, 1999, Darling - Hammond & McLaughlin, 1995). RtI cannot be successful without a school-wide collaboration in order to assist general educators (Darling-Hammond & McLaughlin, 1995). However, more studies related to the effectiveness of PD and teachers’ practices and knowledge are needed (Garet et al., 2001).

## General Education Teachers' Perceptions of RtI

Few qualitative and quantitative studies have examined or explored general education teacher perceptions to RtI model. Cowan and Maxwell (2015) conducted a qualitative study to explore elementary general education teachers' perception of RtI program implementation. Participants demonstrated inability in understanding the RtI process in tiers and evidence-based interventions, learning about RtI paperwork that is not consistent, feeling overwhelmed and stressed out about the RtI implementation. Participants demonstrated positive attitude toward RtI in tracking students' progress, so they were able to see the log behind classroom benchmark. The study suggested school personnel should support teachers and evaluate of fidelity of RtI components.

Another in-depth qualitative interview conducted by Tillery, Varjas, Meyers, and Collins (2010) indicated that most elementary general education teachers did not demonstrate comprehensive knowledge of RtI components, struggled to demonstrate a clear understanding of the real purpose RtI, and viewed it simply as an additional block to referral for special education evaluation.

Villarreal et al. (2014) conducted qualitative study using computer-based text search program to explore teachers' (who were directly involved in RtI) perceptions. The majority of teachers demonstrated poor knowledge of RtI, lacked adequate training in evidence- base intervention, had confusion about the procedures of implementing RtI tiers, and lacked time and resources to implement RtI. They also complained about RtI paperwork that is lengthy and duplicate. Another survey study was conducted to examine elementary teachers' knowledge of the implementation of RtI model in reading (Spear-swerling & Chesman, 2012). The study results revealed that most teachers were not familiar with research-based instruction approach and intervention. However, teachers who had an effective PD were likely to know more about certain interventions. The study suggested that professional development is a critical factor that enables teachers to effectively implement RtI.

Greenfield, Rinaldi, Proctor, and Cardarell (2010) conducted a qualitative study exploring teachers' views after one year of RtI implementation. The teachers indicated that RtI is a valuable program because it provides them with the data needed to inform their decision and students' progress in order to measure the efficiency of intervention. Teachers suggested that they need more time to analyze and interpret the data and intervention.

Researchers who have examined teacher perceptions of educational research are Hargreaves (2005) and LaRocco & Murdica, (2009). Hargreaves indicated the factors that affect teacher's perceptions of education change because of age, personal development, and career stage (2005). Finding their perceptions is significant on knowing their challenges and their positive experiences on RtI reform, which contributes to supports teachers in RtI reform (Darling-Hammond, 2009). LaRocco & Murdica(2009) found that teachers' concerns related to RtI focused on individual learning reducing anxiety.

## Conclusion

RtI provides students with intervention and assess them frequently to ensure that all students receive support before referral to LD identification. The historical context of RtI from the IDEIA and NCLB perspectives enhanced RtI implementation. This review highlighted educators' roles in RtI, e.g., evidence-based interventions and assessment, when implementing RtI components in general education classrooms.

Moreover, teacher education programs, professional development for in-service teachers, and policy makers' considerations were identified and discussed. However, only a limited number of published studies that focusing on explaining and reporting the RtI process were found. Therefore, results of the review of the published studies stress the need to implement an alternative tool such as RtI instead of only using IQ- achievement test. Additionally, high level of transparency in describing the implementation of the RtI process is necessitated. For example, the literature review revealed that RtI Tier 2 intervention/instruction does not provide clear provisions in terms of how to make decisions about nonresponsive students to Tier 2 intervention/instruction, and when to refer them to Tier 3 intervention/instruction. The literature addressed general education teachers' role in RtI implementation were identified in terms of screening, selecting research – based intervention/instruction, and monitoring students' progress to inform decision-making. Varieties of PD for teachers were synthesized to show the impact of these activities that informed teachers' knowledge and practices. This study addresses the need for further work related to PD and teachers' practices and knowledge. Teachers' perceptions of the concerns related to RtI implementation includes: (1) lack of time to construct instruction, (2) lack of support from schools, and (3) the lack of knowledge about evidence-based practices (EBPs) related to their content areas.

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