Response to Intervention: It’s History, Role of School Psychologists, and Future Research

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The practice of school psychology includes skills associated with assessment, intervention, prevention, program evaluation, research, and consultation in student learning, emotional, and social development (Jordan, Hindes, Saklofske, 2009). School psychologists in Canada are generally satisfied with their jobs; however, they have expressed a desire for change in their roles and functions to incorporate an increase in time providing student services beyond assessment, such as consultation and intervention (Saklofske, Schwean, Bartell, Mureika, Andrews, Derevensky, & Janzen, 2007). The Response to Intervention model (RTI) provides such an opportunity for school psychologists.

The RTI process is a multi-tiered approach to providing services and intervention to struggling learners at increasing intensity (Berkeley, Bender, Peaster, & Saunders, 2009; Jordan et al., 2009). RTI can be used for making decisions about general compensatory, special education, and creating a well-integrated and seamless system of instruction and intervention guided by child outcome data. RTI calls for early intervention of learning and behavioural needs, close collaboration among classroom teachers, special education personnel and school psychologists, parents, and a systematic commitment to locating and employing the necessary resources to ensure that students make progress in the general education curriculum (Fuchs & Fuchs, 2006; Kavale & Spaulding, 2008). RTI is a fairly new model being employed in the United States (U.S.) and Canada and further research and longitudinal studies are needed to ensure RTI is being universally implemented in an efficient and effective manner and purpose. Therefore, focus of this paper is to provide a brief history, purpose, role of school psychologists and future research in the RTI model in the field of education.
History of Response to Intervention

The RTI model has had a very short history in North America; however, it has already had its share of controversies. RTI is a framework built around the principles of providing high quality instruction and early interventions matched to student need, making instructional decisions based on frequent monitoring of educational progress, and using student data to help make important educational decisions, but in the U.S. and in some provinces of Canada, RTI framework can be employed to designated SLD. In 1977, when SLD was first included as a disability category, the U.S. Office of Education stated that a discrepancy between student IQ and achievement should be used as the main criteria for determining SLD (Mercer, Jordan, Allsop, & Mercer, 1996). A summary of the definition of a learning disability (LD) by the Learning Disabilities Association of Canada (LDAC) (2002), states that LD are a heterogeneous group of disorders which can affect the acquisition, organization, retention, understanding, and/or use of verbal or nonverbal information in individuals who otherwise demonstrate average to above average abilities in areas which are essential for thinking and/or reasoning. The Diagnostic and Statistical Manual of Mental Disorders: Fourth Edition-Test Revision (DSM-IV-TR) (American Psychiatric Association, 2000) specifies that within each subtype of Learning Disorder, the individual must perform significantly below the expected ability on an individualized administered standardized test in the area of the reading, mathematics, or written language in comparison to others their age, age-appropriate schooling, or level of intelligence. Therefore, since the 1977 definition of SLD in the U.S., LDAC (2002) definition for LD in Canada, and DSM-IV-TR (2000) all include a reference to IQ and achievement differences, psycho-educational assessments have been traditionally used to determine whether a discrepancy between full scale intelligence score and academic achievement is evident. However, debates regarding the effectiveness and cultural bias of cognitive and academic assessments in the
identification of SLD have continued to occur since the inception of SLD (McIntosh et al., 2011; Vaughn & Fuchs, 2003).

Another concern with the use of traditional IQ-achievement discrepancy to determine SLD is that many students often went unidentified until after grade three and were left struggling academically until the discrepancy becomes significant enough to warrant eligibility (Bradley, Danielson, & Doolittle, 2007). This delay in services in the current system allows students to fall further and further behind their peers and is often referred to as ‘wait to fail’ (Fletcher, Francis, Morris, & Lyon, 2005; McIntosh et al., 2011). Even though studies indicated that early identification and intervention in primary grades had positive effects on student performance outcomes (O’Connor, Fulmer, Harty, & Bell, 2005; Vellutino, Scanlon, Small, & Fanuele, 2006), the use of IQ-achievement discrepancy continues to be the main means of identifying SLD in North America.

In the U.S., the Individuals with Disabilities Education Act (IDEA) (2004) allowed practitioners to legally use alternative means, such as a Response to Intervention (RTI) model, to identify SLD as well as provide early intervention to all children who were at risk of school failure (Fuchs & Fuchs, 2006). RTI models focus on providing scientifically researched-based instruction and programming to address student’s academic and behavioural struggles, with an examination of formal and informal assessments to monitor student’s progress through intervention (Fuchs & Fuchs, 2006). RTI ensures that a student’s learning difficulties are not the cause of ineffective instruction, physical disabilities, cultural differences, or linguistic differences, which is one of the criteria of the LDAC (2002) definition and for a diagnosis of Learning Disorder with the DSM-IV-TR (2000). Debates regarding the effectiveness of RTI in the identification of a SLD centers around the assumption that an individual must have a SLD if
they do not respond to intervention, not in the procedures or processes of addressing student need (Gerber, 2005).

At this current time, there are no national education laws or policies in Canada which state the use of RTI for designating a student with a SLD (McIntosh et al., 2011). Many provincial and territorial ministries of education support RTI in their policies and have encouraged prevention as an important role in addressing student academic and behavioural needs (McIntosh et al., 2011). New Brunswick has moved away from the ability-achievement discrepancy model of diagnosing SLD, allowing school psychologists to employ the RTI approach which focuses on curriculum-based assessments and classroom interventions (McIntosh et al., 2011). Nova Scotia also allows RTI as an option for designating a student with a SLD if after intensive intervention a discrepancy of three or more grade levels exists between a student’s academic and expected achievement level (McIntosh et al., 2011). Both Prince Edward Island and the Northwest Territories incorporate a non-categorical approach consistent with RTI of designating special education eligibility (McIntosh et al., 2011). Both Quebec and British Columbia support the inclusion of ‘failed RTI’ in their policies of SLD (Kozy & Siegel, 2008), which indicates that if a student continues to demonstrate significant difficulties in academics after proceeding through the interventions in the RTI model, they may be suspected of having a SLD. Students in Manitoba proceed through the RTI model before being referred for further in-depth assessments to investigate possible SLD can be performed (McIntosh et al., 2011). Saskatchewan does not use the discrepancy model to identify SLD to allocate funding, but uses a three-tiered model of service delivery to support individual student needs (McIntosh et al, 2011; Saskatchewan Ministry of Education, 2009). In 2009, Alberta began a set of comprehensive reforms to incorporate inclusive education through an initiative called Setting the Direction.
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(Alberta Education, 2009). This initiative focuses on evidence-based practice, support for all students, monitoring of data to indicate student success, and a system-level approach to effective student support, all of which are aspects of the RTI model (McIntosh, 2011). Therefore, though many Canadian school personnel may state that they are unfamiliar with a RTI model, many are actually already familiar with the concepts it incorporates to address student needs through early intervention and programming.

Response to Intervention Model

All models of RTI encompass a set of characteristics that include a multi-tiered approach to intervention, universal screening of all students, and a team of school professionals to manage and analyze collected data on student progress and performance to monitor effectiveness of designated interventions (Hale et al., 2006). Presently, there is no universally accepted RTI model; however, most models include a variation of a three-tiered approach, though four-tiered models have also been proposed (Fuchs, & Fuchs, 2006; Reschly, 2005).

Tier 1, which is often referred to as ‘preventative’ (Berkeley et al., 2009), provides high quality, scientifically-based instruction for all students. Class-wide screening is conducted as a means to target students who are struggling in an academic skill. Those performing above the selected criterion are deemed as ‘responsive’, and are not in need of instructional accommodations. Students who fall below the criterion are considered ‘non-responsive’ and are in need of more concentrated corresponding instruction, which is provided within the second tier (McKenzie, 2010).

Tier 2 provides students with supplemental instruction through the implementation of a choice of three methodologies: standard protocol, problem solving, or a combination of both.
Standard protocol focuses on providing the same scientifically-based classroom instruction and treatment for all students with similar difficulties in a specific domain (e.g. phonemic awareness). Regular and scheduled administration and monitoring of standardized Curriculum-Based Measurements (CBM), and consistent comparisons of at-risk student’s progress in comparison to the expected growth in specific academic skill growth are implemented (Fuchs, Mock, Morgan, & Young, 2003; Hale et al., 2006; O’Connor, Harty, & Fulmer, 2005). The problem solving model also focuses on scientifically-based classroom instruction and scheduled student progress monitoring; however, intervention programming is provided in accordance to each individual’s need (Fuchs, Fuchs, & Compton, 2004; Hale et al, 2006; Reschly, 2005). It has been suggested by some researchers (Hale et al., 2006; Reschly, 2005) that the combination of both methodology at different tiers would be the most beneficial means of addressing student need. The use of a standard protocol methodology would be the most effective at the tier 1 and 2 level, and the use of a problem solving methodology would be more beneficial at the tier 3 level.

The four-tier model suggested by Reschly (2005) divides the second tier into two levels of intervention, beginning with small groups of three to six students and proceeding to more intensive individualized instruction within the general education classroom. Students who continue to be non-responsive in tier two of a three-tier model (or tier three of a four-tier model) move onto the final tier of the RTI model, which incorporates more intensive intervention and accommodation. It is estimated that less than five percent of the general student population will fall within the final tier (Berkeley et al., 2009).

When correctly implemented, the RTI model ensures that each tier incorporates the delivery of scientifically researched-based instruction, an examination of formal and informal information about the student who is struggling, critical measures of student responses to the
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interventions put in place, and documentation of response data, which is to be reviewed if revisions to the type, frequency, and intensity of the intervention is deemed necessary (Kavale & Spaulding, 2008; McKenzie, 2010; Willis & Dumont, 2006). RTI ensures that a student’s learning difficulties are not the result of ineffective instruction, physical difficulties, social-economic factors, cultural, or linguistic differences which is one of the criteria of the LDAC (2002) definition of LD and for a diagnosis of Learning Disorders with the DSM-IV-TR (APA, 2000).

School Psychologist’s Role in Response to Intervention

Traditionally, the role of a school psychologist is deemed as a ‘tester’ (Saklofske et al., 2007). The implementation of an RTI model expands the role of school psychologists to include consulting, counseling, direct or indirect involvement in prevention and intervention programming for individual or groups of students, and providing ongoing support of school staff through data-based decision making and progress monitoring (Burns & Riley-Tillman, 2009; McIntosh et al., 2011; Saklofske et al., 2007). The incorporation of RTI should not add more tasks to the responsibilities of a school psychologist, but reallocate their time to more efficiently address prevention and early intervention; therefore, serving more students up front rather than at the point of special education evaluation and service (McIntosh et al., 2011). By supporting the needs of more students at the beginning stages of struggling, it is assumed that the number of students who would require more intensive intervention later in their educational career will decrease (McIntosh et al., 2011).

School psychologists are among some of the best trained professionals to assist in the development, implementation, and evaluation of new models of service delivery (McIntosh et al.,
Since school psychologists are trained to investigate, identify, and analyze current literature on problem solving, they are able to determine the most relevant and effective approaches to address student’s needs in specific areas of academics or behaviours through an RTI model (Canter, 2006). School psychologists are trained to identify systematic patterns of student need, such as continual difficulties in basic phonemic awareness skills in kindergarten and grade one students, as well as work with division, school boards, school administers, and other school personnel to identify appropriate evidence-based intervention strategies to address student academic or behavioural needs (Canter, 2006). School psychologists are also qualified to develop local norms for academic achievement, such as curriculum based norms and other measures of student progress, and monitoring the reliability and validity of these norms over time (Canter, 2006).

School psychologists are often regarded as leaders pertaining to issues involving assessment and mental health, home-school collaboration, and school-agency collaboration. As a member of the special education team and intervention assistance, school psychologists are in the position to play a critical role in implementing an RTI model within a school (Burns & Riley-Tillman, 2009; McIntosh et al., 2011). As a member of the RTI team, school psychologists are involved in the collaboration of developing team procedures, such as referral process and monitoring and evaluating process and student progress through each tier (Canter, 2006). School psychologists may serve as liaisons between the school and parents in assisting parents to understand the RTI model and how it may impact their child (Canter, 2006). School psychologists may collaborate with the RTI team in interpreting, monitoring, and integrating all collected data in team decision making regarding programming for students (Canter, 2006).
School psychologists will continue to play a critical role in addressing individual student needs and administering assessments (McIntosh et al., 2011). Within the RTI model school psychologists will continue to evaluate student cognitive functioning. When a specific learning disability or other disability is suspected, school psychologists will perform assessments to determine cognitive, academic, and other functioning. Using multiple sources of data to address a student’s cognitive functioning reflects best practice methodology, as it can minimize the impact of some possible biases and limitations of standardized norm-referenced IQ measures, especially for students who are from diverse cultural, linguistic, or economic backgrounds (Canter, 2006). In the area of comprehensive evaluation, school psychologists’ role continues to be the same as with traditional models, in that they investigate and consider relevant academic, behavioural, and mental health concerns that may influence school performance. However, school psychologists will have more opportunities to observe students in the instructional environment as a means to assist in identifying of barriers to intervention and the most appropriate intervention strategies to incorporate to address student needs. School psychologists may spend more time within tier 1 collaborating with teachers and parents regarding early intervention programming to address student need (Canter, 2006).

**Future Research in Response to Intervention**

A panel of RTI experts has concluded a variety of issues that need to be researched and investigated in the RTI model as a diagnosis tool for SLD (Hale et al., 2010). One of the most problematic concerns regarding RTI as a diagnosis tool is that all children who fail to respond to quality instruction and intervention are to be considered SLD (Flanagan, Ortiz, Alfonso, & Dynda, 2006; Gerber, 2005; Hale et al., 2010; Hale et al., 2006). Hale et al. (2010) (2006) have suggested research into a proposed model which combines a three-tiered RTI system and
achievement-ability assessment as a means of identifying SLD should be conducted. In this model, Tier 1 would involve the standard protocol approach, where the classroom teacher would ensure repeatable CBM probes to evaluate and monitor student progress in relation to instructional benchmarks and learning curves. Tier 2 would incorporate a problem solving model, which would involve the classroom teacher and other support staff, such as the special education teacher and school psychologist, to analyze the problem, implement individualized interventions, and incorporate a means of measuring the results. Interventions at Tier 2 could happen within the classroom setting, in small groups, or individually. Tier 3 would incorporate an evaluation by a multidisciplinary team and include psycho-educational assessment. If this evaluation reveals that the child has cognitive processing and academic deficits, it can be assured that the child meets the definition of LD and begin to develop targeted instructional strategies which may be unique to the individual; however, these individual interventions must include ongoing, intensive progress monitoring to ensure that the cognitive assessment findings do indeed have ecological and treatment validity. More research and longitudinal studies will need to continue in this area to determine whether a RTI model alone, achievement-ability assessment alone, or a combination of the two is the most accurate means of diagnosing an SLD.

At the current time there is no universal consensus on what type of RTI model to use, a three-tiered or four-tiered model, and when to implement standard protocol or problem solving methodologies. Research in the two methodologies have indicated that there are benefits and concerns with each. The standard protocol approach may lead to a high rate of false negatives because a student may demonstrate enough improvement during intervention to then be considered responsive to intervention (Fuchs et al., 2004; Mastropieri & Scruggs, 2005). Therefore, a student who may actually have a SLD may be deemed to be responsive, and
therefore not receive the accurate diagnosis or accurate interventions to address their SLD. The problem solving approach may lead to a high rate of false positives because a student who is non-responsive throughout the tiers may be designated as having a SLD, even though there may be a number of reasons a student is non-responsive other than SLD, such as mild Mental Retardation, receptive or expressive language disorder, etc (Fuchs et al., 2004; McKenzie, 2010; Ofiesh, 2006; Wodrich, Spencer, & Daley, 2006). Therefore, the possibility of receiving a misdiagnosis or lack of a diagnosis is quite probable. More research and longitudinal studies will need to continue in this area to ensure the most effective method of intervention is provided in accordance to each student’s need.

At this current time there does not seem to be a universally agreed training on how to implement RTI within schools and divisions. There does not seem to be agreed upon school personnel training standard or supervision methods to ensure interventions are carried out with integrity and fidelity (Hale et al, 2010; McIntosh et al., 2011). Further research on the most efficient means of training school personnel, determination of what each personnel’s role is within RTI (teacher, special education teacher, school psychologists, administrator, etc), and how intervention within all the tiers is to monitored and supervised need to be investigated and promoted to ensure RTI is implemented correctly and effectively.

Further research is needed in the effectiveness and deliverance of RTI across subject areas and grade levels. The majority of RTI research has focused mainly on word reading and within the early elementary grade levels (Fletcher et al., 2005; McIntosh et al., 2011; O’Connor, Fulmer, et al., 2005; O’Connor, Harty, et al., 2005). Research involving other subject areas and content, such as writing, mathematical concepts, or science concepts, have not been done extensively; therefore, it is unknown if the success RTI has provided for many students
struggling in word reading will in fact occur in other subject areas. There is a need for further research on the effectiveness of RTI with older elementary and high school students to determine if such a model will present the same intervention success with older students as with younger students.

A final area of RTI that needs to be further researched is how does one RTI model compares and transfers to another if the student moves from one school division to another, or from one Canadian province or territory to another. If a student who is depicted as being within tier 2 of a RTI model in a Saskatchewan community, will they automatically received intervention at the tier 2 level of a RTI model in Nova Scotia, or will that student need to go through all the tiers again? With no federal ministry of education or nation education policy an issue could occur in the area of how each province or territory regulates and accepts a diagnosis of a SLD. Once again, what will occur if a family moves from one province to another? Will a diagnosis of a SLD in one province or territory transfer and be accepted in another if it is determined through a RTI model? At this current time, there does not seem to be any research available to address this possible future Canadian concern regarding eligibility for intervention, programming, student services and possible SLD diagnosis through the implementation of a RTI model between each province and territory.

**Conclusion**

Unlike in the U.S., there is no national policy requiring educators to follow RTI models to address students who are struggling academically or in their behaviours; however, many school psychologists and educators recognize the benefits RTI may have on education. The RTI model enables school psychologists to support the needs of more students by collaborating with other educators in the implementation of programs to assist students when they are first
demonstrating signs of struggling in their academics or behaviour. By addressing these concerns in the beginning stages, a decrease in students requiring intensive intervention and eligibility assessments is expected to occur (Jordan et al., 2009; McIntosh et al., 2011). Nevertheless, RTI inconsistencies on a universally accepted RTI model, evidence-based resources, and interventions to employ, as well as RTI’s ability to provide a valid diagnosis, suggest that further research in RTI will need to continue to occur. In Canada, this allows each province and territory to determine the most effective methodology for RTI in their area or region (McIntosh et al., 2011). However, further research and longitudinal studies should continue to occur in order to ensure RTI is being universally implemented in an efficient and effective manner and purpose.
References


Fuchs, D., Mock, D., Morgan, P.L., & Young, C.L. (2003). Responsiveness-to-intervention:


