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Most children

who are classified as learning-disabled are identified because of difficulties with reading. Since the 1970s, the process for identifying a child as learning-disabled, or reading-disabled more specifically, has had, as a central criterion, the requirement that there be a substantial discrepancy or difference between the student's measured intellectual ability and his or her measured reading achievement. This approach to LD classification was implicitly based on the belief that IQ and achievement should be strongly related. That is, it was believed that children whose IQ was unusually high should, in general, be relatively high achievers academically and that children whose measured IQ was relatively low should be relatively low achievers. When this close relationship was not evident, particularly when IQ was substantially higher than academic achievement, it was believed that there must be something inherently wrong with the student's ability to learn. In other words, it was believed that the student was unable

to learn (i.e., he or she was learning-disabled). This foundational belief about the meaning of a discrepancy between intellectual ability and academic performance was institutionalized in the United States with the passage of Public Law 94-142 in 1975.

However, there were a variety of criticisms of this IQ-Achievement Discrepancy approach to the identification of learning-disabled students, and these criticisms led to a good deal of research, particularly in the area of early reading development, that demonstrated that the hypothesized close relationship between intellectual ability and reading ability does not exist in the early primary grades. In fact, there is only a weak relationship between intelligence and reading achievement in the early primary grades (Adams, 1990). Moreover, Vellutino, Scanlon, and Lyon (2000) demonstrated that, among children who experience difficulty in learning to read, there is little if any relationship between the children's measured IQ and their response to intervention designed to reduce reading difficulties.

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Findings such as these argue strongly against the use of an IQ-Achievement Discrepancy approach to learning disabilities classifications, particularly for children in the primary grades (see Vellutino et al., 2000 for a more comprehensive review).

Response to Intervention (RTI) is the most commonly cited alternative to the discrepancy approach. It involves identifying children who are not meeting grade-level expectations and who are presumably at risk for continuing to lag behind their peers early on and providing instructional modifications (interventions) for these children that are instituted early in their educational careers. The students' progress is closely monitored to determine whether and when additional modifications need to be made or whether the interventions can be discontinued because the student is performing at or close to grade level. The goal of the instructional modifications is to accelerate the children's rate of growth so that they will be able to meet grade-level expectations. In an RTI model, when appropriately

intensified and targeted interventions fail to lead to accelerated progress in learning, the child would be considered for possible LD designation.

The call for using RTI as a major component of LD classification grew out of a substantial body of research that indicates that many children who demonstrate early reading difficulties can overcome those difficulties if provided with intensified assistance in developing literacy skills and strategies. The roots of that research may be traced to an article published by Marie Clay in 1987 titled "Learning to be Learning Disabled" in which she asserts that many children who are identified as learning-disabled (at least in reading) qualify for that classification not because there is something inherently wrong with the child but because the child's early instruction was not sufficiently responsive to their instructional needs. Clay argued that consideration for LD classification should be delayed until substantial efforts had been made to help the child to overcome his or her early difficulties. Clay's Reading Recovery

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SUMMARY

Response to Intervention has its roots in research on early literacy development and the prevention of long-term reading difficulties. This research has demonstrated that early and intensive interventions can accelerate the process of young struggling readers and thereby help to avoid inappropriate LD classifications. The current article provides an overview of what implementation of RTI in the primary grades might look like. It also highlights the many unanswered questions and concerns that schools currently confront with regard to RTI.

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program, which is an intensive (one-to-one) intervention for struggling first-grade readers was, in fact, developed for the purpose of accelerating the progress of children who demonstrated difficulties at the early stages of learning to read. Clay argued that children who continued to demonstrate reading difficulties despite such intensive support may be appropriately identified as learning-disabled.

Since Clay's 1987 article, a substantial amount of research demonstrated that instructional interventions are effective in reducing the incidence of early reading difficulties. In fact, it is now widely acknowledged that, for the majority of children who demonstrate difficulties at the early stages of learning to read, long-term reading difficulties can be prevented through early and appropriately targeted reading intervention (Denton et al., 2005; Scanlon, Vellutino, Small, Fanuele, & Sweeney, 2005; Torgesen, Alexander, Wagner, Rashotte, Voeller, & Conway, 2001; Vellutino, Scanlon, Small, & Fanuele, 2006; Vellutino, et al. 1996; Vaughn, Linan-Thompson, & Hickman, 2003). Some of this research has also demonstrated that, for many children, classroom and small group interventions can serve to accelerate the development of early reading skills, thereby reducing the number of children who need more intensive one-to-one interventions

(O'Connor, Fulmer, Harty, & Bell, 2005; Scanlon, Gelzheiser, Vellutino, Schatschneider, & Sweeney (in press); Scanlon et al., 2005). Indeed, some have estimated that the provision of high-quality classroom instruction, by itself, could substantially reduce the incidence of early reading difficulties (Lyon, Fletcher, Fuchs, & Chhabra, 2006). However, without such instructional interventions, many children who struggle at the early stages of learning to read continue to struggle throughout their academic careers (Juel, 1988) and many are ultimately identified as reading-disabled (Vellutino et al., 1996; O'Connor et al., 2005).

These various strands of research stimulated federal legislation that sought to apply the scientific knowledge on a broad scale. The No Child Left Behind Act (2002) and the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) were both driven by this research. Indeed, the IDEIA was the first federal legislation permitting and encouraging the use of alternative approaches, such as RTI, to the identification of learning-disabled children.

Most RTI models involve using a "tiered" approach to the implementation of instructional modifications. In a tiered approach, instruction is

gradually intensified for low-performing students who do not show accelerated growth with less intensive instruction. Intensification may be accomplished by providing more time in instruction, smaller instructional groupings, or both. In most models, the first tier of intervention occurs at the classroom level and is provided by the classroom teacher. Children receiving such intervention are monitored for a period of time and, if they do not show accelerated progress, they are provided with an additional tier of instruction. Tier 2 instruction is generally provided in addition to (rather than instead of) classroom instruction and is provided by a specialist teacher in a small group context. Once again, the students' progress is monitored. In some RTI models, children who do not show accelerated progress when provided with Tier 2 intervention are considered for possible LD classification. In other models, an additional tier of intervention (Tier 3) is provided before consideration for LD classification. In either case, it is the documentation of limited progress over a protracted period of time, in spite of multiple attempts to adjust the amount or type of instruction the child receives, that serves as a major criterion in deliberations regarding classification.

Thus, there is fairly universal agreement that the characteristics of a child's instructional experiences must be weighed heavily in attempts to determine whether lack of progress is due primarily to underlying learning difficulties or to insufficient instructional intervention. Despite this area of agreement, there are many aspects of an RTI approach about which there is considerable diversity of opinion with regard to how aspects of an RTI approach might be operationalized in schools. To date, there is only limited scientific evidence to guide schools in their implementation planning. Thus, the goal of this article is not to attempt to answer the multiple questions that still exist, but rather to provide a brief description of what an RTI approach might look like in a school and to provide a structure that schools might use in thinking through the options that need to be considered in developing their RTI approaches. The model we present is consistent with the research that we and our colleagues have been engaged in over the last 15 years and with the general conceptualization of RTI.

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A Suggested RTI Model

Drawing upon on the extensive research that we and our colleagues have done that has focused on preventing reading difficulties, in what follows, we describe a model for RTI implementation in the early primary grades that, in our view, would be reasonable. The model calls for beginning to address differences in literacy-related knowledge and skills as soon as they are noticed so as to maximize the likelihood that achievement gaps can be closed rather than allowed to grow.

Tier 1 Instruction

In this model, all entering kindergartners would be assessed on a measure of early literacy skills such as The Primary Reading Inventory (TPRI, Texas Education Agency, 2005) or the Phonological Awareness Literacy Screening (PALS; University of Virginia). These and other measures provide benchmarks that allow for the identification of children who are at increased risk of experiencing difficulties in learning to read. For children scoring below the benchmark, the classroom teacher would monitor their progress more closely and would provide more intensive and targeted instruction in early literacy skills. This does not mean the teacher would provide these children with an entirely different instructional program. Rather, the teacher

would devote a portion of the time allocated for language arts instruction to providing children identified for close monitoring with small group instruction that specifically meets them where they are relative to the classroom curriculum. The children identified for close monitoring need to progress at a faster rate than their peers who are already meeting grade level expectations. Therefore, they need to learn more in a given period of time than do their higher-performing peers. Additional instructional support will be needed to accomplish this goal. Ideally, the classroom teacher would form small instructional groups of children who are similar in their early literacy status. This would allow the teacher to offer instruction that is specifically targeted to meet the differing needs of the children in the various groups (i.e., the instruction would be differentiated). Ideally, the children in the close monitoring group would receive instruction in smaller groups, more frequently, and/or for longer periods of time. In other words, they would receive more intensive instruction than would the children who began the school year with skills that were closer to or above grade-level expectations. Small group instruction would, of course, constitute only a portion of the language arts instruction provided during the course of the school day. Read alouds, shared reading, writing,

and a variety of other aspects of language arts instruction would be offered in a whole class context.

As noted, the progress of the children in Tier 1 should be monitored more closely than that of the children in the rest of the class. Virtually all RTI models call for some formal documentation of progress. However, there is, at this point, no widely accepted standard for how often such assessments should be used. Indeed, recommendations regarding frequency vary substantially with some suggesting that assessments be conducted as often as twice per week (Christ, 2006; Safer & Fleischman, 2005) while others (such as ourselves) have utilized formal assessments only three or four times a year (Scanlon et al., 2005). However, it is generally agreed that a record of progress needs to be maintained as it is this record that is used to determine whether a change needs to be made in the intensity of support being offered to each child.

There are also substantial differences of opinion with regard to the type of instrument that should be used for progress monitoring. An extensive discussion of the issue of progress monitoring is beyond the scope of this article. However, it is important to note that, in the intervention research that we and our colleagues have done, we have used a combination of standardized assessments

administered three or four times per year and informal, ongoing assessments guided by checklists completed by teachers to monitor progress. This approach to progress monitoring is distinctly different from approaches that involve frequent assessment of isolated skills such as the speed with which children can name letters or words, or segment words into phonemes. There is growing concern that the use of speeded measures of isolated skills as the sole index of progress will lead to the unintended consequences of children being fast and accurate in such things as word reading but inattentive to the meaning of what they are reading (Johns, 2007; Paris, 2005; Pearson, 2006; Samuels, 2007). We share this concern and would add that such assessments provide teachers with far less information upon which to base instructional decisions than do informal observations that take note of the children's knowledge, skills, strategies, and attitudes and not just how quickly they can apply isolated skills. In fact, we would argue that informal assessment should be an ongoing process that occurs during the course of instruction and thus, essentially, occurs in every instructional interaction as the teacher makes note of how the children respond to the lesson and reflects on how instruction might need to be modified in order to facilitate student learning.

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It is important to note that the main purpose of frequent progress monitoring is to ensure that children who are not making sufficient progress toward meeting grade level expectations do not go unnoticed. Teachers who are knowledgeable about early literacy development and who are working closely with young children in small groups are likely to be acutely aware of which children are making limited progress. Indeed, classroom teachers are particularly likely to be able to identify children who are making limited progress because these teachers, unlike teachers who work exclusively with students who are receiving intervention, are working with children who demonstrate a broader range of literacy skills.

Tier 2 Intervention

Children who do not show the accelerated progress in Tier 1 that would allow them to attain benchmark performance levels by the end of the school year would be provided with additional instructional support or Tier 2 intervention. Tier 2 instruction is provided in addition to ongoing Tier 1 classroom-based instruction and should be provided by a teacher who has specialized knowledge of how to promote development in the targeted area. Generally, Tier 2 instruction would be provided in a small group context (maybe three or four students) several times a week.

As with many aspects of RTI approaches, there is no general agreement regarding the relationship between Tier 2 intervention and the classroom curriculum. In implementing an RTI approach, schools sometimes assume that Tier 2 instruction should involve the implementation of a program that is different from the classroom program and specifically and exclusively targets foundational skills such as phonics or phonemic awareness. In our intervention research, on the other hand, we utilized an instructional approach that was tailored to the children involved and took into account both what the children knew and were able to do, and what they needed to learn in order to benefit from their classroom language arts instruction. (Scanlon, et al., 2005; Vellutino et al., 1996; Vellutino, Scanlon, & Lyon, 2000). No packaged or scripted programs were employed. In contrast, Fuchs and Fuchs (2006) suggest that scripted and prescribed programs are reasonable alternatives for intervention purposes as they eliminate the need to have expert teachers engaged in the intervention. Clearly, there is a great need for additional research to address this issue. In the interim, there is reason to be cautious about broad scale implementation of tightly scripted programs that may limit the teachers' ability to respond to their students. Indeed, the U.S.

Department of Education's What Works Clearinghouse, which has provided evaluations of several educational interventions, finds remarkably little evidence that widely marketed interventions have a positive effect on student learning (www.whatworksclearinghouse.org). And, at least as of the date that this article was finalized, the only program that this site identifies as having potentially positive impact on overall reading performance is Reading Recovery, an intervention approach which relies heavily on teacher decision-making.

It should also be noted that there is abundant research indicating that student outcomes in the general population are more closely tied to the quality of teaching than to characteristics of the instructional program adopted (Darling-Hammond, 2000; Haycock, 2003; Taylor & Pearson, 2002; Tivnan & Hemphill, 2005). We would argue strongly that the children who struggle the most with literacy acquisition need the most expert teaching if we are to help them achieve the kind of accelerated learning that is needed to close their initial achievement gaps. Thus, we would argue against the adoption of a tightly scripted intervention program at either Tier 2 or Tier 3 and would argue instead for an intervention approach that supports the children in learning the content of their classroom language arts curriculum.

Tier 3 Intervention

To return to the general model of a tiered approach, children who are receiving Tier 2 interventions are monitored closely as in Tier 1. In many cases, with the intensified instruction provided through the combination of Tier 1 and Tier 2 instruction, children experience accelerated gains and therefore interventions can be discontinued. However, some children continue to make limited progress. One option for these children is to intensify instruction even further by providing them with very small group or one-to-one instruction (Tier 3). While the notion of providing one-to-one instruction may sound formidably expensive, it is important to note that if Tiers 1 and 2 have been effective, there should be only a small number of children who qualify for Tier 3 intervention. However, children who qualify for Tier 3 intervention are likely to be in greatest need of expert teaching in order to accelerate their learning because for these children the teachers need to very carefully tailor the instruction offered such that it accounts for the child's current knowledge and skills and prepares the child to benefit from ongoing classroom instruction as much as possible.

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An RTI approach involves attending to the instructional needs of young children as soon as those needs can be identified in the hopes of closing achievement gaps before they have the opportunity to grow and become debilitating.

Following a period of Tier 3 intervention (in this model), the children who demonstrate only limited or no growth following several months of intensive, expert instruction might be considered for classification as learning-disabled. However, it is important to note that such a designation should not be taken as a signal to discontinue efforts to build the student's literacy skills. It is just an acknowledgement of the fact that, given current funding realities in schools, it is generally not possible to continue intensive Tier 3 instruction indefinitely. Less-intensive instructional interventions, while they are likely to be less powerful, should nevertheless be maintained for the children who are ultimately identified as learning-disabled.

At far right is a graphic representation of the generalized three-tiered RTI model discussed above. To summarize the workings of the model, students who perform substantially below grade level expectations at the beginning of the school year are identified for close monitoring and are provided with one or more tiers of intervention depending upon their degree of growth at each tier. Children who demonstrate accelerated growth at Tier 1 and perform at or above the desired level (however it is assessed) would exit the tiers and be served by the regular classroom program. Children who show limited or no acceleration in growth in Tier 1

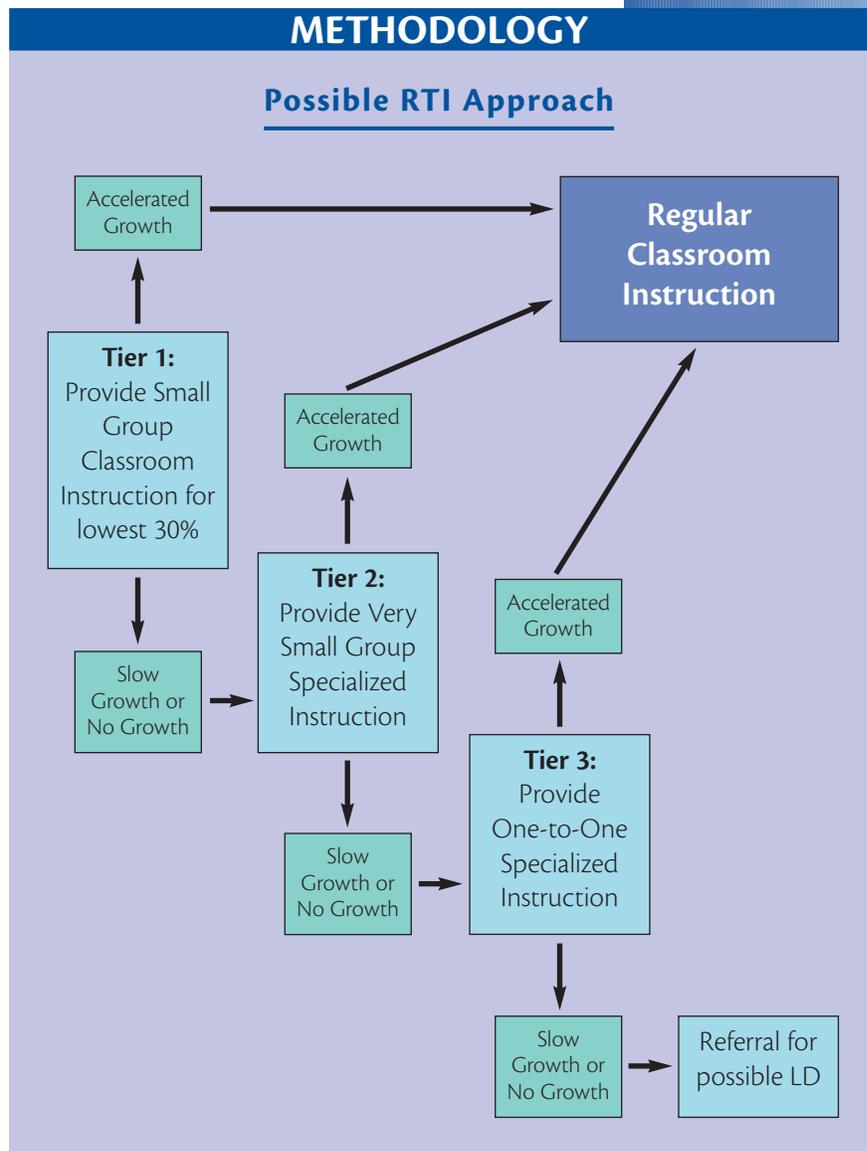
would be provided with Tier 2 intervention which is provided by a specialist teacher in a very small group. Tier 2 intervention would be provided in addition to ongoing Tier 1 intervention. The progress of Tier 2 children would be monitored for a sufficient period of time to determine whether they show the growth needed to meet grade level expectations.¹ Those who demonstrate limited or no growth would receive Tier 3 intervention. This very intensive intervention would be provided in addition to Tier 1 supports. That is, the student would receive literacy instruction from both the classroom teacher (Tier 1) and the specialist teacher (Tier 3) to allow accelerated progress. Children who continue to show limited growth despite gradually intensifying interventions provided by expert teachers over a protracted period of time might ultimately be considered for LD classification.

In discussing the model provided above, we spoke in broad generalities and did not provide guidance on such important questions as when a child might enter the tiers and how long a student might spend at given tiers. There is little research to guide decision-making about these questions. Thus, a perusal of the literature would reveal that some studies have offered relatively short periods of intervention at each of the tiers while others offer longer term interventions.

The studies that have been done differ in terms of the types of interventions offered as well as the duration of each tier. Therefore it is not possible to confidently prescribe a timeline for interventions and decision-making. However, based on our research, we would advocate for the implementation of Tier 1 for the first two or three months of kindergarten followed by the addition of Tier 2 for children who are not showing accelerated progress. Tier 2 intervention would be maintained throughout the remainder of the kindergarten year for those children who continue to demonstrate limited growth.

At the beginning of first grade, all children would be assessed. Intervention planning for those scoring below the specified benchmark would depend on the children’s performance levels and instructional history in kindergarten. Thus, children who demonstrated the most limited growth during kindergarten might begin Tier 3 at the start of the school year. Children who had been in Tier 2 in kindergarten and had demonstrated reasonably good growth might be continued in Tier 2 at the beginning of first grade. Children who never qualified for intervention in kindergarten or who made accelerated progress with Tier 1 alone, might be offered a period of Tier 1 only in first grade as their low initial

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An RTI approach has the potential to reduce the number of children who are inappropriately identified as learning-disabled.

performance may be due to limited literacy experience and engagement during the summer months. In general, intervention planning at the beginning of the school year should take the children's instructional and performance history into account.

As the school year progresses, performance on the progress monitoring assessments would guide decisions about the intensity of intervention that is offered with children who show the least growth being offered Tier 3 intervention for the longest period of time that is manageable given the resources available. In our opinion, a minimum of 15 to 20 weeks of daily Tier 3 intervention should be offered before a referral is made for special education or consideration of a learning-disabled classification. However, we should note that some children do not begin to show acceleration until they have had many weeks of intensive intervention. For these children, ideally, intensive intervention would be maintained once that acceleration begins and continued until the student consolidates his or her skills.

Summary

This paper provides an overview of response to intervention, which we argue is an important step forward in addressing the instructional needs of children who begin school with limited early literacy skills. Rather than providing children with “the gift of time,” which was once thought to be the appropriate response to children who lagged behind their peers at the early stages of learning to read, an RTI approach involves attending to the instructional needs of young children as soon as those needs can be identified in the hopes of closing achievement gaps before they have the opportunity to grow and become debilitating. A substantial amount of research now indicates that early reading difficulties can be prevented through appropriate instructional interventions. Thus, a major value of an RTI approach is that it has the potential to reduce the number of children who are inappropriately identified as learning-disabled.

There are, at this point, more questions about RTI implementations than there are answers. While the research community will continue to explore these critical questions, federal and state legislation is encouraging schools to begin to utilize RTI as a preferred method for determining whether children should be considered for learning-disability designation. This is

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good news for children who experience early difficulties with school. It is now widely recognized that the “wait to fail” model in which struggling learners languished in schools while waiting for the discrepancy between their intellectual and academic abilities to grow large enough to qualify them for “services” is not acceptable. With the reauthorization of the IDEA, schools are encouraged to allocate instructional resources in a preventive fashion. As a result, schools have the potential to substantially reduce the number of children who are inappropriately identified as learning-disabled and to enhance the learning experiences of all children who struggle during the early school years.

In conclusion, it is important to note that the extant research that supports the use of an RTI approach to learning-disability classification focuses primarily on literacy learning in the early primary grades. There is little to no research on the applicability of an RTI model in the upper grades and in other academic domains. The lack of research in these areas does not, of course, argue against attempts to institute substantial remedial efforts before learning-disability classification is considered. On the contrary, efforts at remediation would seem to be the first response to any learning difficulties. However, the model that might be adopted in these situations might be substantially different than

what was outlined above. For example, it may not make sense to institute a period in which an older child receives Tier 1 intervention only. Rather, older learners who are performing substantially below grade level expectations are likely to be in greater need of a swift and more intensive response to their difficulties. The absence of research to guide our thinking should not limit our response to children who are in need of intervention.

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ENDNOTES

¹ As with many aspects of RTI, there is no clear research evidence that provides guidance on how long children should be served at each tier before decisions are made regarding whether intervention should be intensified or discontinued. In our own research, interventions for kindergartners were provided for a total of approximately 50 half-hour sessions with sessions occurring twice per week for most of the school year. Children who continued to demonstrate substantial difficulty at the beginning of first grade received daily one-to-one (Tier 3) instruction for 75 to 125 sessions.