

**Response to Proven Intervention (RTPI):  
Enabling Struggling Learners**

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**Abstract**

This article proposes a strategy to accelerate the learning of struggling learners that uses proven reading and mathematics programs to ensure student success. Based on Response to Intervention (RTI), the proposed policy, Response to Proven Intervention (RTPI), uses proven whole-school or whole-class programs as Tier 1, proven one-to-small group tutoring programs as Tier 2, and proven one-to-one tutoring as Tier 3. The criteria for “proven” are the “strong” and “moderate” evidence levels specified in the Every Student Succeeds Act (ESSA). This article lists proven reading and mathematics programs for each tier, and explains how evidence of effectiveness within an RTI framework could become central to improving outcomes for struggling learners.

### **Response to Proven Intervention (RTPI): Enabling Struggling Learners**

One of the most important problems in American education is the very large number of students who are struggling in core academic subjects, especially reading and mathematics. 32% of fourth graders and 24% of eighth graders scored below “basic” on the 2017 National Assessment of Educational Progress (NAEP) in reading, and 20% of fourth graders and 30% of eighth graders scored below basic on NAEP mathematics (NCES, 2018).

The prevalence of struggling learners is the main reason for the low average levels of U.S. achievement in international comparisons, such as PISA, and it is a major factor in the high proportions of students assigned to special education in U.S. schools. In addition, because struggling students are disproportionately from high-poverty backgrounds, their poor performance is a major factor in overall inequality. Students from disadvantaged families, and those who are African American, Hispanic, Native American, or are English learners, perform less well in reading and mathematics than do other students.

Clearly, significantly raising the academic achievement of struggling learners would reduce inequality, reduce special education placements for specific learning disabilities, reduce retentions in grade, increase average achievement levels, and contribute to brighter futures for millions of students. But is it possible? Could it be done cost-effectively?

### **Response to Intervention (RTI)**

The dominant policy driver for struggling learners in federal policy is response to intervention (RTI). RTI has been part of IDEA since 2004 (see Fuchs & Fuchs, 2006). It mandates whole-class instruction and universal screening to identify struggling students (Tier 1).

Students who are struggling are provided modest, cost-effective intervention (Tier 2). Those not succeeding with these services are provided intensive intervention (Tier 3).

Conceptually, RTI is appealing, but what it lacks is a focus on the use of *proven* strategies at each tier. When RTI first became popular twenty years ago, there were few proven, cost-effective programs for struggling readers, so schools were left to make up their own strategies, as long as they were in general alignment with theory or evidence. Much was known about variables, such as the importance of phonics (National Reading Panel, 2000), but far less about the effects of particular programs. Perhaps as a result, the major national study of RTI produced disappointing outcomes (Balu et al., 2015). However, as argued by Fuchs & Fuchs (2017), the Balu et al. (2015) study also found that very few schools were using the key elements of the approach, so it was not a failure of the RTI concept but just of the implementation. An implementation study of RTI in Milwaukee (Ruffini et al., 2016) similarly found that “69% of studied schools had yet to implement the multi-tiered instruction component (of RTI)” (Ruffini et al., 2016, p. 10, as quoted in Fuchs & Fuchs, 2017).

Another study in Iowa’s Heartland Area Education Agency, also found few positive effects of RTI on achievement or special education placements, despite many years of devoted efforts (Ikeda et al., 2005; Tilly, 2003). Individual Tier 2 and Tier 3 programs implemented as part of RTI have often been found to be effective (Hughes & Dexter, 2011), but overall impacts of the RTI framework have not been clearly demonstrated. Yet the concept of RTI could still have validity if it leads educators to select specific programs *known from rigorous research* to be effective and reasonably cost-effective, which constitute appropriate Tier 1, Tier 2, or Tier 3 interventions, as well as multi-tier models. There are many more rigorous studies of programs for struggling students than existed in 2004, as shown in Figure 1. As a result, educators have a

number of proven options at each tier level of RTI. This unprecedented development and evaluation has been carried out in particular under funding from the Institute for Education Sciences (IES) and Investing in Innovation (i3), in the U.S. Department of Education, by the Education Endowment Foundation (EEF) in England, and by numerous private funders, including disseminators contracting with independent evaluators.

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### **The Importance of Proven Approaches**

This article proposes a revision of RTI based on the use of proven programs to populate Tiers 1, 2, and 3 in RTI. We call this Response to Proven Intervention, or RTPI. At the core of RTPI is a reliance on programs and practices proven to be effective in rigorous research, such as those summarized in recent reviews of elementary reading for struggling readers (Inns, Lake, Pellegrini, & Slavin, 2018), secondary reading (Baye, Lake, Inns, & Slavin, in press), and elementary mathematics (Pellegrini, Inns, Lake, & Slavin, 2018). Tables 1 to 4 show programs drawn from the reviews that both meet the ESSA evidence standards and have effect sizes of +0.20 or more (for Tiers 2 and 3). Table 1 shows proven multi-tier and Tier 1 reading programs, Table 2 shows proven Tier 2 reading programs, and Table 3 shows proven Tier 3 reading programs. Table 4 shows proven Tiers 2 and 3 programs for mathematics.

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TABLES 1-4 HERE

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The ESSA standards require at least one well-designed and well-conducted randomized study with significant positive outcomes for “strong,” and similar outcomes in quasi-experimental (matched) studies for “moderate.” The existence of the ESSA standards and the rapid increase in the number and variety of proven programs for students struggling in reading or mathematics are what enable us to confidently assert that existing programs are capable of ensuring the success of struggling learners.

### **Populating RTI Tiers With Proven Programs**

The main argument we are making is that RTI could be made far more effective for struggling learners if each of the tiers were populated with programs proven in rigorous research to produce substantial impacts. For most practical purposes we define effective Tier 1 interventions as ones delivered to whole classes or schools and proven to enhance the achievement of struggling learners, in comparison to similar struggling learners in control schools. Tier 2 is proven one-to-small group tutoring for students who are not succeeding adequately in Tier 1 instruction (Gelzheiser, et al., 2011; Steubing et al., 2015), and Tier 3 is proven one-to-one tutoring for students who received but did not succeed in Tier 2 tutoring services. As noted earlier, for Tiers 2 and 3, we would suggest that RTPI focus on approaches not only proven to be effective, but also shown to have average effect sizes of at least +0.20, because these approaches must significantly accelerate the learning of students who are so far behind. Fortunately, there are many Tier 2 and Tier 3 approaches that meet these standards. Additional services, such as behavioral or social emotional interventions (Corcoran, Cheung, Kim, & Xie, 2018), or vision services (Slavin et al., 2018), may also be essential for certain struggling learners. Any intervention proven to make a substantial difference in the learning of

struggling readers has a place in an RTPI or evidence-based framework, but as will become clear in this article, tutoring is overwhelmingly the most effective tool we currently have available for struggling learners, including tutoring in multi-tier programs and in Tiers 2 and 3 in the current RTI framework.

It is important to note that ESSA has already linked the concept of RTI with the requirement for evidence of effectiveness. For example, it defines MTSS (within which RTI is the academic component; Brown-Chidsey & Bickford, 2015) as “...a comprehensive continuum of *evidence-based, systemic practices* to support a rapid...response to students’ needs...” (emphasis added). In ESSA, “evidence-based” means meeting the evidence standards described above. The purpose of the present article is to take these ideas one step farther by showing exactly *how* do-it-yourself RTI could be replaced with components proven effective by ESSA’s own evidence standards.

### **Response to Proven Intervention (RTPI)**

We propose that RTI be modified by the inclusion of components proven to significantly improve the achievement of struggling learners. Struggling learners have a right to instruction that is *proven* to be effective. Only after *proven* approaches have been implemented with quality and fidelity and are still not solving students’ problems might more intensive services be considered. In other words, the structure of RTPI is the same as that of RTI, but the contents of each tier are defined in terms of their evidence bases.

The following sections discuss the evidence base for policies to help struggling learners, focusing on rigorously evaluated programs capable of making a substantial difference in Tiers 1, 2, or 3 in RTI models, or in multiple tiers. A single study with a significant positive outcome is

sufficient to meet ESSA evidence standards, but Tables 1 to 4 show sample size-weighted mean effect sizes for all studies of a given program. For program descriptions, research summaries, costs, key citations, and other program details, see [www.evidenceforessa.org](http://www.evidenceforessa.org).

An explanation is needed about Tier 1 programs. Programs are listed in Table 1 as “Tier 1” only if their studies show ESSA-qualifying evidence that they had significant positive effects for *struggling learners*, usually defined as students performing below a certain percentile or scoring in the lowest 25%, 33%, or 50% of their class at pretest. A few whole class/whole school programs did meet this standard in reading (Table 1), but none did so in mathematics (Table 4). However, there are additional approaches to whole-class reading and mathematics instruction that could probably be justified as Tier 1 programs on the basis of their positive effects for students in general, though future research should identify specific effects of additional programs for at-risk students.

### **Proven Reading and Mathematics Programs**

As noted earlier, research on programs for struggling readers in elementary schools has been recently reviewed by Inns et al. (2018). A review by Baye et al. (in press) synthesized research on secondary reading programs for all students, but primarily for struggling readers.

Tables 1 to 3 summarize information on programs evaluated for struggling readers that met the “strong” or “moderate” ESSA standards, and had effect sizes of at least +0.20. The programs are organized by tiers. Table 1 shows proven multi-tier and Tier 1 reading programs, Table 2 shows proven Tier 2 reading programs, and Table 3 shows proven Tier 3 reading programs. Two multi-tier programs provide instruction for Tiers 1 and 2/3. A few effective Tier 1 programs serve whole classes or whole schools, either addressing general instruction or



coordinating classroom innovations with one-to-one and/or one-to-small group tutoring. Across Tables 2-3, there are many effective strategies for struggling readers. All are one-to-one or one-to-small group tutoring approaches, taught by certified teachers, teaching assistants, or paid volunteers, such as AmeriCorps members (effects for unpaid volunteers are much smaller)..

Table 4 shows information on proven Tier 2 and Tier 3 mathematics programs for struggling students, from a review by Pellegrini et al. (2018). As for reading, all of the successful Tier 2/3 programs in mathematics involve one-to-one or one-to-small group tutoring by certified teachers or teaching assistants.

There are several things worth noticing about Tables 1 to 4. First, there are many programs available at each tier level, especially Tiers 2 and 3. Second, effective programs exist at every grade level, K to 7. The effect sizes vary across programs, but in every tier there are programs with effect sizes in excess of +0.40, and in most tiers, more than +0.50. These effects are equal to or greater than the differences in NAEP scores between students who qualify for free/reduced price lunches and those who do not (This difference is approximately an effect size of +0.40; see Domina, Pharris-Ciurej, Penner, Penner, Brummet, Porter, & Sanabria [2018]). Raising the achievement of large numbers of struggling students by this much would greatly reduce inequalities according to social class and ethnicity, could greatly reduce the need for special education services, especially for specific learning disabilities, and could make schools more homogeneous in achievement levels.

### **Findings Relating to Tutoring**

Beyond the outcomes of the individual programs, there are several very important findings relating to tutoring from the Inns et al. (2018), Baye et al. (in press), and Pellegrini et al.

(2018) reviews. The most important is that teaching assistants or paid volunteers using structured programs obtain student outcomes that are at least as good as those obtained by certified teachers (also see Austin, Vaughn, & McClellan, 2017; Ehri, 2007). This was true in elementary and secondary reading, in elementary mathematics, in one-to-one settings, and in one-to-small group approaches. These teaching assistants have usually been reasonably well qualified; most have bachelor's degrees, but not teaching certificates. This finding is so important because if effective tutoring can be done by well-qualified teaching assistants and paid volunteers using structured programs, then the cost of tutoring can be greatly reduced, making tutoring pragmatically available to many more struggling learners.

One-to-one tutoring in reading was found to be only nonsignificantly more effective than one-to-small group tutoring (Inns et al., 2018), and no more effective in mathematics (Pellegrini et al., 2018). In terms of cost-effectiveness, one-to-small group methods are likely to be far more cost-effective than one-to-one (numbers of students per tutor in proven small group strategies go as high as six).

Perhaps because of the long-time popularity of Reading Recovery (D'Agostino & Murphy, 2004), it has been widely assumed that tutoring is uniquely effective in first grade, and that these effects are long-lasting, making continued intervention unnecessary. However, reviews of research by Baye et al. (in press), Dietrichson et al. (2017), Flynn et al. (2012), Inns et al. (2018), and Scammacca et al. (2015) found that neither of these assumptions were true. Studies of one-to-one and one-to-small group tutoring have been very successful up to Grade 7. However, long-term maintenance of first grade effects of Reading Recovery or other first-grade approaches have not been documented (Hurry & Sylva, 2007; May et al., 2016; Pinnell et al.,

1994). These findings might suggest that for students who need it, tutoring may have to be repeated, perhaps in brief, spaced “booster shots,” over the school careers of struggling readers.

It is often believed that computer-assisted instruction or other technology-enhanced instruction can achieve outcomes similar to those of tutoring by personalizing instruction to match the needs of struggling students. This is clearly not true. The Baye et al. (in press), Inns et al. (2018), and Pellegrini et al. (2018) reviews all examined technology-focused programs, using the same review methods used for tutoring and other approaches. In elementary reading (Inns et al., 2018), mean effects of computer-assisted instruction were very small ( $ES=+0.05$ ), whereas tutoring outcomes averaged  $ES=+0.27$  for one-to-small group tutoring by teaching assistants and  $+0.53$  for one-to-one tutoring by teaching assistants. In mathematics, effects of technology-assisted approaches averaged  $+0.07$ , in comparison to  $+0.31$  for one-to-small group tutoring by teaching assistants and  $+0.26$  for one-to-one tutoring by teaching assistants. The point is that, on average, effects of technology do not approach the student outcomes of tutoring, even one-to-small group tutoring by teaching assistants.

The information summarized in Tables 1 to 4, plus more detailed information from [www.evidenceforessa.org](http://www.evidenceforessa.org), provides much of what educators would need to design an effective school or school system to locate proven programs for each tier in their RTI programs. Schools might assess their needs and resources, select some number of proven programs, implement them with care and fidelity, and adjust as needed over time.

### **Evidence-Informed RTI in Practice**

Imagine that an elementary school or district decided to substantially improve performance among their struggling learners. School and district leaders, teachers, and perhaps

other stakeholders might form a planning committee. It might begin by examining information on the schools' strengths and weaknesses and root causes for any weaknesses. The planning committee might then explore sources such as Evidence for ESSA ([www.evidenceforessa.org](http://www.evidenceforessa.org)), What Works Clearinghouse (<https://ies.ed.gov/ncee/wwc/>), and the National Center on Intensive Intervention (<https://charts.intensiveintervention.org>) to locate information on proven programs. They would focus on finding strategies to effectively fill out each of Tiers 1, 2, and 3 in an RTI model. This is illustrated in Figure 2.

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Figure 2 – Here

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Instead of reinventing the wheel, the committee might seek proven multi-tier programs, such as Success for All (Slavin & Madden, 2013), that include aligned Tier 1 and Tier 2/3 approaches. Otherwise, they might locate Tier 1 programs proven effective for struggling students (and others) within whole classes or schools, proven Tier 2 programs built around one-to-small group tutoring by well-qualified, well-trained teaching assistants, and proven Tier 3 models built around one-to-one tutoring by teaching assistants or, if necessary, certified teachers. Included in Tier 1 might be whole class or whole school approaches to improve attendance, behavior, and social-emotional skills, as well as strategies to ensure that all children who need them receive eyeglasses, hearing services, asthma services, and other health services to prevent problems that commonly interfere with student success, especially in high-poverty schools. The committee might visit schools nearby that are using proven programs to help them make informed selections.

The committee might decide to select assessment systems for each grade to keep track of students' progress toward state standards or other goals, to be administered 3 to 5 times each year to make certain that students are making good progress and to identify students in need of assistance. Use of such benchmarks has not been found to improve achievement in itself (Inns et al., 2018), but periodic assessments are needed in an RTI system to keep track of the progress and difficulties of each students.

It may make particular sense for planning committees to select proven multi-tier programs already designed to integrate the three tiers with each other. All other things being equal, it makes sense to ensure consistency across tiers in objectives and basic procedures to facilitate smooth transitions among them, especially when tutoring enables students to advance to higher tiers.

After the planning committee has made an initial schoolwide plan, it might share it with the whole school staff, and receive suggestions for revisions. Ultimately, we would recommend a vote of the whole school faculty, with a requirement of a supermajority of 80% in favor, to ensure broad buy-in.

Tutors should then be recruited to work in each school, and trained by staff of the proven program selected by the school. Students need to be individually assessed by tutors or teachers, and then assigned to tutors. Tutors and teachers should jointly set goals for students, and then monitor their progress, using valid measures of reading or mathematics.

After each assessment, the planning committee should review the progress of the entire school plan, while grade-level teams composed of teachers and tutors would review the progress of each student and revise service plans for each. Later, as state test scores and other indicators

become available, the planning committee and other faculty members would take these data into account in suggesting further revisions to the school's plan.

### **Who Are The Tutors, and How Would They Be Managed?**

The proposal described in this article depends heavily on tutors. Who are these tutors, how many are needed, and how would they be managed?

As noted earlier, most tutors should be teaching assistants. In research on tutoring in reading and mathematics, teaching assistants working as tutors have produced student outcomes at least as good as those produced by certified teacher tutors. In particular, teaching assistants serving as tutors are likely to be as effective as teachers serving as tutors when they are extensively trained, receive supportive supervision, and have a structured program (Samson, Li, & Hines, 2015). As noted earlier, most teaching assistants in studies of tutoring have had bachelor's degrees. It is important that most tutoring be done by well-qualified teaching assistants, not only because they cost about half as much as certified teachers, but also because teacher shortages in most high-poverty areas, especially inner cities and rural areas, make certified teachers difficult to find for tutoring roles. Well-qualified, paid volunteers (such as AmeriCorps members) have also been shown to be as effective as teaching assistants in two studies. But no study of unpaid volunteer tutors met our effectiveness standards.

We propose that tutors be recruited primarily among recent college graduates who do not have teaching credentials. In addition to possibly solving the tutor supply problem, this would put talented young people into schools that need them. School districts or states might establish accelerated certification programs for the best of these tutors, bringing into the profession those who have shown themselves to be capable, to care deeply about children, and to be willing and

able to work in challenging schools (see Morrison & Lightner, 2017). Others, such as retired teachers or teachers who want to work part time, may also make excellent tutors.

Tutors would be initially trained and then coached on site and/or by distance technologies by the providers of the tutoring models adopted by the school (usually non-profit organizations). In addition, at least one teacher on the school's staff would take responsibility for management and continuous improvement of the tutors' skills.

The numbers of tutors needed would depend on the number of struggling learners. For example, Maryland is currently considering an initiative to provide one tutor for every 80 students in K-3 at risk for failing to meet "proficient" standards on the state test, as estimated based on the proportion of students in grades 3-5 not meeting standards. In practice, this would provide one to three tutors to the great majority of the state's elementary schools. Using programs that are proven to be effective with one teaching assistant and four students at a time, each tutor should be able to tutor 28 students each day in seven 40-minute sessions. Since most students do not need tutoring all year, a single tutor might work with 50 or more students in a year.

### **Advantages of Response to Proven Intervention**

The potential advantages of reforming elementary and secondary schools using RTPI, or proven approaches in an RTI format, are readily apparent. Achievement benefits for struggling learners would be virtually certain, because each component of the system has already been proven to be effective. Over time, research could establish which approaches are maximally effective for which students under which conditions, and new, ever more effective and cost-effective approaches are sure to be developed, evaluated, and disseminated. Whatever effects the

system produced would be targeted to exactly the students with the greatest needs, increasing overall educational levels in our society. Because they are closely correlated with poor achievement, problems such as delinquency, dropout, and underemployment are also likely to be diminished. If all works as planned, teaching assistants who go on to become teachers in disadvantaged areas will do much to alleviate teacher shortages and may provide new sources of energy, skill, enthusiasm, and social commitment to our schools.

### **Costs**

The RTPI plan proposed in this article is obviously costly. Schools in disadvantaged areas are sure to need multiple tutors, not just one or two, to make a major impact on the achievement levels of their struggling students. For example, in Maryland, 60% of students score below “proficient” on the state reading test. An elementary school of 500 students would need six teaching assistant tutors to teach all of these students at once, if all below-level students are tutored in groups of four. However, schools would be more likely to start with the youngest and most at-risk students, assuming that tutoring need would diminish over time as more and more students have been tutored in earlier years.

Also, there are important offsets to consider. One is a likely reduction in the number of students assigned to special education, especially in “high incidence” categories such as specific learning disabilities. Another is a reduction in retentions in grade, which cost schools an additional year of per-pupil cost for each retained student. An independent study of Success for All, which combines whole-school teaching improvements (Tier 1) with tutoring (Tiers 2/3), found a halving of both special education placements and retentions over the course of elementary school, in comparison to matched control schools (Borman & Hewes, 2002).



Savings on special education and retention may not pay for all of the costs of this proposal, but the remaining costs are certainly worthwhile. The average per-pupil cost in U.S. schools is around \$11,700 per year. Adding a few hundred dollars per struggling learner to provide them with tutoring could greatly improve the impact of the money we are already spending.

### **Conclusion**

The proposal described in this article flows from solid evidence on programs for struggling students, and federal policies supporting use of proven approaches. Populating RTI tiers with proven programs is likely to greatly improve the implementation and outcomes of RTI. RTPI is highly likely to work because all of its classroom components have already been proven to work. The costs are not inconsiderable, but phasing in proven approaches and investing in further research on cost-effective outcomes could find progressively more effective and affordable ways to bring about the envisioned changes on a large scale.

America's struggling learners deserve a better future. We cannot have the peaceful, productive society we want until we can routinely help schools become more capable of solving learning problems and reducing gaps. Taking advantage of programs already proven to be effective to solve our educational and social problems makes sense for our nation, and for our children.

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**Table 1: Multi-Tier and Tier 1 Reading Programs Meeting ESSA Standards for Strong and Moderate Evidence**

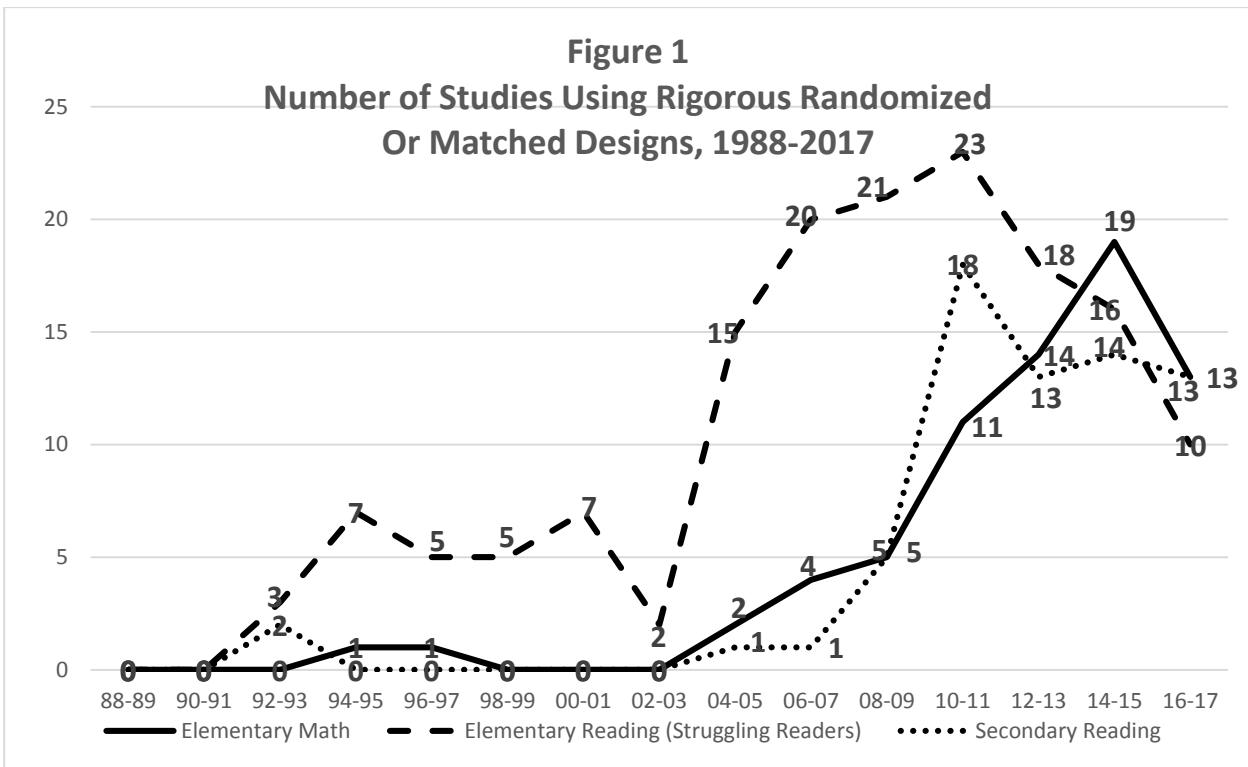
<b>Program</b>	<b>Grades Validated</b>	<b>Group Size</b>	<b>Number of Studies</b>	<b>Mean Effect Size</b>	<b>ESSA Rating</b>
<b>Multi-Tier Approaches (Whole School/Class Instruction Plus Tutoring)</b>					
Success for All (Slavin & Madden, 2013)	K-2	Schools	5	+0.41	Strong
Enhanced Core Reading Instruction (Smith et al., 2016)	1	Schools	1	+0.22	Strong
<b>Whole-Class Instruction Plus Tutoring (Tier 1)</b>					
Cooperative Reading and Composition(CIRC) (Stevens et al., 1987)	3-6	Classes	4	+0.19	Moderate
PALS (Mathes, Torgesen & Allor, 2001)	1	Classes	1	+0.58	Moderate

<b>Table 2: Tier 2 Reading Programs Meeting ESSA Standards for Strong and Moderate Evidence</b>					
<b>Program</b>	<b>Grades Validated</b>	<b>Group Size</b>	<b>Number of Studies</b>	<b>Mean Effect Size</b>	<b>ESSA Rating</b>
<b>One-to-Small Group Tutoring: Teachers (Tier 2)</b>					
Lindamood (LIPS) (Torgesen, Wagner, & Rashotte, 1997)	1	1-3	1	+0.64	Strong
Read, Write, & Type (Torgesen et al., 2010)	1	1-3	1	+0.42	Strong
Butterfly Phonics (Merrill & Kasim, 2015)	6	1-6/8	1	+0.30	Strong
<b>One-To-Small Group Tutoring: Teaching Assistants (Tier 2)</b>					
Quick Reads (Vadasy & Sanders, 2009)	2-3	1-3	2	+0.22	Strong
Early Reading Intervention (Coyne et al., 2013)	K	1-3/5	1	+0.31	Strong
Tutoring with Alphie/Lightning Squad (Madden & Slavin, 2017)	1-3	1-4/6	3	+0.34	Strong

<b>Table 3: Tier 3 Reading Programs Meeting ESSA Standards for Strong and Moderate Evidence</b>					
<b>Program</b>	<b>Grades Validated</b>	<b>Group Size</b>	<b>Number of Studies</b>	<b>Mean Effect Size</b>	<b>ESSA Rating</b>
<b>One-To-One Tutoring: Teachers (Tier 3)</b>					
Reading Recovery (May et al., 2016)	1	1-1	4	+0.42	Strong
Targeted Reading Intervention (TRI) (Amendum et al., 2011)	K-1	1-1	2	+0.52	Strong
Early Steps/Next Steps (Morris, Tyner, & Perney, 2000)	1	1-1	1	+0.86	Moderate
Lindamood (LIPS) (Torgesen et al., 2010)	K-2	1-1	1	+0.69	Strong
Intensive Reading Remediation (Blachman et al., 2004)	2-3	1-1	1	+0.85	Strong
<b>One-To-One Tutoring: Teaching Assistants (Tier 3)</b>					
Sound Partners (Vadasy & Sanders, 2011)	K-1	1-1	2	+0.43	Strong
Reading Rescue (Ehri et al., 2007)	1	1-1	1	+0.81	Moderate
Reach (Sibieta, 2016)	6-7	1-1	1	+0.42	Strong
Perry Beeches (Lord et al., 2015)	6	1-1	1	+0.36	Strong
<b>One-To-One Tutoring: Paid Volunteers (Tier 3)</b>					
SPARK Literacy (Jones, 2015)	K-2	1-1	1	+0.51	Strong
SMART (Baker, Gersten, & Keating, 2000)	1-2	1-1	1	+0.42	Strong

**Table 4: Tier 2 and Tier 3 Mathematics Programs Meeting ESSA Standards For Strong and Moderate Evidence**

<b><u>Program</u></b>	<b>Grades Validated</b>	<b>Group Size</b>	<b>Number of Studies</b>	<b>Mean Effect Size</b>	<b>ESSA Rating</b>
<b>One-To-Small Group Tutoring: Teachers (Tier 2)</b>					
Number Rockets (Gersten et al., 2015)	1	1-2/3	1	+0.34	Strong
<b>On-To-Small Group Tutoring: Teaching Assistants (Tier 2)</b>					
Fraction Face-Off! (Fuchs et al., 2016)	4	1-2	2	+0.51	Strong
ROOTS (Doabler et al., 2016)	1	1-2/5	2	+0.24	Strong
FocusMath (Styers & Baird-Wilkerson, 2011)	3,5	1-6/8	1	+0.24	Strong
<b>One-To-One Tutoring: Teachers (Tier 3)</b>					
Numbers Count (Torgerson et al., 2013)	1-2	1-1	1	+0.33	Strong
Math Recovery (Smith et al., 2013)	1	1-1	1	+0.24	Moderate
<b>One-To-One Tutoring: Teaching Assistants (Tier 3)</b>					
Catch-Up Numeracy (Rutt et al., 2014)	1-5	1-1	1	+0.21	Strong
Galaxy Math (Fuchs et al., 2013)	1	1-1	1	+0.25	Strong
Pirate Math (Fuchs et al., 2010)	3	1-1	1	+0.37	Strong



**Figure 2: Structure of Response to Proven Intervention (RTPI)**

