REL Appalachia Ask A REL Response

Literacy; Math
January 2020

Question:

What are promising practices for implementing RTI at the secondary level to support student outcomes?

Response:

Thank you for your request to our REL Reference Desk regarding evidence-based information about promising practices for implementing response to intervention (RTI) at the secondary level. Ask A REL is a collaborative reference desk service provided by the 10 Regional Educational Laboratories (RELs) that, by design, functions much in the same way as a technical reference library. Ask A REL provides references, referrals, and brief responses in the form of citations in response to questions about available education research.

Following an established REL Appalachia research protocol, we searched for peer-reviewed articles and other research reports on promising practices and considerations for implementing RTI at the secondary level. We focused on identifying resources that specifically addressed implementing RTI at the secondary level to support student outcomes. There is limited research on how RTI can support mathematics outcomes at the secondary level, so the majority of the articles in this response focus on how RTI can support reading outcomes in secondary schools. The sources included ERIC and other federally funded databases and organizations, research institutions, academic research databases, and general Internet search engines. For more details, please see the methods section at the end of this document.

The research team did not evaluate the quality of the resources provided in this response; we offer them only for your reference. Also, the search included the most commonly used research databases and search engines to produce the references presented here, but the references are not necessarily comprehensive, and other relevant references and resources may exist. References are listed in alphabetical order, not necessarily in order of relevance.

References

Bresina, B. C., Baker, K., Donegan, R., & Whaley, V.M. (2018). *Practice guide: Applying response to intervention for secondary students who struggle with reading comprehension.* Washington, DC: U.S. Department of Education, Office of Special Education Programs. Retrieved from https://eric.ed.gov/?id=ED591072

From the abstract: "Response to Intervention (RTI) is a multi-level framework designed to prevent academic failure and remediate areas of deficit. It is a framework to support students for whom generally effective practices have been insufficient. Its inclusion in the Individuals with Disabilities Education Act (IDEA; U.S. Department of Education, 2004) identified RTI with special education eligibility determination. However, RTI can also be viewed as a framework to organize increasingly intensive instruction for students at risk for or with disabilities (D. Fuchs, Fuchs, & Stecker, 2010). Many secondary students who struggle to read, regardless of disability status, struggle specifically with reading comprehension. These students will need interventions targeting comprehension and other related skills to make progress. The RTI framework consists of four main components: (1) universal screening; (2) levels of increasingly intensive intervention; (3) progress monitoring; and (4) data-based instructional decisions. By the secondary grades, the primary focus of RTI shifts from the identification of to the treatment of difficulties (Vaughn & Fletcher, 2012), suggesting alterations to the traditional RTI framework used in the elementary grades. While there is limited research on the effectiveness of RTI in the secondary grades to remediate reading comprehension difficulties, there is evidence that adolescence is not too late to improve reading comprehension outcomes (Scammacca et al., 2007). Overall, the literature supports the implementation of intensive reading interventions for students in secondary schools and that using an RTI framework to intensify reading comprehension interventions is an effective approach for these students."

Ehren, B. J., Deshler, D. D., & Graner, P. S. (2010). Using the content literacy continuum as a framework for implementing RTI in secondary schools. *Theory Into Practice*, *49*(4), 315–322. Abstract retrieved from https://eric.ed.gov/?id=EJ900895; full text available at http://maase.pbworks.com/f/Stratepubs2009.pdf

From the abstract: "This article discusses the Content Literacy Curriculum (CLC) as a framework for conceptualizing and implementing Response to Intervention (RTI) at the secondary level. It is our belief that the CLC offers an excellent RTI implementation framework for secondary schools interested in addressing literacy in the context of improved academic achievement as a schoolwide effort. CLC implementation can be accomplished within a general problem-solving approach to RTI. However, a few components may need amplification for the CLC to become a comprehensive RTI system: Universal screening must address all the important aspects of literacy, including writing; schools must develop a broader approach to progress monitoring; schools must pay closer attention to the scope and function of decision-making teams; and, although fluid movement across levels has always been an important component of the CLC, for RTI to work, greater attention to this aspect is needed."

Gersten, R., Beckmann, S., Clarke, B., Foegen, A., Marsh, L., Star, J. R., & Witzel, B. (2009). *Assisting students struggling with mathematics: Response to Intervention (RtI) for elementary and middle schools* (NCEE 2009-4060). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from https://eric.ed.gov/?id=ED504995

From the abstract: "Students struggling with mathematics may benefit from early interventions aimed at improving their mathematics ability and ultimately preventing subsequent failure. This guide provides eight specific recommendations intended to help teachers, principals, and school administrators use Response to Intervention (RtI) to identify students who need assistance in mathematics and to address the needs of these students through focused interventions. The guide provides suggestions on how to carry out each recommendation and explains how educators can overcome potential roadblocks to implementing the recommendations. Each recommendation is rated strong, moderate, or low based on the strength of the research evidence for the respective recommendation. Specific recommendations include: (1) Screen all students to identify those at risk for potential mathematics difficulties and provide interventions to students identified as at risk; (2) Committee-selected instructional materials for students receiving interventions should focus intensely on in-depth treatment of whole numbers in kindergarten through grade 5 and on rational numbers in grades 4 through 8; (3) Instruction during intervention should be explicit and systematic, and should include models of proficient problem solving, verbalization of thought processes, guided practice, corrective feedback, and frequent cumulative review; (4) Interventions should include instruction on solving word problems that is based on common underlying structures; (5) Intervention materials should include opportunities for students to work with visual representations of mathematical ideas and interventionists should be proficient in the use of visual representations of mathematical ideas; (6) Interventions at all grade levels should devote about 10 minutes in each session to building fluent retrieval of basic arithmetic facts; (7) Monitor the progress of students receiving supplemental instruction and other students who are at risk; and (8) Include motivational strategies in tier 2 and tier 3 interventions."

Pyle, N., & Vaughn, S. (2012). Remediating reading difficulties in a response to intervention model with secondary students. *Psychology in the Schools*, *49*(3), 273–284. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3478671/pdf/nihms410315.pdf

From the abstract: "The research on Response to Intervention (RtI) with secondary students is scant; however, a recently conducted, multiyear, large-scale implementation of RtI with middle-school students provides findings that inform practices and future directions for research. This article provides an overview of the findings from each of the 3 years of an intensive, tiered reading intervention with middle-school students. In Year 1, students were provided with a Tier 1 and Tier 2 intervention. In Year 2, minimal responders were provided with another year of intervention (Tier 3), and again in Year 3, minimal responders to the 2-year intervention were provided with a third year of intervention (Tier 4). Using students' responsiveness to intervention as a prerequisite for a subsequent year of intensive instruction, minimal responders received a total of up to 3 years of intervention. The efficacy of an enhanced primary (Tier 1), secondary (Tier 2), and tertiary (Tier 3) intervention, and an individualized, intensive reading intervention (Tier 4) are discussed, as well as the logistics of implementing an RtI model with secondary students."

Smith, K. G., Dombek, J. L., Foorman, B. R., Hook, K. S., Lee, L., Cote, A.-M., ... Stafford, T. (2016). *Self-study guide for implementing high school academic interventions.* (REL 2016-218). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National

Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from https://eric.ed.gov/?id=ED569119

From the abstract: "While academic interventions can be implemented in any grade, focusing on interventions in high school is critical because it is often a student's last chance to become ready for the academic demands of postsecondary education and careers. States across the country are implementing large-scale initiatives focused on delivering academic interventions in the high school grades. This self-study guide provides a template for data collection and guiding questions for discussion that may improve the implementation of high school academic interventions and increase the number of students meeting college and career readiness standards. This guide is intended to help district- and school-based practitioners conduct self-studies for planning and implementing high school academic interventions. Self-study is a process of using a guide with predetermined focus areas and questions to collect, share, and discuss data with stakeholders. The process can include teachers, instructional coaches, guidance counselors, school-based administrators, district administrators, and chief academic officers knowledgeable in high school academic interventions. It may help educators ensure strong implementation of interventions and document current practices in implementing a specific academic practice, multi-tiered system of support, or response to intervention policy. An ideal time for conducting a self-study of implementation of academic interventions is the beginning or end of the school year so that prior-year implementation can be considered and planning can occur for implementation for the next school year. States, districts, and schools that are implementing or planning to implement high school academic interventions may find this guide helpful as they consider which types of evidence to collect and which components of high school academic interventions are important for evaluating implementation. This 'Self-Study Guide for Implementing High School Academic Interventions' consists of the 'Scoring Guide,' 'Implementation Consensus Rating Form,' and 'Planning Next Steps Form'."

Vaughn, S., Cirino, P. T., Wanzek, J., Wexler, J., Fletcher, J. M., Denton, C. D., ... Francis, D. J. (2010). Response to intervention for middle school students with reading difficulties: Effects of a primary and secondary intervention. *School Psychology Review*, *39*(1), 3–21. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3072689/pdf/nihms246017.pdf

From the abstract: "This study examined the effectiveness of a yearlong, researcher-provided, Tier 2 (secondary) intervention with a group of sixth-graders. The intervention emphasized word recognition, vocabulary, fluency, and comprehension. Participants scored below a proficiency level on their state accountability test and were compared to a similar group of struggling readers receiving school-provided instruction. All students received the benefits of content area teachers who participated in researcher-provided professional development designed to integrate vocabulary and comprehension practices throughout the school day (Tier 1). Students who participated in the Tier 2 intervention showed gains on measures of decoding, fluency, and comprehension, but differences relative to students in the comparison group were small (median d = +0.16). Students who received the researcher-provided intervention scored significantly higher than students who received comparison intervention on measures of word attack, spelling, the state accountability measure, passage comprehension, and phonemic decoding efficiency, although most often in particular subgroups."

Vaughn, S., & Fletcher, J. M. (2012). Response to intervention with secondary school students with reading difficulties. *Journal of Learning Disabilities*, *45*(3), 244–256. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3356920/pdf/nihms377135.pdf

From the abstract: "The authors summarize evidence from a multiyear study with secondary students with reading difficulties on (a) the potential efficacy of primary-level (Tier 1), secondary-level (Tier 2), and tertiary-level (Tier 3) interventions in remediating reading difficulties with middle school students, (b) the likelihood of resolving reading disabilities with older students with intractable reading disabilities, (c) the reliability, validity, and use of screening and progress monitoring measures with middle school students, and (d) the implications of implementing response to intervention (RTI) practices at the middle school level. The authors provide guidance about prevailing questions about remediating reading difficulties with secondary students and discuss future directions for research using RTI frameworks for students at the secondary level."

Vaughn, S., Fletcher, J. M., Francis, D. J., Denton, C. A., Wanzek, J., Wexler, J., … Romain, M. A. (2008). Response to intervention with older students with reading difficulties. *Learning and Individual Differences*, *18*(3), 338–345. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2614270/pdf/nihms68654.pdf

From the abstract: "Addressing the literacy needs of secondary school students involves efforts to raise the achievement levels of all students and to address specifically the needs of struggling readers. One approach to this problem is to consider the application of a Response to Intervention (RTI) model with older students. We describe an approach to enhanced literacy instruction for middle school students that includes the essential components of any RTI model: universal screening, progress monitoring, and multi-tiered instructional service delivery. We use screening and progress-monitoring tools specifically tied to state accountability tests and a multi-tiered instructional framework that addresses the literacy needs of all middle school students, including struggling readers. Presently a large-scale, multi-site randomized trial is under way to evaluate the feasibility and effectiveness of this RTI model for middle school students."

Additional Ask A REL Responses to Consult

Ask A REL Mid-Atlantic at Mathematica. (2018). *We are looking at the comparison of student achievement increases based on these two interventions (Co-Teaching or MTSS/RTII). Which intervention results in the highest student achievement or highest effect size?* Retrieved from https://ies.ed.gov/ncee/edlabs/regions/midatlantic/askarel_49.asp

Additional Organizations to Consult

RTI Action Network: http://www.rtinetwork.org/

From the website: "The RTI Action Network is dedicated to the effective implementation of Response to Intervention (RTI) in school districts nationwide. Our goal is to guide educators and families in the large-scale implementation of RTI so that each child has access to quality instruction and that struggling students—including those with learning and attention issues—are identified early and receive the necessary supports to be successful. The RTI Action

Network is a program of the National Center for Learning Disabilities, funded by the Cisco Foundation and in partnership with the nation's leading education associations and top RTI experts."

- RTI in Secondary Schools: http://www.rtinetwork.org/learn/rti-in-secondary-schools

Center on Response to Intervention at the American Institutes for Research: https://rti4success.org/

From the website: "The Center on Response to Intervention at the American Institutes of Research (AIR) continues the work of the National Center on Response to Intervention (NCRTI), which AIR ran from 2007–2012 with a grant from the Office of Special Education Programs. When the Center's federal funding ended in 2012, AIR took over upkeep and maintenance of the Center's website and products and continues to provide support for states, districts, and schools implementing MTSS/RTI."

- Secondary Schools https://rti4success.org/related-rti-topics/secondary-schools

Central Comprehensive Center (C3) at the University of Oklahoma: https://www.c3ta.org/index.php

From the website: "The Central Comprehensive Center (C3) at the University of Oklahoma is one of a national network of 22 federally funded centers. The C3 mission is to provide high quality/high impact technical assistance that helps build or expand the capacity of the state education agency (SEA), intermediary agencies, and other educational systems in Colorado, Kansas, and Missouri to implement, support, scale-up, and sustain reform efforts to improve teaching and learning."

- Response to Intervention KnowledgeBase https://www.c3ta.org/knowledgebases/RtI/9_2_1/explore-the-use-of-rti-in-secondary-schools.html

Methods

Keywords and Search Strings

The following keywords and search strings were used to search the reference databases and other sources:

- ("response to intervention" OR RTI) AND ("best practice*" OR "promising practice*") AND (secondary OR "middle school" OR "high school")
- ("response to intervention" OR RTI) AND implement* AND (secondary OR "middle school" OR "high school")
- ("response to intervention" OR RTI) AND (secondary OR "middle school" OR "high school") AND (read* OR math* OR outcome*)

Databases and Resources

We searched ERIC, a free online library of more than 1.6 million citations of education research sponsored by the Institute of Education Sciences (IES), for relevant resources. Additionally, we searched the academic database ProQuest, Google Scholar, and the commercial search engine Google.

Reference Search and Selection Criteria

In reviewing resources, Reference Desk researchers consider—among other things—these four factors:

- Date of the publication: Searches cover information available within the last ten years, except in the case of nationally known seminal resources.
- Reference sources: IES, nationally funded, and certain other vetted sources known for strict attention to research protocols receive highest priority. Applicable resources must be publicly available online and in English.
- Methodology: The following methodological priorities/considerations guide the review and selection of the references: (a) study types—randomized controlled trials, quasi experiments, surveys, descriptive data analyses, literature reviews, policy briefs, etc., generally in this order; (b) target population, samples (representativeness of the target population, sample size, volunteered or randomly selected), study duration, etc.; (c) limitations, generalizability of the findings and conclusions, etc.
- Existing knowledge base: Vetted resources (e.g., peer-reviewed research journals) are the primary focus, but the research base is occasionally slim or nonexistent. In those cases, the best resources available may include, for example, reports, white papers, guides, reviews in non-peer-reviewed journals, newspaper articles, interviews with content specialists, and organization websites.

Resources included in this document were last accessed on December 10, 2019. URLs, descriptions, and content included here were current at that time.

This memorandum is one in a series of quick-turnaround responses to specific questions posed by education stakeholders in the Appalachia region (Kentucky, Tennessee, Virginia, and West Virginia), which is served by the Regional Educational Laboratory Appalachia (REL AP) at SRI International. This Ask A REL response was developed by REL AP under Contract ED-IES-17-C-0004 from the U.S. Department of Education, Institute of Education Sciences, administered by SRI International. The content does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. government.