

## Logic Model for Massachusetts Partnership to Support Student Learning through Math Intervention

**Problem Statement:** Recently, only about 33 percent of grade 4 students met or exceeded expectations in math on the 2021 state assessment. Through this partnership, districts leaders are seeking ways to bolster upper elementary students' mathematics learning by providing intervention in addition to core instruction. The target population is students with mathematics difficulties or identified disabilities who are receiving math intervention in grades 3-6.

**General Inputs:** Existing research and evidence-based practices; federal and state regulations, statutes, and guidance; REL Northeast & Islands' and partners' engagement and expertise; connections to other networks and stakeholder groups; REL Northeast & Islands' commitment to equity and culturally responsive practices; collaboration tools.

Activity-specific inputs	Activities	Outputs	Short-term Outcomes	Medium-term Outcomes	Long-term Outcomes
<ul style="list-style-type: none"> <li>Facilitation, project management, content experts</li> </ul>	<p><b>(Y1) Develop partnership</b></p> <p><b>(Y1–5) Sustain partnership</b> through quarterly meetings to review logic model, plan and execute activities, and monitor progress</p>	Sustained partnership with engaged members	<p>Partners build connections across school districts and organizations.</p> <p>Partners deepen their understanding of the practice guide and toolkit recommendations.</p>	<p>Participating teachers increase their ability to implement instructional practices emphasized in the Toolkit and the associated WWC Practice Guide</p> <p>Partners use research &amp; evidence-based resources to implement supports for math intervention teachers' and math leaders' use of the evidence-based practices.</p>	<p>Participating teachers consistently use evidence-based practices effectively to assist students in math intervention.</p> <p>Participating teachers increase self-efficacy for using evidence-based practices to assist students in math intervention.</p>
<ul style="list-style-type: none"> <li>Content and training experts</li> <li>Structured PD time for teachers and leaders</li> </ul>	<p><b>(Y1–2) Develop toolkit and usability testing:</b> Participating leaders and teachers participate in PD sessions, complete assignments, and leaders facilitate PLC sessions.</p>	<p>Diagnostic &amp; Monitoring Instruments</p> <p>PD Course Resources</p> <p>Institutionalizing Supports Guide</p>	<p>Participating leaders increase their knowledge of evidence-based practices and how to support teachers in implementing them.</p> <p>Participating teachers increase their knowledge of evidence-based practices.</p>	<p>Partners disseminate information about the toolkit to generate interest and use of the toolkit among intervention teachers, math leaders, and administrators in their districts and organizations.</p>	<p>Treatment students have a positive increase in attitudes and sense of self-efficacy for learning mathematics concepts and skills</p> <p>Treatment students increase their ability to use the focus strategies of connecting representations for fractions, using number lines for fractions, and solving word problems.</p>

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<ul style="list-style-type: none"> <li>Research and methods experts, external REL-NEI researcher</li> <li>Participating schools and districts, data, incentives for RCT</li> </ul>	<b>(Y3-4) RCT study</b> to evaluate the impact of the toolkit	Report on the efficacy of the toolkit and impact on teacher and student outcomes	Partners understand the study's findings about the toolkit's efficacy and impact on teacher and student outcomes.		Treatment students increase their knowledge of the Number and Operations topics.
<ul style="list-style-type: none"> <li>Communication, editing, data visualization experts</li> <li>Dissemination channels, partner networks, social media</li> </ul>	<b>(Y1-Y5) Dissemination:</b> Webinars, videos, workshops, conference presentations, articles, blog posts	Knowledge use/toolkit promotion	Partners increase their resource capacity to support teachers in effectively teaching students struggling with math.		Participating schools will reduce the achievement gap for students identified as high needs <sup>1</sup> and enrolled in math intervention by increasing the percentage of students meeting expectations on the math MCAS in the upper elementary grades.

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<sup>1</sup> The Massachusetts Department of Elementary and Secondary Education defines a student as “high needs” if they are designated as either low income (prior to 2015, and from 2022 to present), economically disadvantaged (from 2015 to 2021), EL/former EL, or a student with disabilities (<https://profiles.doe.mass.edu/help/data.aspx?section=students>).