

Rhode Island's Alignment Process

A Gap Analysis Tool

Putting All the Pieces Together

Rhode Island has a critical need for a statewide commitment to and understanding of how action plans to improve mathematics education can be implemented with fidelity. As a result of Rhode Island's current achievement data from NECAP testing, each district is asked to complete a gap analysis of its current mathematics instructional system against the ten alignment components.

Aligned mathematics systems are defined as having these interdependent components that are further clarified by the bulleted indicators within each area. Mathematics achievement will improve only when there is a clear plan of action that is appropriately resourced and supported to address all of these components within every district's strategic plan. For each set of indicators we ask you to answer one or more of the following questions.

1. To what extent is this in place?
2. What evidence supports this judgment?
3. What resources do we have to continue work in this area?
4. What expertise do we have to support this area?
5. What barriers exist that prevent us from attending to this area?

Please complete this gap analysis in partnership with representatives from your entire school and district community. More important than having a finished product are the examination and conversations that will be necessary to completing the gap analysis.

1. District Plan to Improve Student Achievement in Mathematics

Indicators:

- Our district has someone responsible for overseeing mathematics curriculum across all grade levels.
- Our district's strategic plan has long and short term goals for improving mathematics achievement with measurable outcomes.
- Our district coordinates all available resources (fiscal, personnel, and professional development) to support mathematics curriculum alignment.
- Our district plan is based on careful evaluation of student achievement and program evaluation data.

To what extent is our current plan reflective of each of these indicators?	
What evidence do we have that this plan will yield the results we hope? What are specific outcomes at the district, school, and student levels?	
What data have we used and how thoroughly have we analyzed data about each area of resources to develop our district plan?	
How have we developed system-wide and community understanding and commitment to our plan?	

2. Program, Texts, and Resources

Indicators:

- Programs, texts, and resources are chosen based on their alignment to the GLE/GSE.
- Programs, texts, and materials are chosen with clarity around the amount and types of professional development teachers will need to implement the program with fidelity.
- Programs, texts, and resources are chosen with input and understanding in partnership with educators representing all grade levels and courses (e.g., career and technical, alternate programming, bilingual, etc.).
- Programs, texts, and resources are placed within the context of the district's curriculum in mathematics so that everyone understands how the program should be implemented (e.g., pacing, sequence, assessments, pedagogy, etc.).

At which grade levels or with which populations are we most confident that the materials are in alignment? How do we know?	
At which grade levels or with which populations are we most concerned that there is substantial alignment work to be done?	
What future opportunities do we have to address alignment gaps related to programs, texts, or resources?	
What support do we need in order to continue this alignment work?	

3. Teacher Practice

Indicators:

- Every teacher is prepared to teach each mathematics concept in multiple ways.
- Every teacher re-teaches concepts, strategies, and skills based on formative assessment information.
- Every teacher has planned opportunities to discuss student work to reflect on instructional practice and student progress.
- Every new teacher, (new to grade, school, or profession) is supported with a mentor.
- Every teacher is prepared to teach diverse learners (*e.g.*, ELL, students with disabilities, *etc.*).
- Every teacher integrates explicit instruction in reading and writing into mathematics.
- Every teacher balances individual and group work with specific guidance for students to work well as part of a team.
- Every teacher is evaluated on a regular basis each year with a resulting plan for support and goals for improvement.

<p>How do we know and what evidence do we have to evaluate the extent to which each teacher in our district engages in high quality instructional practice in mathematics?</p>	
<p>How do we document and communicate our beliefs and expectations around best instructional practice in mathematics?</p>	
<p>What evidence do we have that new teachers are well supported by mentoring or other strategies?</p>	
<p>What help do we need to improve our school and district work in this area (<i>e.g.</i>, training, research, expertise, <i>etc.</i>)?</p>	

4. Teacher Content Knowledge

Indicators:

- Every teacher understands the mathematics behind each GLE/GSE in a way that allows them to teach beyond rote memory of skill and to provide students with a conceptual understanding of mathematics.
- Our district has a policy and protocol to ensure that each teacher is assigned to teach mathematics courses or grade levels only when s/he is well grounded and prepared.
- Our district has a policy and protocol to ensure that each teacher is supported so that s/he gains a deeper understanding of specific mathematics topics as needed.

How do we know and what evidence do we have to evaluate the degree to which each teacher of mathematics in our district is well grounded in mathematics content?	
How do we make decisions about the grade level, courses, or populations of students each teacher is responsible for teaching? How can we improve this process?	
What systems do we have in place to ensure that we are providing professional development and support to teachers who do not have a deep understanding of mathematics content?	
What are our barriers and resources with respect to making improvements in teacher content knowledge?	

5. Professional Development

Indicators:

- The professional development plan is cohesive, that is, it has long term goals that extend beyond one year, specifies goals and coordinates across schools and grade levels.
- Professional development uses multiple funding sources in order to address mathematics holistically so that connections are made across topics (e.g.,, addressing content, diverse learners, pedagogy, assessment) rather than providing professional development by topic or funding stream.
- The district has worked in partnership with the union to address contractual barriers to planning focused and directed professional development that balances meeting individual teacher needs with school needs in mathematics.
- Professional development addresses mathematics content and pedagogy as well as the connections between the two.
- There is ongoing and systematic support for teachers to translate professional development into practice in their classrooms.
- Mathematics coaches are identified by expertise through an application process and are trained in the coaching process.

<p>How do we plan professional development within schools and across the district(s)? Who plans, with what information, and how are decisions made?</p>	
<p>How are professional development providers selected? For example, if teacher groups make these decisions, how is their work focused, supported, and evaluated for effectiveness?</p>	
<p>What supports or help do we need to more effectively plan for or implement professional development?</p>	
<p>What resources do we have to support professional development -- both staff and financial?</p>	

6. Formative, Interim, and Summative Assessment

Indicators:

- Every teacher provides ongoing formative assessment in order to determine instructional “next steps” for individual students and the class.
- The district has developed grading policies in cooperation with teachers and the school community that articulate how grades are earned and assigned.
- The district has designed interim assessments that involve more than on demand paper and pencil methodologies, that is, students are asked to demonstrate and apply what they have learned through application and open-ended items.
- Teachers meet on a regular basis within and across grades to calibrate how they evaluate student work. Including the development of rubrics and benchmarks.
- Feedback to students includes more than a grade; rather, it provides information about how to improve.
- Summative assessments (e.g., comprehensive course assessments) are designed with teachers across schools and programs.
- Teachers understand how NECAP and other standardized test results can be used in their classrooms and as program evaluation tools.

What formative assessments do we use in our district at each grade level? How do we know that teachers are using ongoing information to support students' learning?	
What interim assessments do we use in our district at each grade level? How are they developed, scored, and calibrated across teachers and schools?	
What summative assessments do we use in our district? How are they developed, scored, and calibrated across teachers and schools?	

What support do we need in order to develop a comprehensive assessment and grading system across all grade levels?

7. Supports for Students

Indicators:

- Every classroom's environment places students at the center of all decision making.
- Every student is well known so that immediate steps are taken when s/he is falling behind in mathematics.
- Every student has the materials (*e.g.*, textbooks, manipulatives, calculators) s/he needs in order to participate in the mathematics curriculum.
- Every student's family is informed about their student's progress in formal and informal ways (*e.g.*, conferences, notes, progress reports, telephone calls).
- Every student has the support s/he needs to be a successful mathematics student (*e.g.*, ramp up programs, tutoring, extended mathematics classes, credit recovery).

What systems do we have in place to know that every student is in a supportive classroom environment?	
What is currently in place to support students who are falling behind in mathematics?	
What policies and practices are in place to ensure that families are kept informed of student progress, successes, and concerns?	
What help do we need in order to provide better supports to every student in our district?	

8. Vertical and Horizontal Alignment

Indicators:

- Every teacher understands the instructional “big ideas” of each grade level and how they build from the preceding grade and toward the next grade level.
- Our district has a process to annually review the mathematics curriculum and its implementation to evaluate its effectiveness using data, teacher reflections, and current research.

What process do we use to ensure that our curriculum addresses each content strand and subpart of the GLE/GSE in order to identify the connections and sequencing of topics across grade levels?		
What process do we use to evaluate our mathematics curriculum? Who is involved, what data and other evidence do we use?		
What support do we need in order to ensure that we have an articulated alignment within and across grades?		

9. Depth of Knowledge

Indicators:

- Every teacher has been trained and understands the definition and uses of *Depth of Knowledge*, (DOK) to design lessons, assignments and assessments.
- Every teacher is comfortable modeling cognitive processing aloud for students as a part of instruction.
- All instruction, assignments, and classroom assessments incorporate and balance the intended rigor of every GLE/GSE for each grade level.

How are teachers currently using DOK as part of instruction and assessment? What training has been provided to every teacher?	
To what extent has the district reviewed its entire curriculum to ensure that there is adequate attention to DOK so that students are prepared in basic skills and higher order thinking?	
How do we know that every teacher is able to model cognitive processing in order to help students understand the conceptual underpinnings of the mathematics GLE/GSE?	
What support or assistance do we need to better understand and apply DOK as part of our district's curriculum, instruction, and assessment?	

10. Distribution of Emphasis

Indicators:

- Each grade level's mathematics curriculum is aligned in its emphasis to the distribution of emphasis associated with the NECAP tests.
- Every teacher understands the distribution of emphasis and allocates instruction time with this in mind.

What process has our district used to ensure that our mathematics curricula are aligned to state's distribution of emphasis?	
How does our district balance instructional needs of students who have gaps in their mathematics content with our pacing guides?	
How does our district monitor and evaluate how each teacher makes decisions about emphasizing when and how mathematics GLE/GSE are introduced and taught at each grade level?	
What support or assistance does our district need in order to review and make decisions about our distribution of emphasis within and across grades?	