



Rhode Island Department of Education
MATHEMATICS AND SCIENCE PARTNERSHIP
GRANT APPLICATION¹

In Accordance with Title II, Part B of
No Child Left Behind Act of 2001

I. PROJECT BACKGROUND

The Mathematics and Science Partnerships (MSP) program provides formula grants to states under Title II, Part B of the No Child Left Behind (NCLB) Act of 2001. The purpose of the program is to improve the academic achievement of students in the areas of mathematics and science through partnerships between institutions of higher education (IHEs) and local educational agencies (LEAs). The Rhode Island Department of Education (RIDE) is responsible for the administration of the MSP program and will award funds to support successful proposals. *Building a Strong Foundation in Mathematics and Science* is designed to respond to the needs expressed around mathematics and science statewide. It is also designed to meet the purposes and goals of MSP.

The situation of mathematics and science education in Rhode Island mirrors national trends of urgency around improving student achievement. Statewide, student achievement in mathematics and science is alarmingly low, as indicated on its New England Common Assessments Program (NECAP) test scores. Although the gap between urban and suburban achievement is wide, an urgent call for mathematics and science education reform is being expressed across Rhode Island. In February 2008, Governor Donald L. Carcieri called for the first Rhode Island Mathematics Summit to initiate statewide communication and collaboration to improve mathematics achievement at every level of the system.

Following the first Summit in May and a second in November, there was a surge in momentum and energy around improving student achievement in mathematics. The second Summit featured a keynote presentation by the Charles A. Dana Center at the University of Texas at Austin, a national leader in education policy and research. A unit of the College of Natural Sciences, the Dana Center provides direct service to school districts, education leaders, and other agencies across the nation in accordance with its mission of improving mathematics and science education. District leaders across Rhode Island expressed interest in collaborating with the Dana Center in their mathematics and science efforts. Given the origins of the proposed work and its collective nature, RIDE served a role of facilitator in the conversations.

The proposed partnership between the Dana Center, local districts, and a range of educational leaders across the state aligns nicely with the purposes and goals of the MSP program, as outlined below. Given

¹ The “Mathematics and Science Partnership Grant Renewal Application” from the Arizona Department of Education was referenced in the development of this RFP.

the unique nature of the partnership, this RFP has been modified to reflect the feedback and conversations that have taken place among a broad array of stakeholders to collectively identify the best approach to substantial and sustainable reform in mathematics and science. The proposed work responds to the needs of individual schools and districts as well as the needs of the larger education system in Rhode Island. Other partners from institutions of higher education and from the Rhode Island education communities are encouraged to engage in the partnerships.

II. PROGRAM DESCRIPTION

A. Purpose²

The MSP program supports the improvement of student achievement in the areas of mathematics and science by encouraging state educational agencies, institutions of higher education, and local educational agencies to partner in high-quality professional development programs, including programs that:

- focus on the education of mathematics and science teachers as a career-long process that continuously stimulates teachers’ intellectual growth and upgrades teachers’ knowledge and skills; and
- develop more rigorous mathematics and science curricula that are aligned with challenging state and local academic content standards and with the standards expected for postsecondary study in engineering, mathematics, and science.

B. Rhode Island’s Priority

The Rhode Island education system wants to bring coherence and consistency to its school improvement efforts, specifically in mathematics and science. Following the first Mathematic Summit, Rhode Island LEAs completed a gap analysis of mathematics and science practices in their schools. Resoundingly, the largest barriers to higher level performance in those subject areas were:

- a lack of deep understanding of the content of Rhode Island’s state standards;
- incoherent professional development; and
- gaps in curricula.

Improvement will result from strengthening the system from the district level through the schools to the classroom, developing leader and teacher capacity in parallel processes.

Education researcher Robert Marzano³ (2003) identifies and ranks, based on the existing research literature, five school-level factors that influence student academic achievement. He lists a “guaranteed and viable curriculum” as having the most impact on student achievement. Guided by this and similar research, *Building a Strong Foundation* seeks to increase instructional coherence at all levels of the system by aligning curriculum, instruction, and assessment to each other and to the state’s Grade Level

² U.S. Department of Education, “Part B – Mathematics and Science Partnerships,” 2004, <www.ed.gov/policy/elsec/leg/esea02/pg26.html> (March 2009)

³ Robert J. Marzano, *What Works in Schools: Translating Research Into Action* (Alexandria: Association for Research and Curriculum Development, 2003), 22-34.

Expectations (GLEs) and Grade Span Expectations (GSEs). Teachers and instructional leaders at various levels of the system will participate in an in-depth study of the standards to develop more rigorous curricula, as encouraged in the MSP program.

C. Goals and Objectives

Building a Strong Foundation in Mathematics and Science seeks to increase teacher content knowledge and student achievement by:

- Providing targeted support for self-selected school districts to carry out the work of alignment within their system;
- Developing a network of intermediary service providers (ISPs) to build capacity and infrastructure at all levels of the system to sustain the alignment work long-term; and
- Leveraging and aligning the resources necessary to support the work of alignment across all levels of the system.

Specifically, participants will:

- Examine the current K – 12 curriculum, instruction, and assessment practices in the district;
- Study the state standards and their implications for teaching and learning in the district’s classrooms;
- Develop, refine, and come to agreement on a standards-aligned scope and sequence and units of study within the district;
- Identify, refine, and implement a common set of tools and structures for leaders to use in supporting teacher implementation of the aligned scope and sequence and units of study; and
- Identify, refine, and implement a common set of tools and structures to support teachers as they work collaboratively to plan and implement instruction and assessment around the aligned scope and sequence and units of study.

The work shall:

- Directly relate to the curriculum and academic areas in which the teacher provides instruction, and focus only secondarily on pedagogy;
- Enhance the ability of the teacher to understand and use the challenging state academic content standards for mathematics and science and to select appropriate curricula; and
- Train teachers to use curricula that are:
 - based on scientific research;
 - aligned with challenging state academic content standards; and
 - object-centered, experiment-oriented, and concept- and content-based.

D. Eligible Partnerships

As defined in Sec. 2201(b) of Title II, Part B, partnerships must include an engineering, mathematics, or science department of an IHE and a high-need LEA. Partnerships may also include other IHE, LEA, business, and community partners. Based on the current priorities in Rhode Island, the partnership must focus on the development of rigorous K-12 mathematics and science curricula that are aligned with the state’s GLEs and GSEs. All parties involved share responsibility, goals, and accountability for

project implementation and outcomes. Each partnership must designate a project director, preferably from the LEA. If a representative from the IHE is a project director, then a representative from the LEA must be designated as a co-director. The partnership must be active and well-defined in all aspects of the grant, including planning, delivery, and evaluation of the professional development.

1. IHE Partners

Districts across the state have expressed an interest in partnering with the Dana Center to meet the goals and purposes outlined above. The Dana Center, therefore, will serve as an IHE partner. Other IHE partners may be involved to meet the goals of the work. Specifically, involvement by IHEs to bring expertise and capacity through the role of ISP (described below) is encouraged. IHE partners must:

- Provide opportunities for enhanced and ongoing professional development to improve mathematics or science;
- Commit to working with teachers, school leaders, district leaders, RIDE, and all other partners to address the goals of *Building a Strong Foundation*;
- Demonstrate knowledge of standards-based teaching and learning and use scientifically-based research to provide professional development to enhance the participants' ability to teach standards-based mathematics and science to all students; and
- Work with RIDE staff and participants to plan, assess, and refine the professional development throughout the project.

2. LEA Partners

To be eligible for a MSP grant award, an applicant LEA must demonstrate a need for improvement in student mathematics or science performance. Preference will be given to LEAs who demonstrate high-need status or partnerships including at least one high-need district. For the purposes of this grant, a high-need district meets at least one of the following conditions:

- (a) At least 20 percent of its students qualify for free or reduced meals.
- (b) At least one school in the district has not met AYP in mathematics/science for a minimum of three years.
- (c) Fewer than 50 percent of students tested scored Proficient or Advanced on the 2008 NECAP test in mathematics/science.

In addition, each LEA must:

- Ensure teacher and leaders participation in each session of the project's professional development for the duration of *Building a Strong Foundation*;
- Include school and district leaders in the work to actively participate and learn how to support the teachers and build community support for the partnership;
- Carry out the action steps designed to meet the goals of the project;
- Participate in evaluations to determine the progress and effectiveness of the work;
- Carefully document all MSP activities and the use of MSP funds and complete all necessary reports and updates, as required by RIDE and the U. S. Department of Education; and

- Clearly articulate how this program will integrate with other ongoing mathematics or science school and/or district reform initiatives.

3. ISP Partners

As noted above, an objective of *Building a Strong Foundation* is to build capacity, infrastructure, and expertise to sustain the work. To do this, the project should involve the training of intermediary service providers (ISPs). The cohort of ISPs should be educators who are experienced in the content area of mathematics or science and/or who have high leadership skills. They may come from a range of backgrounds, including higher education, educational collaboratives, or independent professional development providers. Each ISP must:

- Complete an application and interview process to demonstrate a range of competencies in the areas of disposition, expertise and skills, and experience;
- Make a three-year commitment to the work, with an evolving role over the three years;
- Participate in all training sessions and activities to support the alignment work;
- Collaborate as a member of a team of ISPs and with other project partners working with districts and schools;
- Participate in a statewide network of ISPs; and
- Share experiences and lessons learned from *Building a Strong Foundation* with other colleagues to enhance teacher education programs, where appropriate and relevant.

E. Project Requirements

Although the basic structure of the MSP projects will be similar, the details of the partnerships should respond to the unique needs of a district and its students. There are two strands of grant awards in *Building a Strong Foundation*: (1) open session work and (2) intensive district work. The goals and objectives are identical for both strands, but levels of commitment are different. Eligible partnerships will choose a strand and subject area (mathematics or science) according to need and capacity, then must submit the appropriate application. Details of the two strands are provided below.

1. Open Session Work

In addition to the requirements for partnerships and the goals and objectives mentioned above, open session projects must meet the following requirements:

- Projects must focus on K-12 mathematics or science.
- Project details must address the results of a comprehensive needs assessment, specifically around curriculum, instruction, and assessment practices.
- Projects must have a strong leadership component.
- District teams should include:
 - At least one teacher-leader⁴ from each level: elementary, middle, and high school;
 - At least one principal or assistant principal from each level: elementary, middle, and high school;

⁴ Teacher-leaders must be current classroom teachers who exhibit the qualities identified in Rhode Island’s “Standards for Educational Leaders.”

- One or two central office administrators; and
- Additional district and building administrators, teachers, and content-area specialists, depending on the size of the district and the space available in the session.
- Projects should include opportunities for participants to share experiences and lessons learned from the *Building a Strong Foundation* work with colleagues to support its goals and objectives in the district.
- Project participants must commit to six one-day professional development sessions spread over one year.
- Project participants must complete all assignments and follow-up activities that are included in the professional development sessions.

The open session work is a one-year program. Upon completion of the one-year program, a district or group of districts may apply for the intensive district work.

2. Intensive District Work

The intensive district work has similar requirements to the open session work. However, due to its more intensive nature and deeper level of commitment required by the partners, there are several additional elements of the work. Intensive district projects must meet the following requirements:

- Projects must focus on K-12 mathematics or science.
- Project details must address the results of a comprehensive needs assessment, specifically around curriculum, instruction, and assessment practices.
- Projects must have a strong leadership component. Driven by common goals and objectives, there should be separate work for leaders and teachers (with some participants fitting into both categories).
- District teams should include:
 - 1-2 central office administrators;
 - All building principals;
 - Teachers, teacher-leaders (see footnote above), and content-area coaches representing each grade level or subject area⁵ (numbers will depend on the size and capacity); and
 - Additional district and building administrators, teachers, and content-area specialists, depending on the size of the district and the space available in the session.
- Projects should include opportunities for participants to share experiences and lessons learned from the *Building a Strong Foundation* work with colleagues to support its goals and objectives in the district.
- Project participants must commit to all professional development sessions, according to whether they are in the leaders strand or the teachers strand.
- Project participants must complete all assignments and follow-up activities that are included in the professional development sessions.

⁵ In the case of multi-school or multi-district partnerships, there should be equal representation.

The intensive district work is a three-year commitment, with the expectation that those three years of work will lay a foundation of standards-based practice that is sustainable. Applicants are encouraged to partner with other districts for collaboration and shared best practices.

F. Evaluation

RIDE will contract with an external research and evaluation organization to conduct the evaluation of all *Building a Strong Foundation* projects. The evaluator should be an active partner from the planning through completion of the final reports. The evaluation and accountability system must include measurable objectives related to the goals of the project, assessing both implementation and impact. It may include an analysis of student performance and achievement on the New England Common Assessment Program (NECAP) state assessment as well as additional assessment tools, as designed and managed by the evaluator. Project participants must take part in all components of the evaluation.

III. FUNDING

A. Grant Awards

Grants will be awarded for a 12-month or 36-month period for open session work and intensive district work, respectively, with initial budget allocation for 12 months. Subsequent years of funding will be dependent upon successful completion of project requirements, interim goals, and deadlines. Availability of continuation of funding beyond the initial year is dependent upon federal reauthorization.

B. Fund Use

Funds received may be used to support professional development programs and content development in mathematics or science that is directly related to the goals and objectives of *Building a Strong Foundation*.

Funds may be used for project activities including, but not limited to, the following:

- Higher education consultants
- Teacher stipends
- Substitute coverage
- Administrative costs
- Materials for professional development
- Evaluation, recommended not to exceed 10% of the project budget
- Indirect costs, recommended not to exceed a rate of 8%

Funds may not be used for:

- Materials for classroom use
- Food

All budgets and budget descriptions must be aligned with the activities described in the proposal narrative.

IV. APPLICATION AND REVIEW

A. Review Process

Proposals will be reviewed by RIDE staff for completeness and compliance with the regulations set forth in this RFP and Title II, Part B of NCLB to determine applicant eligibility. Grants will be awarded through a competitive review process, according to criteria outlined below. The process is intended to identify the applications that meet the needs of Rhode Island’s schools.

B. Selection Criteria

The review panel’s scores and recommendations will be the primary determinant of successful proposals. The review criteria are as follows:

1. Need

Refer to the definition of a high-need district under “Eligible Partnerships” above.

2. Readiness

The Wallace Foundation defines readiness as “the combination of factors evident in participants: their previous experience with such endeavors, their attitudes toward undertaking this change (their enthusiasm and willingness to take responsibility) and the degree to which they have the necessary skills for the tasks ahead.”⁶ It is important to note that most districts undergoing a change may initially have low readiness in several areas. Readiness in terms of attitude will therefore be emphasized in the review.

3. Capacity

Selected districts should have the necessary resources (e.g. time, personnel, leadership) available to dedicate to the demands of this work. In the case of smaller districts, preference will be given to districts willing to collaborate with other districts in the state.

The point breakdown is as follows:

CRITERIA	TOTAL POINTS POSSIBLE
Demonstration of Need	20
Readiness	20
Capacity	20
Alignment of Project Goals/Objectives with District Needs	20
Commitment	10
Sustainability	10

C. Proposal Requirements

Each proposal submitted must include:

1. Coversheet

Use the form provided in the Appendix.

2. Statement of Assurances

Refer to RIDE’s assurances page provided in the Appendix.

3. Statement of Commitment

⁶ Jody Spiro, “Leading Change Handbook: Concepts and Tools [Working Draft]” (developed for grantees of The Wallace Foundation, January 2009), 3.

This section must include a signed letter of commitment from the partners, stating that the proposed activities of the project will be implemented as described in the proposal.

4. Need and Readiness Assessment

This section includes a survey adapted from the *Leading Change Handbook: Concepts and Tools [Working Draft]* by Jody Spiro, as used for the Wallace Leading Change Learning Community in January 2009.

5. Content-Area Program(s)/Initiative(s)

This section provides a list of all current mathematics or science program(s)/initiative(s) in the applicant district(s). Each should include the program/initiative name, the date it began, and a brief description of the purpose and result. Any recent past program(s)/initiative(s) should also be included.

6. Statement of Intention and Need

This section shall include a brief narrative describing how being a part of *Building a Strong Foundation in Mathematics and Science* will improve the district's student achievement and how the partnership plans to sustain the work. Partnerships should exhibit characteristics including, but not limited to:

- sustainability
- commitment
- capacity.

D. Program Administration

1. Notification

Once the review process is completed, the Project Director will be notified of the status of the proposal. RIDE staff will contact the Project Director to discuss any modifications of the project plan and/or budget that may be required to maximize the effect of funds.

2. Award Conditions

Although the intensive district work is a three-year initiative, continued eligibility for years 2 and 3 are contingent upon the applicant's fulfillment of the goals and objectives of *Building a Strong Foundation* and upon the continued funding through the U.S. Department of Education.

3. Reporting

All partnerships are required to report annually to RIDE and to the U.S. Department of Education regarding their progress in meeting project objectives and targets. Further information regarding reporting requirements and forms will be communicated to the Project Directors.