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Status: Submitted
Last Updated: 06/30/2010 3:29 PM

# Technical Review Coversheet

**Applicant**: National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Reader #1**:

| | POINTS POSSIBLE | POINTS SCORED |
|---|---|---|
| **Summary Statement** | | |
| 1. Summary Statement | N/A | N/A |
| **Selection Criteria** | | |
| 1. A. Need for the Project and Quality of the Project Design (up to 15 Points) | 15 | _____ |
| 2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points) | 20 | 18 |
| 3. C. Experience of the Eligible Applicant (up to 15 Points) | 15 | _____ |
| 4. D. Quality of the Project Evaluation (up to 15 Points) | 15 | 13 |
| 5. E. Strategy and Capacity to Bring to Scale (up to 15 Points) | 15 | _____ |
| 6. F. Sustainability (up to 10 Points) | 10 | _____ |
| 7. G. Quality of the Management Plan and Personnel (up to 10 Points) | 10 | _____ |
| **Competitive Preference** | | |
| 1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point) | 1 | _____ |
| 2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point) | 1 | _____ |
| 3. Competitive Preference 7: Innovations To Address | 1 | _____ |

| | | |
|---|---|---|
| the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point) | | |
| 4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points) | 2 | _____ |
| **TOTAL** | 105 | 31 |

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# Technical Review Form

**Scale Up 1: 84.396A**
**Reader #1:**
**Applicant:** National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Summary Statement**

**1. Summary State**

**Selection Criteria**

**1. A. Need for the Project and Quality of the Project Design (up to 15 Points)**

**In determining the need for the project and quality of the design of the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the proposed project represents an exceptional approach to the priorities the eligible applicant is seeking to meet (i.e., addresses a largely unmet need, particularly for high-need students, and is a practice, strategy, or program that has not already been widely adopted).**

**(2) The extent to which the proposed project has a clear set of goals and an explicit strategy, with actions that are**
**(a) aligned with the priorities the eligible applicant is seeking to meet,**
**(b) expected to result in achieving the goals, objectives, and outcomes of the proposed project.**

**Strengths**

**Weaknesses**

**2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points)**

**The Secretary considers the strength of the existing research evidence, including the internal validity (strength of causal conclusions) and external validity (generalizability) of the effects reported in prior research, on whether the proposed project will improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. Eligible applicants may also demonstrate success through an intermediate variable that is strongly correlated with improving these outcomes, such as teacher or principal effectiveness.**

**In determining the strength of the existing research evidence, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that there is strong evidence (as defined in the Notice Inviting Applications) that its implementation of the proposed practice, strategy, or program will have a statistically significant, substantial, and important effect on improving student achievement or student growth, closing achievement gaps, decreasing dropout rates, increasing high school graduation rates, or increasing college enrollment and completion rates.**

**(2) The importance and magnitude of the effect expected to be obtained by the proposed project, including the extent to which the project will substantially and measurably improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. The evidence in support of the importance and magnitude of the effect would be the research-based evidence provided by the eligible applicant to support the proposed project.**

**Strengths**

The applicant satisfies the evidentiary requirement that more than one experimental or quasi-experimental study supports the strategy the applicant proposes to scale up. Both of the quasi-experimental studies cited provide good evidence that APTIP has the impact on college attendance and completion the program claims. Although it might be suggested that the monetary incentives alone can count for the outcomes observed and attributed to the APTIP program -- thus calling into question whether the other APTIP attributes are necessary -- the Jackson study provides evidence that it is the more complex aspects of APTIP that account for the success of the program.

A second Jackson study (2010) not noted in the summary of research strength but included in the Appendices tackles the issue of the longer-term

outcomes of AP course-taking on students and of the APTIP program, in particular. Another quasi-experimental study, it confirms that college persistence and first-year GPA is greater among students who take AP courses in high schools that have APTIP (actually, its Texas precursor APIP program) for similar students who do not participate in such programs.

**Weaknesses**

Both of the quasi-experimental studies cited indicate that although APTIP "works" in the sense of motivating a greater percentage of a school's students to take and pass (at the level of 3) AP exams, it is not clear how the program works -- i.e., which features are most important. On the one hand, this supports adopting the program wholesale -- as is. On the other hand, it would be valuable to have better research about the effectiveness of individual program elements in order to scale up the program in the most cost-effective fashion and to maximize its effectiveness in the very different school contexts that may require program adjustments for it to be successful.

There is recent research (e.g., Jeong, 2009) for example, indicating that financial incentives given students to take AP examinations have no impact, and it would have been valuable for the applicant to have research that clearly indicates the impact of the financial incentives in its program, preferably in comparison to other program components. Presumably, the applicant already has some success in dealing with the need to tailor implementation; the Holzman study, for example, reported significant positive results over 64 APTIP sites in 6 states. Nevertheless, one would have hoped that solid research specifically intended to identify the impact of specific program elements was included as evidence of scalability. The applicant itself indicates the importance of understanding how the elements of a program contribute to its success in its publication included in the Appendices, "Taking Successful Programs to Scale."

**Reader's Score: 18**

**3. C. Experience of the Eligible Applicant (up to 15 Points)**

**In determining the experience of the eligible applicant, the Secretary considers the following factors:**

**(1) The past performance of the eligible applicant in implementing large, complex, and rapidly growing projects.**

**(2) The extent to which an eligible applicant provides information and data demonstrating that**

**(a) In the case of an eligible applicant that is an LEA, the LEA has -**

**(i) Significantly closed the achievement gaps between groups of students described in section 1111(b)(2) of the ESEA, or significantly increased student achievement for all groups of students described in such section; and**

**(ii) Made significant improvements in other areas, such as graduation rates or increased recruitment and placement of high-quality teachers and principals, as demonstrated with meaningful data; or**

**(b) In the case of an eligible applicant that includes a nonprofit organization, the nonprofit organization has significantly improved student achievement, attainment, or retention through its record of work with an LEA or schools.**

**Strengths**

**Weaknesses**

**4. D. Quality of the Project Evaluation (up to 15 Points)**

**In determining the quality of the evaluation, the Secretary considers the following factors:**

**(1) The extent to which the methods of evaluation will include a well designed experimental study or, if a well-designed experimental study of the project is not possible, the extent to which the methods of evaluation will include a well-designed quasi-experimental study.**

**(2) The extent to which, for either an experimental study or a quasi-experimental study, the study will be conducted of the practice, strategy, or program as implemented at scale.**

**(3) The extent to which the methods of evaluation will provide high-quality implementation data and performance feedback, and permit periodic assessment of progress toward achieving intended outcomes.**

**(4) The extent to which the evaluation will provide sufficient information about the key elements and approach of the project so as to facilitate replication or testing in other settings.**

**(5) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.**

**(6) The extent to which the proposed evaluation is rigorous, independent, and neither the program developer nor the project implementer will evaluate the impact of the project.**

**Strengths**

The evaluation is designed to answer critical questions about the impact of APTIP on AP course-taking and examination success and on longer-term impacts including college attendance and persistence. The evaluation appears to be rigorous, using a random assignment study of the APTIP in 150 schools. The evaluation plan is well-reasoned and thorough

The evaluation includes data collection on the key elements of the APTIP program (such as teacher training and support and course syllabi) and on the characteristics of teachers and students. This will enable the applicant to gain a clearer understanding of the specific contributions of the APTIP program and to assess implementation fidelity as it scales up.

The applicant has selected an independent evaluator with a national reputation and clear capacity to carry out the evaluation. The included resumes of the evaluation team staff indicate they have strong skills and experience.

There is $5.6 million allocated for the evaluation -- approximately 10% of the total estimated program cost. This should be adequate for the evaluation described.

**Weaknesses**

It is not clear from the evaluation description whether the evaluation study will include a regression on the APTIP program elements to attempt to determine which of the program features -- individually or in combination -- appear to be most critical for successful outcomes. (The two previous rigorous studies of APTIP do not include such a regression analysis.) The impact of teacher support and training, for example, as well as the selection criteria for participating teachers, would be valuable elements to study. Likewise, it would be valuable to know whether the student and teacher incentives are necessary for program success or dependent upon school, classroom, or other contexts. Such a study would be important in ensuring that program scale-up responds appropriately to the contexts of different schools and is maximally cost-effective. The applicant itself indicates the importance of understanding how the elements of a program contribute to its success in its publication included in the Appendices, "Taking Successful Programs to Scale."

In addition, there is some concern that the applicant may not meet the requirements of its power analysis of 150 schools with 500 students each, though this reviewer will assume the applicant will be successful in getting (and maintaining) the required number of participating institutions.

**Reader's Score: 13**

**5. E. Strategy and Capacity to Bring to Scale (up to 15 Points)**

**In determining the quality of the strategy and capacity to bring the proposed project to scale, the Secretary considers:**

**(1) The number of students proposed to be reached by the proposed project and the capacity of the eligible applicant and any other partners to reach the proposed number of students during the course of the grant period.**

**(2) The eligible applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national, regional, or State level working directly, or through partners, either during or following the end of the grant period.**

**(3) The feasibility of the proposed project to be replicated successfully, if positive results are obtained, in a variety of settings and with a variety of student populations. Evidence of this ability includes the proposed project's demonstrated success in multiple settings and with different types of students, the availability of resources and expertise required for implementing the project with fidelity, and the proposed project's evidence of relative ease of use or user satisfaction.**

**(4) The eligible applicant's estimate of the cost of the proposed project, which includes the start-up and operating costs per student per year (including indirect costs) for reaching the total number of students proposed to be served by the project. The eligible applicant must include an estimate of the costs for the eligible applicant or others (including other partners) to reach 100,000, 500,000, and 1,000,000 students.**

**(5) The mechanisms the eligible applicant will use to broadly disseminate information on its project so as to support replication.**

**Strengths**

**Weaknesses**

**6. F. Sustainability (up to 10 Points)**

**In determining the adequacy of resources for the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that it has the resources to operate the project beyond the length of the Scale-up grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any other partners; and evidence of broad support from stakeholders (e.g., State educational agencies, teachers' unions) critical to the**

**project's long-term success.**

**(2) The potential and planning for the incorporation of project purposes, activities, or benefits into the ongoing work of the eligible applicant and any other partners at the end of the Scale-Up grant.**

**Strengths**

**Weaknesses**

**7. G. Quality of the Management Plan and Personnel (up to 10 Points)**

**In determining the quality of the management plan and personnel for the proposed project, the Secretary considers:**

**(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks, as well as tasks related to the sustainability and scalability of the proposed project.**

**(2) The qualifications, including relevant training and experience, of the project director and key project personnel, especially in managing large, complex, and rapidly growing projects.**

**(3) The qualifications, including relevant expertise and experience, of the project director and key personnel of the independent evaluator, especially in designing and conducting large-scale experimental and quasi-experimental studies of educational initiatives.**

**Strengths**

**Weaknesses**

**Competitive Preference**

**1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to improve educational outcomes for high-need students who are young children (birth through 3rd grade) by enhancing the quality of early learning programs. To meet this priority, applications must focus on:**

**(a) improving young children?s school readiness (including social, emotional, and cognitive readiness) so that children are prepared for success in core academic subjects (as defined in section 9101(11) of the ESEA);**
**(b) improving developmental milestones and standards and aligning them with appropriate outcome measures; and**

**(c) improving alignment, collaboration, and transitions between early learning programs that serve children from birth to age three, in preschools, and in kindergarten through third grade.**

**Strengths**

**Weaknesses**

**2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to enable kindergarten through grade 12 (K-12) students, particularly high school students, to successfully prepare for, enter, and graduate from a two- or four-year college. To meet this priority, applications must include practices, strategies, or programs for K-12 students that**

**(a) address students? preparedness and expectations related to college;**
**(b) help students understand issues of college affordability and the financial aid and college application processes; and**
**(c) provide support to students from peers and knowledgeable adults.**

**Strengths**

**Weaknesses**

**3. Competitive Preference 7: Innovations To Address the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to address the unique learning needs of students with disabilities, including those who are assessed based on alternate academic achievement standards, or the linguistic and academic needs of limited English proficient students. To meet this priority, applications must provide for the implementation of particular practices, strategies, or programs that are designed to improve academic outcomes, close achievement gaps, and increase college- and career-readiness, including increasing high school graduation rates (as defined in this notice), for students with disabilities or limited English proficient students.**

**Strengths**

**Weaknesses**

**4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to focus on the unique challenges of high-need students in schools within a rural LEA (as defined in**

**this notice) and address the particular challenges faced by students in these schools. To meet this priority, applications must include practices, strategies, or programs that are designed to improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or improve teacher and principal effectiveness in one or more rural LEAs.**

**Strengths**

**Weaknesses**

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**Status:** Submitted

**Last Updated:** 06/30/2010 3:29 PM

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Status: Submitted
Last Updated: 07/03/2010 9:47 AM

# Technical Review Coversheet

**Applicant**: National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Reader #2**:

| | POINTS POSSIBLE | POINTS SCORED |
|---|---|---|
| **Summary Statement** | | |
| 1. Summary Statement | N/A | N/A |
| **Selection Criteria** | | |
| 1. A. Need for the Project and Quality of the Project Design (up to 15 Points) | 15 | 12 |
| 2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points) | 20 | _____ |
| 3. C. Experience of the Eligible Applicant (up to 15 Points) | 15 | 15 |
| 4. D. Quality of the Project Evaluation (up to 15 Points) | 15 | _____ |
| 5. E. Strategy and Capacity to Bring to Scale (up to 15 Points) | 15 | 14 |
| 6. F. Sustainability (up to 10 Points) | 10 | 9 |
| 7. G. Quality of the Management Plan and Personnel (up to 10 Points) | 10 | 7 |
| **Competitive Preference** | | |
| 1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point) | 1 | 0 |
| 2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point) | 1 | 1 |
| 3. Competitive Preference 7: Innovations To Address | 1 | 0 |

| | | |
|---|---|---|
| the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point) | | |
| 4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points) | 2 | 1 |
| **TOTAL** | 105 | 59 |

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# Technical Review Form

**Scale Up 1: 84.396A**
**Reader #2:**
**Applicant:** National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Summary Statement**

**1. Summary State**

**Selection Criteria**

**1. A. Need for the Project and Quality of the Project Design (up to 15 Points)**

**In determining the need for the project and quality of the design of the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the proposed project represents an exceptional approach to the priorities the eligible applicant is seeking to meet (i.e., addresses a largely unmet need, particularly for high-need students, and is a practice, strategy, or program that has not already been widely adopted).**

**(2) The extent to which the proposed project has a clear set of goals and an explicit strategy, with actions that are**
**(a) aligned with the priorities the eligible applicant is seeking to meet,**
**(b) expected to result in achieving the goals, objectives, and outcomes of the proposed project.**

**Strengths**

States are interested in implementing the National Math and Science Initiative (NMSI) Advanced Placement Training and Incentive Program (APTIP) as evidenced by 28 states applying for the program and only 6 states were accepted. Nationally, 32 states have indicated an interest in implementing the APTIP but the funding does not allow for such a large scale up plan.
Articulation from middle school to high school provides an opportunity to intervene with high risk students early in their academic career.
NMSI utilizes a recognized highly effective AP Curriculum and recognizes that the AP Exams can provide consistent assessment across all 50 states.
NMSI has enhanced the delivery of AP curriculum with active engagement; hands-on demonstration and experimentation; and problem solving and analysis. This change will impact the success of at risk and nontraditional AP students.
NMSI includes the children of military families in their goals as well as high risk students who typically are not perceived as AP-eligible students.
NMSI included, as proposed in the implementation states, 4 states with the greatest gaps in students passing AP exams between high risk students and traditional AP students.
The roll out plan incorporates 3 cohorts and a control group in manageable numbers.
The project requires commitment of financial support for substitute teachers; Lead Teacher release time; fees for the PSAT; and equipment match that secures motivation and partnerships.
A strong support base in Lead Teachers; AP Teachers; Pre-AP Teachers and Principals are a necessary part of the project. These individuals are compensated for the extra commitment to this project and treated as professionals in the process.
Students that are high risk or from military families are provided with incentives of open enrollment, extra time on task, and payment for passing the AP exams. The real strength of this application is in paving the way for success by students who traditionally have had roadblocks placed in their paths, e.g. the cost of the AP exam fee (which is waived for low income students and partially paid for other students).

**Weaknesses**

NMSI does not speak to how it will monitor the exams so that teachers who receive monetary benefit from students passing the test are not tempted to assist students in this endeavor

**Reader's Score: 12**

**2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points)**

**The Secretary considers the strength of the existing research evidence, including the internal validity (strength of causal conclusions) and external validity (generalizability) of the effects reported in prior research, on whether the proposed project will improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. Eligible applicants may also demonstrate success through an intermediate variable that is strongly correlated with improving these outcomes, such as teacher or principal effectiveness.**

**In determining the strength of the existing research evidence, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that there is strong evidence (as defined in the Notice Inviting Applications) that its implementation of the proposed practice, strategy, or program will have a statistically significant, substantial, and important effect on improving student achievement or student growth, closing achievement gaps, decreasing dropout rates, increasing high school graduation rates, or increasing college enrollment and completion rates.**

**(2) The importance and magnitude of the effect expected to be obtained by the proposed project, including the extent to which the project will substantially and measurably improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. The evidence in support of the importance and magnitude of the effect would be the research-based evidence provided by the eligible applicant to support the proposed project.**

**Strengths**

**Weaknesses**

**3. C. Experience of the Eligible Applicant (up to 15 Points)**

**In determining the experience of the eligible applicant, the Secretary considers the following factors:**

**(1) The past performance of the eligible applicant in implementing large, complex, and rapidly growing projects.**

**(2) The extent to which an eligible applicant provides information and data demonstrating that**

**(a) In the case of an eligible applicant that is an LEA, the LEA has -**

**(i) Significantly closed the achievement gaps between groups of students described in section 1111(b)(2) of the ESEA, or significantly increased student achievement for all groups of students described in such section; and**

**(ii) Made significant improvements in other areas, such as graduation rates or increased recruitment and placement of high-quality teachers and principals, as demonstrated with meaningful data; or**

**(b) In the case of an eligible applicant that includes a nonprofit organization, the nonprofit organization has significantly improved student achievement, attainment, or retention through its record of work with an LEA or schools.**

**Strengths**

Experience in implementing large, complex, growing projects is evidenced by the applicant's work in 6 states and 13 universities in a three-year period. The systemic scaling model is unique in that it expects replication sites to perform as well as or better that the pilots. The results of the applicant's model are impressive.
Collaboration is an area of strength that is required in any scale-up of this magnitude. NMSI has raised $155 million from well-known foundations and corporations. NMSI also assists the states implementing APTIP to raise funds locally to sustain the initiative over time.
The numbers of high risk students passing the AP exams in the current model sites with APTIP report results that are 5 to 10 times greater than the scores of students enrolled in AP on a national level.

**Weaknesses**

None found.

**Reader's Score: 15**

**4. D. Quality of the Project Evaluation (up to 15 Points)**

**In determining the quality of the evaluation, the Secretary considers the following factors:**

**(1) The extent to which the methods of evaluation will include a well designed experimental study or, if a well-designed experimental study of the project is not possible, the extent to which the methods of evaluation will include a well-designed quasi-experimental study.**

**(2) The extent to which, for either an experimental study or a quasi-experimental study, the study will be conducted of the practice, strategy, or program as implemented at scale.**

**(3) The extent to which the methods of evaluation will provide high-quality implementation data and performance feedback, and permit periodic assessment of progress toward achieving intended outcomes.**

**(4) The extent to which the evaluation will provide sufficient information about the key elements and approach of the project so as to facilitate replication or testing in other settings.**

**(5) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.**

**(6) The extent to which the proposed evaluation is rigorous, independent, and neither the program developer nor the project implementer will evaluate the impact of the project.**

**Strengths**

**Weaknesses**

**5. E. Strategy and Capacity to Bring to Scale (up to 15 Points)**

**In determining the quality of the strategy and capacity to bring the proposed project to scale, the Secretary considers:**

**(1) The number of students proposed to be reached by the proposed project and the capacity of the eligible applicant and any other partners to reach the proposed number of students during the course of the grant period.**

**(2) The eligible applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national, regional, or State level working directly, or through partners, either during or following the end of the grant period.**

**(3) The feasibility of the proposed project to be replicated successfully, if positive results are obtained, in a variety of settings and with a variety of student populations. Evidence of this ability includes the proposed project's demonstrated success in multiple settings and with different types of students, the availability of resources and expertise required for implementing the project with fidelity, and the proposed project's evidence of relative ease of use or user satisfaction.**

**(4) The eligible applicant's estimate of the cost of the proposed project, which includes the start-up and operating costs per student per year (including indirect costs) for reaching the total number of students proposed to be served by the project. The eligible applicant must include an estimate of the costs for the eligible applicant or others (including other partners) to reach 100,000, 500,000, and 1,000,000 students.**

**(5) The mechanisms the eligible applicant will use to broadly disseminate information on its project so as to support replication.**

**Strengths**

NMSI has an effective "blueprint for scaling" that has been published for use by others. This blueprint covers all the bases of selection, monitoring, key components; support; data collection; partnerships; and communication of success. (p. 34-36.) The success of scaling is predicated on a process that includes key elements and NMSI has mastered this area.
Reaching 406,438 students in 13 states will have a significant impact on student achievement, college enrollment and college completion.
NMSI has identified partners in each state to be the key contact and ongoing support for the state. These partners include universities, foundations, and non-profits. The partnerships consist of 153 LEAs in four states and the Military Child Education Coalition. (p.11)
The past implementations have crossed geographic locations and rural/urban boundaries;and included ethnic minorities.
The ease of implementation into secondary schools is appealing because this project does not require radical change in scheduling. The project provides a roadmap as to what needs to be accomplished and implemented with a timeline.
The selection of state agents who meet specific criteria is essential in successful implementation of APTIP and ongoing training and support are provided to ensure ongoing quality.
The personnel at NMSI have expertise in a variety of areas and have experience in scaling up their program. The building of capacity with state entities is the cornerstone of ongoing program success. With the magnitude of the Scale-up application, it is imperative that the personnel train, monitor, and support the partners in this project.
The multiple-layer dissemination model involves informing key players at the state in government, business and education. The other aspects of this model are grassroots efforts to inform LEAs, parents, teachers, and students. Ongoing communication via print and electronic media provides information and sharing of successes.
The cost per student is reduced based on the larger number of students involved. The benefit of this application is that the cost is a one-time cost not a yearly cost per student. The only time the cost is per year is in the first year where seniors have only one year in the program(p.142).

**Weaknesses**

Evidence as to student and teacher satisfaction was not available in the application. Although NMSI discusses the ease of use it does not discuss satisfaction with any data.
There is no mention of the teachers who are teaching other math courses and what they will teach when their students move into AP courses. There is also no indication of union support for teachers who choose not to teach AP courses and for whom there are not enough students to fill their current

classes.

**Reader's Score: 14**

**6. F. Sustainability (up to 10 Points)**

**In determining the adequacy of resources for the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that it has the resources to operate the project beyond the length of the Scale-up grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any other partners; and evidence of broad support from stakeholders (e.g., State educational agencies, teachers' unions) critical to the project's long-term success.**

**(2) The potential and planning for the incorporation of project purposes, activities, or benefits into the ongoing work of the eligible applicant and any other partners at the end of the Scale-Up grant.**

**Strengths**

The requirement that the State Agency must raise increasing amounts of funding during the grant period holds partners accountable for ongoing support. This is an approach that is not always built into grant funding and the program is discarded due to lack of funding.
Support for this initiative starts with the key players in the state, the Governor and the Commissioner of Education. This is essential to schools/districts that need to know the priority will not change every year but will continue through the life of the grant.
The operational model that assists the partners in becoming financially independent of grant funding is a lesson that can be utilized in other grant programs.

**Weaknesses**

There is no mention of how to continue the support when the Governor leaves office or the Commissioner is replaced. Given the political climate and the changes in party affiliation, an alternative plan would strengthen the application in this area.

**Reader's Score: 9**

**7. G. Quality of the Management Plan and Personnel (up to 10 Points)**

**In determining the quality of the management plan and personnel for the proposed**

**project, the Secretary considers:**

**(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks, as well as tasks related to the sustainability and scalability of the proposed project.**

**(2) The qualifications, including relevant training and experience, of the project director and key project personnel, especially in managing large, complex, and rapidly growing projects.**

**(3) The qualifications, including relevant expertise and experience, of the project director and key personnel of the independent evaluator, especially in designing and conducting large-scale experimental and quasi-experimental studies of educational initiatives.**

**Strengths**

NMSI monitors monthly on general components which guarantees that what gets measured gets implemented. In addition, the quarterly milestones are tied to funding distribution.
Feedback is an essential element in the management plan in that the applicants provide timely and frequent feedback to the participants. Just as feedback is essential to student success, it is essential to program success. (p.148)
A strong electronic management system is essential to managing the program from a national level. The data system was not an afterthought but an essential component of the management plan. Data is readily available at any time to make corrections and provide individualized support.
Financial monitoring is vital in a project of this magnitude that is funded with federal monies. The NMSI has explicit requirements regarding expenditures, timelines, and segregation of funds. The setting of financial milestones ensures that the program is being implemented according to the benchmarks established.
The personnel involved in the NMSI grant proposal have impressive credentials in the areas addressed in the application. In addition, they have experience with the scaling of the APTIP in prior years on a relatively large scale.

**Weaknesses**

Although one of the individuals has extensive experience in quasi experimental studies, it is not clear in the application who serves as the lead evaluator. Identification of the lead evaluator would strengthen the application.

**Reader's Score: 7**

**Competitive Preference**

**1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to improve educational outcomes for high-need students who are young children (birth through 3rd grade) by enhancing the quality of early learning programs. To meet this priority, applications must focus on:**

**(a) improving young children?s school readiness (including social, emotional, and cognitive readiness) so that children are prepared for success in core academic subjects (as defined in section 9101(11) of the ESEA);**
**(b) improving developmental milestones and standards and aligning them with appropriate outcome measures; and**
**(c) improving alignment, collaboration, and transitions between early learning programs that serve children from birth to age three, in preschools, and in kindergarten through third grade.**

**Strengths**

**Weaknesses**

| |
|---|
| Not addressed as a priority by the applicant. |

**Reader's Score: 0**

**2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to enable kindergarten through grade 12 (K-12) students, particularly high school students, to successfully prepare for, enter, and graduate from a two- or four-year college. To meet this priority, applications must include practices, strategies, or programs for K-12 students that**

**(a) address students? preparedness and expectations related to college;**
**(b) help students understand issues of college affordability and the financial aid and college application processes; and**
**(c) provide support to students from peers and knowledgeable adults.**

**Strengths**

Data on low income, African-American, and Hispanic students passing the AP Exam (score 3) illustrates that these students completed college at higher rates than students who only took the course or passed with a lower score(p.21).
NMSI provides support to students through information on college application/financial aid and academic support. The Saturday study sessions and tutoring are essential to assisting students from underrepresented AP populations to be successful in the APTIP.

**Weaknesses**

None found.

**Reader's Score: 1**

**3. Competitive Preference 7: Innovations To Address the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to address the unique learning needs of students with disabilities, including those who are assessed based on alternate academic achievement standards, or the linguistic and academic needs of limited English proficient students. To meet this priority, applications must provide for the implementation of particular practices, strategies, or programs that are designed to improve academic outcomes, close achievement gaps, and increase college- and career-readiness, including increasing high school graduation rates (as defined in this notice), for students with disabilities or limited English proficient students.**

**Strengths**

**Weaknesses**

Not addressed as a priority.

**Reader's Score: 0**

**4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to focus on the unique challenges of high-need students in schools within a rural LEA (as defined in this notice) and address the particular challenges faced by students in these schools. To meet this priority, applications must include practices, strategies, or programs that are designed to improve student achievement or student growth, close**

**achievement gaps, decrease dropout rates, increase high school graduation rates, or improve teacher and principal effectiveness in one or more rural LEAs.**

**Strengths**

NMSI has always included rural schools in the APTIP innovation. The percentage of rural schools has been approximately 25% in past implementations. The grant does not change these numbers and rural schools are 21% of all schools in the application.
The success that APTIP has shown in rural schools is important to note as attracting math and science teachers to rural areas is a challenge.

**Weaknesses**

Elaboration as to how the APTIP deals with the shortage of math and science teachers in rural areas would provide clarity on how this was mitigated in past implementations

**Reader's Score: 1**

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**Status:** Submitted

**Last Updated:** 07/03/2010 9:47 AM

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Status: Submitted
Last Updated: 07/02/2010 9:13 AM

# Technical Review Coversheet

**Applicant**: National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Reader #3**:

| | POINTS POSSIBLE | POINTS SCORED |
|---|---|---|
| **Summary Statement** | | |
| 1. Summary Statement | N/A | N/A |
| **Selection Criteria** | | |
| 1. A. Need for the Project and Quality of the Project Design (up to 15 Points) | 15 | 12 |
| 2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points) | 20 | _____ |
| 3. C. Experience of the Eligible Applicant (up to 15 Points) | 15 | 15 |
| 4. D. Quality of the Project Evaluation (up to 15 Points) | 15 | _____ |
| 5. E. Strategy and Capacity to Bring to Scale (up to 15 Points) | 15 | 14 |
| 6. F. Sustainability (up to 10 Points) | 10 | 9 |
| 7. G. Quality of the Management Plan and Personnel (up to 10 Points) | 10 | 7 |
| **Competitive Preference** | | |
| 1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point) | 1 | 0 |
| 2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point) | 1 | 1 |
| 3. Competitive Preference 7: Innovations To Address | 1 | 1 |

| | | |
|---|---|---|
| the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point) | | |
| 4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points) | 2 | 1 |
| **TOTAL** | 105 | 60 |

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# Technical Review Form

**Scale Up 1: 84.396A**
**Reader #3:**
**Applicant:** National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Summary Statement**

**1. Summary State**

**Selection Criteria**

**1. A. Need for the Project and Quality of the Project Design (up to 15 Points)**

**In determining the need for the project and quality of the design of the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the proposed project represents an exceptional approach to the priorities the eligible applicant is seeking to meet (i.e., addresses a largely unmet need, particularly for high-need students, and is a practice, strategy, or program that has not already been widely adopted).**

**(2) The extent to which the proposed project has a clear set of goals and an explicit strategy, with actions that are**
**(a) aligned with the priorities the eligible applicant is seeking to meet,**
**(b) expected to result in achieving the goals, objectives, and outcomes of the proposed project.**

**Strengths**

1. The need for high-need students to be able to access and have opportunities to engage in APTIP is important and greatly needed. The focus on teachers is essential because they must have the necessary support in order to teach math and science in the 21st century.

2. The goals and strategies are clearly presented to achieve the desired goals.

**Weaknesses**

1. In terms of an exceptional approach, this option has long been available in schools. The exceptional quality is bringing it to high need students. The greatest challenge to APTIP in high schools will be the predetermined mind sets of those who determine eligibility for acceptance.
2.The inclusive goals are excellent to address many underserved populations but a concentrated effort must be incorporated into teacher and school training so that all populations can access this level of coursework. Also, important is the need to look toward what is happening in middle schools to grow the desire for more math and science. Middle schools are addressed in the proposal with this intent.

**Reader's Score: 12**

**2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points)**

**The Secretary considers the strength of the existing research evidence, including the internal validity (strength of causal conclusions) and external validity (generalizability) of the effects reported in prior research, on whether the proposed project will improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. Eligible applicants may also demonstrate success through an intermediate variable that is strongly correlated with improving these outcomes, such as teacher or principal effectiveness.**

**In determining the strength of the existing research evidence, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that there is strong evidence (as defined in the Notice Inviting Applications) that its implementation of the proposed practice, strategy, or program will have a statistically significant, substantial, and important effect on improving student achievement or student growth, closing achievement gaps, decreasing dropout rates, increasing high school graduation rates, or increasing college enrollment and completion rates.**

**(2) The importance and magnitude of the effect expected to be obtained by the**

**proposed project, including the extent to which the project will substantially and measurably improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. The evidence in support of the importance and magnitude of the effect would be the research-based evidence provided by the eligible applicant to support the proposed project.**

**Strengths**

**Weaknesses**

**3. C. Experience of the Eligible Applicant (up to 15 Points)**

**In determining the experience of the eligible applicant, the Secretary considers the following factors:**

**(1) The past performance of the eligible applicant in implementing large, complex, and rapidly growing projects.**

**(2) The extent to which an eligible applicant provides information and data demonstrating that**

**(a) In the case of an eligible applicant that is an LEA, the LEA has -**

**(i) Significantly closed the achievement gaps between groups of students described in section 1111(b)(2) of the ESEA, or significantly increased student achievement for all groups of students described in such section; and**

**(ii) Made significant improvements in other areas, such as graduation rates or increased recruitment and placement of high-quality teachers and principals, as demonstrated with meaningful data; or**

**(b) In the case of an eligible applicant that includes a nonprofit organization, the nonprofit organization has significantly improved student achievement, attainment, or retention through its record of work with an LEA or schools.**

**Strengths**

1. The National Math and Science Initiative, Inc. has a long history and an established performance working with states across the country providing the goals and objectives in this proposal. The overall organization and partners are well positioned for a scale-up of this magnitude and have access to foundation support. NSMI is positioned to implement large, complex, and rapidly growing projects as clearly documented in the application.

2. The need to develop a culture of open recruitment for AP is critical and commendable in this proposal as is working with middle schools to engage students early on in math and science. NSMI provided data related to (1)

effective training of teachers; and (2) increased levels of student achievement as a result of participation in rigorous curriculum and assessments.

**Weaknesses**

No weakness observed regarding these criteria.

**Reader's Score: 15**

**4. D. Quality of the Project Evaluation (up to 15 Points)**

**In determining the quality of the evaluation, the Secretary considers the following factors:**

**(1) The extent to which the methods of evaluation will include a well designed experimental study or, if a well-designed experimental study of the project is not possible, the extent to which the methods of evaluation will include a well-designed quasi-experimental study.**

**(2) The extent to which, for either an experimental study or a quasi-experimental study, the study will be conducted of the practice, strategy, or program as implemented at scale.**

**(3) The extent to which the methods of evaluation will provide high-quality implementation data and performance feedback, and permit periodic assessment of progress toward achieving intended outcomes.**

**(4) The extent to which the evaluation will provide sufficient information about the key elements and approach of the project so as to facilitate replication or testing in other settings.**

**(5) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.**

**(6) The extent to which the proposed evaluation is rigorous, independent, and neither the program developer nor the project implementer will evaluate the impact of the project.**

**Strengths**

**Weaknesses**

**5. E. Strategy and Capacity to Bring to Scale (up to 15 Points)**

**In determining the quality of the strategy and capacity to bring the proposed project to scale, the Secretary considers:**

**(1) The number of students proposed to be reached by the proposed project and the capacity of the eligible applicant and any other partners to reach the proposed number of students during the course of the grant period.**

**(2) The eligible applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national, regional, or State level working directly, or through partners, either during or following the end of the grant period.**

**(3) The feasibility of the proposed project to be replicated successfully, if positive results are obtained, in a variety of settings and with a variety of student populations. Evidence of this ability includes the proposed project's demonstrated success in multiple settings and with different types of students, the availability of resources and expertise required for implementing the project with fidelity, and the proposed project's evidence of relative ease of use or user satisfaction.**

**(4) The eligible applicant's estimate of the cost of the proposed project, which includes the start-up and operating costs per student per year (including indirect costs) for reaching the total number of students proposed to be served by the project. The eligible applicant must include an estimate of the costs for the eligible applicant or others (including other partners) to reach 100,000, 500,000, and 1,000,000 students.**

**(5) The mechanisms the eligible applicant will use to broadly disseminate information on its project so as to support replication.**

**Strengths**

1.NSMI and its partners describe a national target that will reach every state to impact significant numbers of students and also teachers. The capacity to achieve the delivery is clear and progressive at a regional and state level. School principals are targeted to play a pivotal role in recruitment of students.
2.NMSI has demonstrated its capacity to quickly scale-up and has shown its ability to raise over $155 million dollars while partnering with major foundations and companies. NMSI's capacity is described on e19. The organization is known and respected nationally.

3. Replication of a well-known product for learning and NMSI's previous work will have scale-up advantages. NMSI's ability to introduce math and science high quality curriculum and assessment is designed for fidelity and can easily be replicated in multiple settings.
4.Scale-up projections meet specifications. Capacity, personnel are all nationally recognized entities in the field of education. Cost estimates are

reasonable to achieve projected numbers of students, teachers, and principals.
5. NMSI has strategic methods to broadly disseminate and replicate its work. Plans are described at state, regional, and national levels.

**Weaknesses**

1. A concern is changing the culture of schools to accept open enrollment to encourage as many students as possible to access the proposed APTIP.
2. Regional and local efforts need to be better developed. Unique issues will arise and therefore customization to local areas is important and was not evident in the proposal.
3. More evidence is needed to better demonstrate scale-up in multiple settings to include high-need students.
4. No weakness observed regarding this criteria.
5. No weakness noted regarding this criteria

**Reader's Score: 14**

**6. F. Sustainability (up to 10 Points)**

**In determining the adequacy of resources for the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that it has the resources to operate the project beyond the length of the Scale-up grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any other partners; and evidence of broad support from stakeholders (e.g., State educational agencies, teachers' unions) critical to the project's long-term success.**

**(2) The potential and planning for the incorporation of project purposes, activities, or benefits into the ongoing work of the eligible applicant and any other partners at the end of the Scale-Up grant.**

**Strengths**

1. NMSI's expertise is noteworthy and will lend itself to sustainability beyond the duration of the grant. The organization's history and commitment from strong partnerships demonstrates the ability of NMSI to continue long after the scale-up grant period is over. The other aspect is the cost reasonableness and the infrastructure of the partners to reach teachers, students, and principals at a local,state, regional and national level.

2. APTIP will help to break down barriers to reach underserved student

populations and increase access to participation in high level course work that will generate increases in college going rates. NMSI has the potential and the capacity to incorporate the project purposes and activities at the end of the scale-up grant period resulting in greater opportunities for high quality math and science instruction for middle and high school students in every state.

**Weaknesses**

1. An ability to recruit sufficient numbers of math and science teachers and particularly in rural areas is the one barrier noted in the ability of NMSI to operate beyond the scale-up period.

**Reader's Score: 9**

**7. G. Quality of the Management Plan and Personnel (up to 10 Points)**

**In determining the quality of the management plan and personnel for the proposed project, the Secretary considers:**

**(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks, as well as tasks related to the sustainability and scalability of the proposed project.**

**(2) The qualifications, including relevant training and experience, of the project director and key project personnel, especially in managing large, complex, and rapidly growing projects.**

**(3) The qualifications, including relevant expertise and experience, of the project director and key personnel of the independent evaluator, especially in designing and conducting large-scale experimental and quasi-experimental studies of educational initiatives.**

**Strengths**

1.NMSI's capacity is significant. Strong partnerships with states and foundations have made NMSI a strong and easily recognized program for APTIP. Defined relationships are established for each of the partnering entities.

2. The qualifications, a well-known training procedure, a documented level of experience in multiple states, and key personnel with quality credentials document NMSI's ability to manage and expand to scale-up proportions.

3.NMSI's evaluation plan includes American Institutes for Research (AIR), highly respected in the field for education for their work.

**Weaknesses**

1. No weakness noted for this criterion.

2. The only weakness noted in this criterion is the qualification of the organization to build local capacity to ensure long term sustainability and to identify ways in which math and science teachers can be recruited to reach rural areas.

3. No weakness noted for this criterion.

**Reader's Score: 7**

**Competitive Preference**

**1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to improve educational outcomes for high-need students who are young children (birth through 3rd grade) by enhancing the quality of early learning programs. To meet this priority, applications must focus on:**

**(a) improving young children?s school readiness (including social, emotional, and cognitive readiness) so that children are prepared for success in core academic subjects (as defined in section 9101(11) of the ESEA);**
**(b) improving developmental milestones and standards and aligning them with appropriate outcome measures; and**
**(c) improving alignment, collaboration, and transitions between early learning programs that serve children from birth to age three, in preschools, and in kindergarten through third grade.**

**Strengths**

**Weaknesses**

Priority not addressed by the applicant.

**Reader's Score: 0**

**2. Competitive Preference 6: Innovations That Support College Access and Success**

**(0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to enable kindergarten through grade 12 (K-12) students, particularly high school students, to successfully prepare for, enter, and graduate from a two- or four-year college. To meet this priority, applications must include practices, strategies, or programs for K-12 students that**

**(a) address students? preparedness and expectations related to college;**
**(b) help students understand issues of college affordability and the financial aid and college application processes; and**
**(c) provide support to students from peers and knowledgeable adults.**

**Strengths**

The purpose of this proposal is to build academic skills in the areas of math and science that will lead to higher rates of college going in two and four year institutions as well as building an understanding regarding APTIP and its rigorous content and assessments.

There is also a good description of steps to inform students about college going, affordability and the application process.

**Weaknesses**

**Reader's Score: 1**

**3. Competitive Preference 7: Innovations To Address the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to address the unique learning needs of students with disabilities, including those who are assessed based on alternate academic achievement standards, or the linguistic and academic needs of limited English proficient students. To meet this priority, applications must provide for the implementation of particular practices, strategies, or programs that are designed to improve academic outcomes, close achievement gaps, and increase college- and career-readiness, including increasing high school graduation rates (as defined in this notice), for students with disabilities or limited English proficient students.**

**Strengths**

The application meets the preference for both students with disabilities and those with limited English proficiency.

**Weaknesses**

**Reader's Score: 1**

**4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to focus on the unique challenges of high-need students in schools within a rural LEA (as defined in this notice) and address the particular challenges faced by students in these schools. To meet this priority, applications must include practices, strategies, or programs that are designed to improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or improve teacher and principal effectiveness in one or more rural LEAs.**

**Strengths**

The proposal makes a specific effort to deliver APTIP in middle and high schools in rural areas.

**Weaknesses**

The information provided does not fully address closing the achievement gap or improving teacher effectiveness in rural areas.

**Reader's Score: 1**

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**Status:** Submitted

**Last Updated:** 07/02/2010 9:13 AM

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Status: Submitted
Last Updated: 07/06/2010 11:57 AM

# Technical Review Coversheet

**Applicant**: National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Reader #4**:

| | POINTS POSSIBLE | POINTS SCORED |
|---|---|---|
| **Summary Statement** | | |
| 1. Summary Statement | N/A | N/A |
| **Selection Criteria** | | |
| 1. A. Need for the Project and Quality of the Project Design (up to 15 Points) | 15 | _____ |
| 2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points) | 20 | 18 |
| 3. C. Experience of the Eligible Applicant (up to 15 Points) | 15 | _____ |
| 4. D. Quality of the Project Evaluation (up to 15 Points) | 15 | 15 |
| 5. E. Strategy and Capacity to Bring to Scale (up to 15 Points) | 15 | _____ |
| 6. F. Sustainability (up to 10 Points) | 10 | _____ |
| 7. G. Quality of the Management Plan and Personnel (up to 10 Points) | 10 | _____ |
| **Competitive Preference** | | |
| 1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point) | 1 | _____ |
| 2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point) | 1 | _____ |
| 3. Competitive Preference 7: Innovations To Address | 1 | _____ |

| | | |
|---|---|---|
| the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point) | | |
| 4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points) | 2 | _____ |
| **TOTAL** | 105 | 33 |

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# Technical Review Form

**Scale Up 1: 84.396A**
**Reader #4:**
**Applicant:** National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Summary Statement**

**1. Summary State**

**Selection Criteria**

**1. A. Need for the Project and Quality of the Project Design (up to 15 Points)**

**In determining the need for the project and quality of the design of the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the proposed project represents an exceptional approach to the priorities the eligible applicant is seeking to meet (i.e., addresses a largely unmet need, particularly for high-need students, and is a practice, strategy, or program that has not already been widely adopted).**

**(2) The extent to which the proposed project has a clear set of goals and an explicit strategy, with actions that are**
**(a) aligned with the priorities the eligible applicant is seeking to meet,**
**(b) expected to result in achieving the goals, objectives, and outcomes of the proposed project.**

**Strengths**

**Weaknesses**

**2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points)**

**The Secretary considers the strength of the existing research evidence, including the internal validity (strength of causal conclusions) and external validity (generalizability) of the effects reported in prior research, on whether the proposed project will improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. Eligible applicants may also demonstrate success through an intermediate variable that is strongly correlated with improving these outcomes, such as teacher or principal effectiveness.**

**In determining the strength of the existing research evidence, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that there is strong evidence (as defined in the Notice Inviting Applications) that its implementation of the proposed practice, strategy, or program will have a statistically significant, substantial, and important effect on improving student achievement or student growth, closing achievement gaps, decreasing dropout rates, increasing high school graduation rates, or increasing college enrollment and completion rates.**

**(2) The importance and magnitude of the effect expected to be obtained by the proposed project, including the extent to which the project will substantially and measurably improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. The evidence in support of the importance and magnitude of the effect would be the research-based evidence provided by the eligible applicant to support the proposed project.**

**Strengths**

The applicant provides very strong research evidence in support of its proposed project. The proposal cites two quasi-experimental studies and a follow-up study that used advanced statistical analyses to address threats to external and internal validity. One study and a follow-up study were authored by Jackson (2007 and 2010). The 2007 study actually analyzes data during a scale-up process of the original program (pages 27-29). The Jackson study has treatment and comparison groups that were created by a phase-in of schools during the scale-up period; this increased the internal validity by decreasing the concern that adopters and non-adopters might be different on factors not captured in the statistical model. The 2010 Jackson study followed up the cohorts from the 2007 study through college to determine college persistence. The 2007 study found statistically significant

increases in Advanced Placement (AP) course enrollment, SAT, ACT scores and college matriculation and that these effects increased over time.

The Holtzman study also represented a strong quasi-experimental design (pages 32) that was implemented in six states. There were 64 program schools and 128 non-program schools. To control for schools' differing backgrounds, the study used a comparative interrupted time series design. The schools were compared on 10 AP exam-related outcomes. This study found that the program significantly increased the percentage of students taking AP exams and the percentage of students scoring a 3 or above (passing grade) on AP exams. All studies used statistical methods and research design elements to correct for lack of randomization including examining cohorts from the same school before and after APIP adoption, comparing a carefully matched set of non-APIP schools interested in implementing the program, over the same time period, using the difference-in-differences methodology, falsification tests, propensity scores, post-hoc power statistics, and taking advantage of the staggered roll-out of the schools. The last factor produced treatment and comparison groups similar in observable characteristics and their desire to implement APIP. The studies are longitudinal and also use comparisons to national data bases of student data to support their findings. Findings indicate the longer students participate in the program the better they perform and had very positive outcomes for Africa-American and Hispanic students that were greater, statistically than other students. Also these results persisted in college. The research demonstrates that although the number of students who took the AP test increased the passing rates also increased which indicates that support is provided that helps the students perform well on the test. Effect sizes (.5) were reported for the Holtzman study for all subject matter AP scores and math AP scores.

The research provided support that the program will help at risk students and others close the achievement gap, perform better in high school and persist in college.

**Weaknesses**

The studies presented only address high school students, although the project proposes to work in high schools and middle schools. The Jackson studies were conducted only in schools in Texas that served under-privileged populations which limits its external validity. The findings regarding college enrollment were only for students enrolling in Texas Colleges.

**Reader's Score: 18**

**3. C. Experience of the Eligible Applicant (up to 15 Points)**

**In determining the experience of the eligible applicant, the Secretary considers the following factors:**

**(1) The past performance of the eligible applicant in implementing large, complex, and rapidly growing projects.**

**(2) The extent to which an eligible applicant provides information and data demonstrating that**

**(a) In the case of an eligible applicant that is an LEA, the LEA has -**

**(i) Significantly closed the achievement gaps between groups of students described in section 1111(b)(2) of the ESEA, or significantly increased student achievement for all groups of students described in such section; and**

**(ii) Made significant improvements in other areas, such as graduation rates or increased recruitment and placement of high-quality teachers and principals, as demonstrated with meaningful data; or**

**(b) In the case of an eligible applicant that includes a nonprofit organization, the nonprofit organization has significantly improved student achievement, attainment, or retention through its record of work with an LEA or schools.**

**Strengths**

**Weaknesses**

**4. D. Quality of the Project Evaluation (up to 15 Points)**

**In determining the quality of the evaluation, the Secretary considers the following factors:**

**(1) The extent to which the methods of evaluation will include a well designed experimental study or, if a well-designed experimental study of the project is not possible, the extent to which the methods of evaluation will include a well-designed quasi-experimental study.**

**(2) The extent to which, for either an experimental study or a quasi-experimental study, the study will be conducted of the practice, strategy, or program as implemented at scale.**

**(3) The extent to which the methods of evaluation will provide high-quality implementation data and performance feedback, and permit periodic assessment of progress toward achieving intended outcomes.**

**(4) The extent to which the evaluation will provide sufficient information about the key elements and approach of the project so as to facilitate replication or testing in**

**other settings.**

**(5) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.**

**(6) The extent to which the proposed evaluation is rigorous, independent, and neither the program developer nor the project implementer will evaluate the impact of the project.**

**Strengths**

The proposal outlines a strong evaluation plan by a highly respected experienced research company, American Institutes for Research (AIR). The resources of AIR and its previous research done for the DOE provide them with a deep understanding of the goals and objectives of program initiatives like i3 (page 58). The proposed project evaluation will be an experimental design with randomized control groups using the waiting list design and a phase-in of implementation at the selected sites (page 59-60). Randomization is not being used in the first phase of the study due to the timing of the award notice and start time of schools for the 2010 school year as work with the schools has already begun. Where randomization is not possible matching procedures used in a study (Holtzman) presented in Section B will be implemented (page 60).

The applicant provides a detailed study of the implementation process for each year of the project and how the evaluation will build on the previous years' findings. This component will provide formative feedback to NMSI on program implementation, and described the service differences between APIP schools and non-APIP schools and measure the fidelity of implementation. The evaluators will use implementation milestones established by NMSI. Based on this data AIR will develop an auditing plan and audit a random sample of implementation records for specific times. AIR will develop parameters for monitoring records during the full study. In addition, AIR will interview key NMSI State Agents and content Directors to determine the relationship NMSI has with key partners.

AIR will develop or refine existing instruments to expand NMSI's evaluation of APIP implementation and differences in services between APIP and non-APIP schools. Other instruments will be developed including teacher and student surveys, an on-line system for uploading course content information, teacher logs, and protocols for sharing implementation information with project personnel and documenting it for replication purposes. This is definitely an independent evaluation conducted by a company well known for major research and evaluation studies in education, including for the Department of Education and IES (page 57-58). They have the resources of 1,300 staff and business volume of $300 million. Although there is not a specific amount of funds identified in the narrative for evaluation, it is rolled

into a category that includes other contractual services for auditing and accounting for a total of $5 million. The statement on pages 4 & 12 of the budget narrative indicates all aspects of the evaluation will be carried out as described for the amount proposed in this category in a timely manner using the most sophisticated analysis, data collection tools and development of instruments.

**Weaknesses**

**Reader's Score: 15**

**5. E. Strategy and Capacity to Bring to Scale (up to 15 Points)**

**In determining the quality of the strategy and capacity to bring the proposed project to scale, the Secretary considers:**

**(1) The number of students proposed to be reached by the proposed project and the capacity of the eligible applicant and any other partners to reach the proposed number of students during the course of the grant period.**

**(2) The eligible applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national, regional, or State level working directly, or through partners, either during or following the end of the grant period.**

**(3) The feasibility of the proposed project to be replicated successfully, if positive results are obtained, in a variety of settings and with a variety of student populations. Evidence of this ability includes the proposed project's demonstrated success in multiple settings and with different types of students, the availability of resources and expertise required for implementing the project with fidelity, and the proposed project's evidence of relative ease of use or user satisfaction.**

**(4) The eligible applicant's estimate of the cost of the proposed project, which includes the start-up and operating costs per student per year (including indirect costs) for reaching the total number of students proposed to be served by the project. The eligible applicant must include an estimate of the costs for the eligible applicant or others (including other partners) to reach 100,000, 500,000, and 1,000,000 students.**

**(5) The mechanisms the eligible applicant will use to broadly disseminate information on its project so as to support replication.**

**Strengths**

**Weaknesses**

**6. F. Sustainability (up to 10 Points)**

**In determining the adequacy of resources for the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that it has the resources to operate the project beyond the length of the Scale-up grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any other partners; and evidence of broad support from stakeholders (e.g., State educational agencies, teachers' unions) critical to the project's long-term success.**

**(2) The potential and planning for the incorporation of project purposes, activities, or benefits into the ongoing work of the eligible applicant and any other partners at the end of the Scale-Up grant.**

**Strengths**

**Weaknesses**

**7. G. Quality of the Management Plan and Personnel (up to 10 Points)**

**In determining the quality of the management plan and personnel for the proposed project, the Secretary considers:**

**(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks, as well as tasks related to the sustainability and scalability of the proposed project.**

**(2) The qualifications, including relevant training and experience, of the project director and key project personnel, especially in managing large, complex, and rapidly growing projects.**

**(3) The qualifications, including relevant expertise and experience, of the project director and key personnel of the independent evaluator, especially in designing and conducting large-scale experimental and quasi-experimental studies of educational initiatives.**

**Strengths**

**Weaknesses**

**Competitive Preference**

**1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to improve educational outcomes for high-need students who are young children (birth through 3rd grade) by enhancing the quality of early learning programs. To meet this priority, applications must focus on:**

**(a) improving young children?s school readiness (including social, emotional, and cognitive readiness) so that children are prepared for success in core academic subjects (as defined in section 9101(11) of the ESEA);**
**(b) improving developmental milestones and standards and aligning them with appropriate outcome measures; and**
**(c) improving alignment, collaboration, and transitions between early learning programs that serve children from birth to age three, in preschools, and in kindergarten through third grade.**

**Strengths**

**Weaknesses**

**2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to enable kindergarten through grade 12 (K-12) students, particularly high school students, to successfully prepare for, enter, and graduate from a two- or four-year college. To meet this priority, applications must include practices, strategies, or programs for K-12 students that**

**(a) address students? preparedness and expectations related to college;**
**(b) help students understand issues of college affordability and the financial aid and college application processes; and**
**(c) provide support to students from peers and knowledgeable adults.**

**Strengths**

**Weaknesses**

**3. Competitive Preference 7: Innovations To Address the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to address the unique learning needs of students with disabilities, including those who are assessed based on alternate academic achievement standards, or the linguistic and academic needs of limited English proficient students. To meet this priority, applications must provide for the implementation of particular practices, strategies, or programs that are designed to improve academic outcomes, close achievement gaps, and increase**

**college- and career-readiness, including increasing high school graduation rates (as defined in this notice), for students with disabilities or limited English proficient students.**

**Strengths**

**Weaknesses**

**4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to focus on the unique challenges of high-need students in schools within a rural LEA (as defined in this notice) and address the particular challenges faced by students in these schools. To meet this priority, applications must include practices, strategies, or programs that are designed to improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or improve teacher and principal effectiveness in one or more rural LEAs.**

**Strengths**

**Weaknesses**

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**Status:** Submitted

**Last Updated:** 07/06/2010 11:57 AM

show names

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Status: Submitted
Last Updated: 07/03/2010 6:11 PM

# Technical Review Coversheet

**Applicant**: National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Reader #5**:

| | POINTS POSSIBLE | POINTS SCORED |
|---|---|---|
| **Summary Statement** | | |
| 1. Summary Statement | N/A | N/A |
| **Selection Criteria** | | |
| 1. A. Need for the Project and Quality of the Project Design (up to 15 Points) | 15 | 11 |
| 2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points) | 20 | _____ |
| 3. C. Experience of the Eligible Applicant (up to 15 Points) | 15 | 15 |
| 4. D. Quality of the Project Evaluation (up to 15 Points) | 15 | _____ |
| 5. E. Strategy and Capacity to Bring to Scale (up to 15 Points) | 15 | 13 |
| 6. F. Sustainability (up to 10 Points) | 10 | 10 |
| 7. G. Quality of the Management Plan and Personnel (up to 10 Points) | 10 | 5 |
| **Competitive Preference** | | |
| 1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point) | 1 | 0 |
| 2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point) | 1 | 0 |
| 3. Competitive Preference 7: Innovations To Address | 1 | 0 |

| | | |
|---|---|---|
| the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point) | | |
| 4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points) | 2 | 1 |
| **TOTAL** | 105 | 55 |

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# Technical Review Form

**Scale Up 1: 84.396A**
**Reader #5:**
**Applicant:** National Math and Science Initiative, Inc. -- N/A,N/A - N/A,N/A (U396A100034)

**Summary Statement**

**1. Summary State**

The "Helping Hands" proposal seeks funding to provide coaching and modeling efforts to teachers and principals in the subjects of science and mathematics. The effort is to serve students in Pre-K through high school.

The approach in an exceptional one, but the clarity of goals in the proposal is open to question.

The experience of the eligible applicant is very strong and the strategy to bring to scale is well laid out. Dissemination strategies and the adequacy of the management plan needs strengthening.

**Selection Criteria**

**1. A. Need for the Project and Quality of the Project Design (up to 15 Points)**

**In determining the need for the project and quality of the design of the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the proposed project represents an exceptional approach to the priorities the eligible applicant is seeking to meet (i.e., addresses a largely unmet need, particularly for high-need students, and is a practice, strategy, or program that has not already been widely adopted).**

**(2) The extent to which the proposed project has a clear set of goals and an explicit strategy, with actions that are**
**(a) aligned with the priorities the eligible applicant is seeking to meet,**
**(b) expected to result in achieving the goals, objectives, and outcomes of the proposed project.**

**Strengths**

The NMSI projects represents an exceptional approach to meeting a variety of academic needs  traditionally underrepresented students, especially subgroups for whom subgroups performance and college attendance tends to trail that of high income and Caucasian students.  In addition the project focuses on children of military families with a special emphasis on rural school. The projects focuses on these high-need students through a similar project that has been validated by numerous studies cited in the proposal.

**Weaknesses**

The extent the project has a clear set of goals is open to question.  The proposal outlines the need for AP courses and the high needs students to be served.  The proposal then moves to a subsection titled APTIP: A Goal-oriented Strategy of Accountability to Address Absolute Priority 3.  There are no specific goals listed as the project description moves into a variety of strategies (ie replication structure, school district partners and management).  Without the explicit goals, it is difficult to assess the relationship of these strategies.

**Reader's Score: 11**

**2. B. Strength of Research, Significance of Effect, and Magnitude of Effect (up to 20 Points)**

**The Secretary considers the strength of the existing research evidence, including the internal validity (strength of causal conclusions) and external validity (generalizability) of the effects reported in prior research, on whether the proposed project will improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. Eligible applicants may also demonstrate success through an intermediate variable that is strongly correlated with improving these outcomes, such as teacher or principal effectiveness.**

**In determining the strength of the existing research evidence, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that there is strong evidence (as defined in the Notice Inviting Applications) that its implementation of the proposed practice, strategy, or program will have a statistically significant, substantial, and important effect on improving student achievement or student growth, closing achievement gaps, decreasing dropout rates, increasing high school graduation rates, or increasing college enrollment and completion rates.**

**(2) The importance and magnitude of the effect expected to be obtained by the proposed project, including the extent to which the project will substantially and measurably improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or increase college enrollment and completion rates. The evidence in support of the importance and magnitude of the effect would be the research-based evidence provided by the eligible applicant to support the proposed project.**

**Strengths**

**Weaknesses**

**3. C. Experience of the Eligible Applicant (up to 15 Points)**

**In determining the experience of the eligible applicant, the Secretary considers the following factors:**

**(1) The past performance of the eligible applicant in implementing large, complex, and rapidly growing projects.**

**(2) The extent to which an eligible applicant provides information and data demonstrating that**

**(a) In the case of an eligible applicant that is an LEA, the LEA has -**

**(i) Significantly closed the achievement gaps between groups of students described in section 1111(b)(2) of the ESEA, or significantly increased student achievement for all groups of students described in such section; and**

**(ii) Made significant improvements in other areas, such as graduation rates or increased recruitment and placement of high-quality teachers and principals, as demonstrated with meaningful data; or**

**(b) In the case of an eligible applicant that includes a nonprofit organization, the nonprofit organization has significantly improved student achievement, attainment, or retention through its record of work with an LEA or schools.**

**Strengths**

The proposal cites clear evidence of the ability in implementing large, complex and rapidly growing projects. Information includes;
* Scaling two large, complex programs to six states and thirteen universities in three years.
* A large scale project across thirteen universities and 67 schools in thirteen states.
* Past performance in collaborating with numerous partners, stakeholders and government entities, raising substantial funds from these sources.

Statistically significant data is provided regarding the initial year of the NMSI.s effort that is proposed to be expanded;
* 52% increase in AP exams passed by students in one cohort project, nine times higher than the national average.
* An 80% increase in AP exams taken from one year to the next.
* A 134% increase in AP math, science and English exams taken and a 72% increase in AP exams passed by African- American and Hispanic students.

Supporting data on achievement improvement is provided for a number of the state-level partners who are currently involved in math-science initiatives, including Notre Dame University, Michigan Mathematics and Science Centers Network and a variety of other organizations.

**Weaknesses**

None found.

**Reader's Score: 15**

**4. D. Quality of the Project Evaluation (up to 15 Points)**

**In determining the quality of the evaluation, the Secretary considers the following factors:**

**(1) The extent to which the methods of evaluation will include a well designed experimental study or, if a well-designed experimental study of the project is not possible, the extent to which the methods of evaluation will include a well-designed quasi-experimental study.**

**(2) The extent to which, for either an experimental study or a quasi-experimental study, the study will be conducted of the practice, strategy, or program as implemented at scale.**

**(3) The extent to which the methods of evaluation will provide high-quality implementation data and performance feedback, and permit periodic assessment of**

**progress toward achieving intended outcomes.**

**(4) The extent to which the evaluation will provide sufficient information about the key elements and approach of the project so as to facilitate replication or testing in other settings.**

**(5) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.**

**(6) The extent to which the proposed evaluation is rigorous, independent, and neither the program developer nor the project implementer will evaluate the impact of the project.**

**Strengths**

**Weaknesses**

**5. E. Strategy and Capacity to Bring to Scale (up to 15 Points)**

**In determining the quality of the strategy and capacity to bring the proposed project to scale, the Secretary considers:**

**(1) The number of students proposed to be reached by the proposed project and the capacity of the eligible applicant and any other partners to reach the proposed number of students during the course of the grant period.**

**(2) The eligible applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national, regional, or State level working directly, or through partners, either during or following the end of the grant period.**

**(3) The feasibility of the proposed project to be replicated successfully, if positive results are obtained, in a variety of settings and with a variety of student populations. Evidence of this ability includes the proposed project's demonstrated success in multiple settings and with different types of students, the availability of resources and expertise required for implementing the project with fidelity, and the proposed project's evidence of relative ease of use or user satisfaction.**

**(4) The eligible applicant's estimate of the cost of the proposed project, which includes the start-up and operating costs per student per year (including indirect costs) for reaching the total number of students proposed to be served by the project. The eligible applicant must include an estimate of the costs for the eligible applicant or others (including other partners) to reach 100,000, 500,000, and 1,000,000 students.**

**(5) The mechanisms the eligible applicant will use to broadly disseminate information on its project so as to support replication.**

**Strengths**

The number of students proposed to be reached by this project totals 406,438 at a cost of $189 per student. To reach 500,000 students the cost is $184 per student and $173 for 1,000,000 student. The capacity of the applicant and partners to reach the proposed students appears to be extraordinary, given the scope of funds previously raised and the partners listed including such foundations and the Bill and Melinda Gates Foundation and the Kellogg Foundation, business support ranging from IBM and Exxon Mobil and state level partners that have raised over $30 million to support this effort. This type of support, combined with the state network, provides evidence of the capacity to take this project to scale.

The feasibility of replication is extremely strong, given the relative simplicity of the specific strategies involved and the past performance of ongoing projects. The opportunities for military and rural students to be served further supports the idea of replication in multiple types of settings. The simplicity of replication proposed in this project included;

* Cost per student is not prohibitive
* Past performance in multiple settings validates the project
* Building partnerships and advocacy
* Communicating success
* Not creating a curriculum but using the current AP structure and focusing on high school and middle school teacher training and outreach.

**Weaknesses**

The strategies and mechanisms for dissemination are not adequate, given the scope and size of this project. Based on experience of the applicant in managing large, complex projects, the discussion of disemination activities is limited and does not support expanded knowledge and understanding in the education community that is critical for new leadership skills to be spread.

**Reader's Score: 13**

**6. F. Sustainability (up to 10 Points)**

**In determining the adequacy of resources for the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the eligible applicant demonstrates that it has the resources to operate the project beyond the length of the Scale-up grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any other partners; and evidence of broad support from stakeholders (e.g., State educational agencies, teachers' unions) critical to the**

**project's long-term success.**

**(2) The potential and planning for the incorporation of project purposes, activities, or benefits into the ongoing work of the eligible applicant and any other partners at the end of the Scale-Up grant.**

**Strengths**

The applicant has provided clear documentation about both the kind of resources and the planning that has taken place to scale-up this concept throughout the nation. Demonstration of the resources to operate the project beyond the length of the grant has been well documented throughout the proposal.

Previous reference was made to the litany of foundations, businesses and state partners who have contributed millions of dollars to involve high needs students in both the preparation and completion of AP exams. In addition, past performance in rapidly scaling up this project has been well documented throughout the proposal.

**Weaknesses**

None found.

**Reader's Score: 10**

**7. G. Quality of the Management Plan and Personnel (up to 10 Points)**

**In determining the quality of the management plan and personnel for the proposed project, the Secretary considers:**

**(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks, as well as tasks related to the sustainability and scalability of the proposed project.**

**(2) The qualifications, including relevant training and experience, of the project director and key project personnel, especially in managing large, complex, and rapidly growing projects.**

**(3) The qualifications, including relevant expertise and experience, of the project director and key personnel of the independent evaluator, especially in designing and conducting large-scale experimental and quasi-experimental studies of educational initiatives.**

**Strengths**

The qualifications of key personnel, while not discussed in detail appear to be academically outstanding and reflect the academic nature of the project.

**Weaknesses**

The adequacy of the management plan is questionable. There are no clearly defined responsibilities, timelines or milestones in the plan. Rather, what is presented is a series of generic management systems, such as budget, management and monitoring milestones. Mention is made of milestones, but no specific milestones are presented.

The qualifications of the director and key project personnel are referred to in Section IV.2.a.ii- The information in this part of the proposal is generic, with the project director or other key individuals not identified.

**Reader's Score: 5**

**Competitive Preference**

**1. Competitive Preference 5: Innovations for Improving Early Learning Outcomes (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to improve educational outcomes for high-need students who are young children (birth through 3rd grade) by enhancing the quality of early learning programs. To meet this priority, applications must focus on:**

**(a) improving young children?s school readiness (including social, emotional, and cognitive readiness) so that children are prepared for success in core academic subjects (as defined in section 9101(11) of the ESEA);**
**(b) improving developmental milestones and standards and aligning them with appropriate outcome measures; and**
**(c) improving alignment, collaboration, and transitions between early learning programs that serve children from birth to age three, in preschools, and in kindergarten through third grade.**

**Strengths**

The applicant did not include any information in its application that is responsive to this selection criteria.

**Weaknesses**

**Reader's Score: 0**

**2. Competitive Preference 6: Innovations That Support College Access and Success (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to enable kindergarten through grade 12 (K-12) students, particularly high school students, to successfully prepare for, enter, and graduate from a two- or four-year college. To meet this priority, applications must include practices, strategies, or programs for K-12 students that**

**(a) address students? preparedness and expectations related to college;**
**(b) help students understand issues of college affordability and the financial aid and college application processes; and**
**(c) provide support to students from peers and knowledgeable adults.**

**Strengths**

The applicant addressed college coaching and financial support through academic aid. These innovative practices are designed to help high school students with opportunities for higher education.

**Weaknesses**

None found.

**Reader's Score: 0**

**3. Competitive Preference 7: Innovations To Address the Unique Learning Needs of Students With Disabilities and Limited English Proficient Students (0 or 1 Point)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to address the unique learning needs of students with disabilities, including those who are assessed based on alternate academic achievement standards, or the linguistic and academic needs of limited English proficient students. To meet this priority, applications must provide for the implementation of particular practices, strategies, or programs that are designed to improve academic outcomes, close achievement gaps, and increase college- and career-readiness, including increasing high school graduation rates (as defined in this notice), for students with disabilities or limited English proficient students.**

**Strengths**

The applicant did not include any information in its application that is responsive to this selection criteria.

**Weaknesses**

**Reader's Score: 0**

**4. Competitive Preference 8: Innovations That Serve Schools in Rural LEAs (0, 1, or 2 Points)**

**We give competitive preference to applications for projects that would implement innovative practices, strategies, or programs that are designed to focus on the unique challenges of high-need students in schools within a rural LEA (as defined in this notice) and address the particular challenges faced by students in these schools. To meet this priority, applications must include practices, strategies, or programs that are designed to improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, or improve teacher and principal effectiveness in one or more rural LEAs.**

**Strengths**

The applicant provided information about key innovations in math and science education that could make a significant difference for students and teachers in rural areas.

**Weaknesses**

There was limited elaboration in the proposal of the shortage of math and science teachers and the impact of these shortages for rural students.in the propoal.

**Reader's Score: 1**

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**Status:** Submitted

**Last Updated:** 07/03/2010 6:11 PM