

**U.S. Department of Education - EDCAPS
G5-Technical Review Form (New)**

Status: Submitted

Last Updated: 07/28/2022 11:24 AM

Technical Review Coversheet

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	8
Sub Total	15	8
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	35	27
Sub Total	35	27
Selection Criteria		
Quality of Project Design		
1. Project Design	15	12
Quality of the Project Evaluation		
1. Project Evaluation	35	0
Sub Total	50	12
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Equity	3	1
Competitive Preference Priority 2		
1. COVID-19	3	1
Sub Total	6	2
Total	106	49

Technical Review Form

Panel #2 - EIR Mid-Phase - 3 - 1: 84.411B

Reader #1: *****

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Questions

Selection Criteria - Significance

1. The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factors:

Reader's Score: 8

Sub

1. (1) The national significance of the proposed project.

Strengths:

The applicant clearly demonstrates that the proposed project addresses some issues that have national significance. The impact of successful completion of Algebra I coursework for students is significant. The use of personalized learning through individual tutoring can have significance upon students' learning in the area of algebra concepts.

Weaknesses:

The proposed project may have significant impact on the students involved in the project interventions, However, it is not clear how much national significance will be present after the proposed project is completed.

Reader's Score: 4

2. (2) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies.

Strengths:

The applicant clearly demonstrates the planned strategies are built upon the existing strategies included in the Math Nation interventions.

Weaknesses:

The applicant does not clearly demonstrate that some of the additional features planned for the proposed project are new. For example, the On-Ramp to Algebra and Study Expert Videos have already been practiced and researched. The proposed project appears to allow students and teachers access to several interventions; however, the permissive language will not ensure that all children, parents, and teachers will use the strategy. For example, the applicant states the students may complete the required tasks. Therefore, it is not clear how expansive the exposure to the interventions will be.

Sub

Reader's Score: 2

3. (3) The potential contribution of the proposed project to increased knowledge or understanding of educational problems, issues, or effective strategies.

Strengths:

The proposed project will provide a larger-scale experimental study of the Math Nation interventions. The proposed project will address several issues related to implementing the technology-based Algebra I support program, Math Nation.

Weaknesses:

The applicant does not provide a wide based study that addresses issues relating to implementing technology based Algebra 1 support programs beyond the Math Nation programming. Without broad-based research, it is not clear what overall increase in knowledge and understanding of other interventions will potentially be contributed by the applicant.

Reader's Score: 2

Strategy to Scale - Strategy to Scale

1. The Secretary considers the strategy to scale the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:

Reader's Score: 27

Sub

1. (1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.

Strengths:

The applicant clearly identifies three specific barriers. Those include costs associated with Math Nation, concerns for implementing a new curriculum using technology and the level of professional development to ensure teachers have the ability to implement the curriculum with fidelity. The proposed project somewhat addresses these barriers by appropriate interventions. For example, the plan is to provide for one designated professional development lead for coordination, oversight, and support with three regional facilitators for local training and coaching support. These efforts will assist the applicant in reaching the level of scale for professional development for the project.

Weaknesses:

A cost analysis study is planned. However, the applicant does not make a strong case for addressing the cost barrier beyond the extent of the grant. The funding would provide access to all Math Nation components for the participating schools and the Alabama State Department of Education, but does not clearly address how that would continue. The applicant does not provide a clear strategy as to how costs of the programming will be made more affordable.

Reader's Score: 4

Sub

2. (2) 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.

Strengths:

The management plan includes an appropriate organizational chart that defines the responsibilities of each organization partner. The timelines are linked appropriately to the milestones. The expanded management plan in Appendix J includes clearly defined milestones and timelines.

Weaknesses:

The applicant does not identify any key personnel from schools and districts that will have specific responsibilities. Therefore, it is not clear how the proposed project will get buy-in from the schools and districts and how individual districts will be served.

Reader's Score: 3

3. (3) The 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 or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.

Strengths:

The applicant demonstrates clearly that the key personnel are highly qualified and have appropriate experiences and education that will provide for the applicant's capacity to bring the proposed project to scale on at least a regional level. The experiences include work with previous grants of similar scale.

Weaknesses:

No weaknesses found.

Reader's Score: 10

4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

Strengths:

The proposed project's dissemination plan includes extensive dissemination of the results to the research community. The applicant will participate in national and regional conferences. The applicant plans to use regular focus groups and monthly surveys to continue dissemination of results to local educators.

Weaknesses:

No weaknesses found.

Reader's Score: 10

Selection Criteria - Quality of Project Design

1. The Secretary considers the quality of the design of the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:

Reader's Score: 12

Sub

1. **(1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework.**

Strengths:

The quality of the project design is clearly supported by a conceptual framework, which includes four drivers that contribute to increasing student learning in Algebra I. Those drivers include a blended implementation structure, aligned and adaptive course content, instructional design supporting student engagement and faculty involvement, and innovative course features to support mathematical learning. The applicant appropriately aligned the logic model activities and outputs to those four drivers. This framework provides for an effective pathway for the project design.

Weaknesses:

No weaknesses found.

Reader's Score: 5

2. **(2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable.**

Strengths:

The applicant includes general goal/objectives that are clearly measurable. Each of the general objectives are supported by several specific objectives that are appropriately linked to the outcomes of the project. Each of the specific objectives are linked to the measurable outcomes that are expected. The outcome and measurement tools to be used are linked effectively in Table 3. The objectives and outcomes provide a clear path to the workability of the project design.

Weaknesses:

No weaknesses found.

Reader's Score: 5

3. **(3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.**

Strengths:

The proposed project interventions have several features that are specifically created with high-need students in mind. Such interventions as the Student Walls and Study Expert Videos provide effective interventions for the target population of high-need students. The applicant does provide adequate information on the needs of the student population to be served.

Sub

Weaknesses:

The permissive language used will not ensure that high-needs students will be served. The applicant indicates that Math Nation will be made available statewide and some recruitment will occur. However, it is not clear how many high-needs schools/students will choose to be part of the program. Without a specific criterion for the selection process, it is not clear how and if the neediest populations will be reached with the proposed interventions. The applicant does not clearly define how technology tools will reach the target rural population. Those needs are not clearly defined.

Reader's Score: 2

Selection Criteria - Quality of the Project Evaluation

- 1. The Secretary considers the quality of the evaluation to be conducted of the proposed project. In determining the quality of the evaluation, the Secretary considers the following factors:**

Reader's Score: 0

Sub

- 1. (1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).**

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

- 2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.**

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

- 3. (3) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.**

Strengths:

N/A

Sub

Weaknesses:

N/A

Reader's Score: 0

4. (4) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. Projects designed to promote educational equity and adequacy in resources and opportunity for underserved students in middle school or high school that examine the sources of inequity and inadequacy and implement responses, including rigorous, engaging, and well-rounded (e.g., that include music and the arts) approaches to learning that are inclusive with regard to race, ethnicity, culture, language, and disability status and prepare students for college, career, and civic life, including one or more of the following:

- (a) Student-centered learning models that may leverage technology to address learner variability (e.g., universal design for learning (as defined in this notice), K–12 competency-based education (as defined in this notice), project-based learning, or hybrid/blended learning) and provide high-quality learning content, applications, or tools.
- (b) Middle school courses or projects that prepare students to participate in advanced coursework in high school.
- (c) Advanced courses and programs, including dual enrollment and early college programs.
- (d) Project-based and experiential learning, including service and work-based learning.
- (e) High-quality career and technical education courses, pathways, and industry-recognized credentials that are integrated into the curriculum.

Strengths:

The proposed project does somewhat meet Competitive Preference Priority 1 by providing a student-centered learning model through the implementation of Math Nation. This model will include appropriate technology.

Weaknesses:

The applicant does not clearly define how the proposed project will meet the Competitive Preference Priority 1. The applicant does not clearly define how the specific student-centered learning components will be used to provide more equitable access. It is not clear how all students will have internet access and hardware to utilize the home-based components.

Reader's Score: 1

Competitive Preference Priority - Competitive Preference Priority 2

1. Projects that are designed to address the impacts of the COVID–19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through:

(a) conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and

(b) using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high quality tutoring, expanded access to rigorous coursework and content across K–12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

The applicant states that the project will focus on Competitive Preference Priority 2—Innovative Approaches to Addressing the Impact of COVID-19 on Underserved Students and Educators. The applicant states that some research is available that digital programs can address COVID-19 learning loss. This project does include digital programs.

Weaknesses:

The applicant does not specifically address the COVID-19 learning losses of the target populations. The applicant does not provide appropriate evidence-based instructional approaches that will be effectively use to address any learning losses that may have occurred due to COVID-19 interruptions. The applicant does not include specific research from after 2020 that would reflect the effects of COVID-19.

Reader's Score: 1

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Technical Review Coversheet

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Reader #4: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	9
Sub Total	15	9
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	35	28
Sub Total	35	28
Selection Criteria		
Quality of Project Design		
1. Project Design	15	12
Quality of the Project Evaluation		
1. Project Evaluation	35	0
Sub Total	50	12
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Equity	3	2
Competitive Preference Priority 2		
1. COVID-19	3	1
Sub Total	6	3
Total	106	52

Technical Review Form

Panel #2 - EIR Mid-Phase - 3 - 1: 84.411B

Reader #4: *****

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Questions

Selection Criteria - Significance

1. The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factors:

Reader's Score: 9

Sub

1. (1) The national significance of the proposed project.

Strengths:

Students that can successfully complete Algebra I and Algebra II content are much more likely to finish college (page e20). However, fewer than 40% of US students reach proficiency in Mathematics (e21) and it is of national significance that these student outcomes improve.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

2. (2) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies.

Strengths:

The applicant describes the promise of personalized learning and technology to improve outcomes. The applicant proposes to use Math Nation for Algebra I, which is a promising area to improve outcomes. The applicant also describes evidence that points to the promise of Math Nation as a promising intervention (e27).

Weaknesses:

It is not clear why this project needs to be developed when the program Math Nation is already a promising strategy to improve outcomes. The applicant does not clearly list the benefits from a state wide implementation of Math Nation.

Reader's Score: 2

3. (3) The potential contribution of the proposed project to increased knowledge or understanding of educational problems, issues, or effective strategies.

Sub

Strengths:

The applicant mentions the need for large scale studies of Math Nation as none are currently available (e28).

Weaknesses:

The applicant does not describe what educational problems or issues would be better understood with a large scale study of Math Nation.

Reader's Score: 2

Strategy to Scale - Strategy to Scale

1. **The Secretary considers the strategy to scale the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:**

Reader's Score: 28

Sub

1. **(1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.**

Strengths:

The applicant identifies the cost of program, implementation of technology, and teacher PD as the barriers (e29 to e32). The applicant will use grant funds to purchase the program, conduct a cost effectiveness study to better document the relationship between cost and student achievement, and work with schools to create a Math Nation community of practice as an alternative to PD.

Weaknesses:

The applicant does not discuss how the barrier of technology implementation will be addressed in this project.

Reader's Score: 5

2. **(2) 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.**

Strengths:

The applicant lists three objectives that have associated timelines (by year and quarter) and also lists the responsible organization for achieving objectives (e33).

Weaknesses:

The applicant's use of organization rather than individual people or teams makes the defined responsibilities less clear. The applicant does not describe how school districts are involved.

Reader's Score: 3

3. **(3) The 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 or regional**

Sub

level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.

Strengths:

The applicant has excellent partnerships with Math Nation, ALSDE, and WestEd that have qualifications to bring the proposed project to scale (e34).

Weaknesses:

No weaknesses identified.

Reader's Score: 10

- 4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.**

Strengths:

The applicant has plans to present at national conferences and publish findings in the research community (e36). The applicant also has plans to inform other educators about findings from the program (e37).

Weaknesses:

No weaknesses noted.

Reader's Score: 10

Selection Criteria - Quality of Project Design

- 1. The Secretary considers the quality of the design of the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:**

Reader's Score: 12

Sub

- 1. (1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework.**

Strengths:

The applicant identifies blended implementation structure, aligned and adaptive content, student engagement, faculty involvement, and innovative technology based features of the program as the conceptual frameworks that are high quality (e37 to e38).

Weaknesses:

The applicant only lists citation for studies related to Math Nation implementation, but does not provide citations/studies for the other aspects of the conceptual framework.

Reader's Score: 4

- 2. (2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable.**

Sub

Strengths:

The applicant clearly lists objectives along with aligned outcomes and measures. The measures are clearly stated, specific and measurable (e39).

Weaknesses:

No weaknesses noted

Reader's Score: 5

3. (3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

Strengths:

The applicant defines high-need students as students at risk of educational failure, e.g. students who are living in poverty and who attend high-minority schools, rural schools, or students who are far below grade level. The Math Nation videos can be downloaded and viewed offline by students (e41).

Weaknesses:

The applicant has a recruitment target of at least 50% rural schools, but does not describe methods they will implement to ensure recruitment target is met. The applicant also does not describe what percent of students across Alabama have devices to be able to access the Math Nation program.

Reader's Score: 3

Selection Criteria - Quality of the Project Evaluation

1. The Secretary considers the quality of the evaluation to be conducted of the proposed project. In determining the quality of the evaluation, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

Weaknesses:

Reader's Score:

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Sub

Strengths:

Weaknesses:

Reader's Score:

3. (3) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.

Strengths:

Weaknesses:

Reader's Score:

4. (4) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

Strengths:

Weaknesses:

Reader's Score:

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. Projects designed to promote educational equity and adequacy in resources and opportunity for underserved students in middle school or high school that examine the sources of inequity and inadequacy and implement responses, including rigorous, engaging, and well-rounded (e.g., that include music and the arts) approaches to learning that are inclusive with regard to race, ethnicity, culture, language, and disability status and prepare students for college, career, and civic life, including one or more of the following:
- (a) Student-centered learning models that may leverage technology to address learner variability (e.g., universal design for learning (as defined in this notice), K–12 competency-based education (as defined in this notice), project-based learning, or hybrid/blended learning) and provide high-quality learning content, applications, or tools.
 - (b) Middle school courses or projects that prepare students to participate in advanced coursework in high school.
 - (c) Advanced courses and programs, including dual enrollment and early college programs.
 - (d) Project-based and experiential learning, including service and work-based learning.
 - (e) High-quality career and technical education courses, pathways, and industry-recognized credentials that are integrated into the curriculum.

Strengths:

The applicant is designing a student-centered (adaptive to student needs) math curriculum that is technology based. The program adapts to learner needs and provides high-quality learning content (e25).

Weaknesses:

The applicant does not clearly state if all students have access to devices in order to access Math Nation.

Reader's Score: 2

Competitive Preference Priority - Competitive Preference Priority 2

1. **Projects that are designed to address the impacts of the COVID–19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through:**

(a) **conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and**

(b) **using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high quality tutoring, expanded access to rigorous coursework and content across K–12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.**

Strengths:

The applicant states that math content on Math Nation and features like On-Ramp will specifically address the needs of students who are far behind due to COVID-19 (e24).

Weaknesses:

The applicant does not provide evidence from Math Nation that clearly demonstrated that Math Nation (where it was implemented during COVID-19) helped provide high-quality math instruction during remote learning.

Reader's Score: 1

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Status: Submitted

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Technical Review Coversheet

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Reader #5: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	9
Sub Total	15	9
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	35	27
Sub Total	35	27
Selection Criteria		
Quality of Project Design		
1. Project Design	15	12
Quality of the Project Evaluation		
1. Project Evaluation	35	0
Sub Total	50	12
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Equity	3	1
Competitive Preference Priority 2		
1. COVID-19	3	1
Sub Total	6	2
Total	106	50

Technical Review Form

Panel #2 - EIR Mid-Phase - 3 - 1: 84.411B

Reader #5: *****

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Questions

Selection Criteria - Significance

1. The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factors:

Reader's Score: 9

Sub

1. (1) The national significance of the proposed project.

Strengths:

The applicants provide a strong rationale as to the significance for improving Algebra 1 outcomes in students and specifically high needs students. The applicants explicitly connect the need to improve mathematical outcomes to support positive long-term mathematical and life outcomes (pp. E20-23). The applicants provide context for sound Algebra 1 instruction, but elevate the need to reach all students through various technologies, modes, and instructional practices, and learning approaches.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

2. (2) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies.

Strengths:

The applicants propose to expand Math Nation across the state of Alabama for a wide-scale evaluation. Specifically, they aim to implement Math Nation to rural schools (pp. E23-24). The applicants also mention the need to refine the Teacher Wall to reflect the needs of rural communities (p. E31).

Weaknesses:

Details are missing to establish the need for Math Nation in rural settings. It is unclear what Algebra I instructional delivery or approaches are implemented in rural schools. It is also unclear what the "new strategies" built onto existing strategies will be. Based on the application description (pp. E31-32) it appears as though Math Nation will stay intact, including the additional features, but be extended to rural communities. Without a clear description of the new strategy, it is difficult to know if this project will provide promise.

Reader's Score: 2

Sub

3. **(3) The potential contribution of the proposed project to increased knowledge or understanding of educational problems, issues, or effective strategies.**

Strengths:

The applicants provide connections to how the proposed project will contribute new knowledge in the areas of technology-implementation for Algebra 1 in rural areas (p. E29). The applicants also convey how this project would support the development of stronger teacher communities to support Algebra 1 learning (p. E29).

Weaknesses:

It is unclear how some of the provided contributions will establish increased knowledge to understand educational problems. The applicants mention that this project will provide additional empirical evidence for Math Nation (p. E29). However, there is already existing studies with sizable samples on the Math Nation program and within various US States (pp. E27; E175-176). As this proposed project does not appear to be enhancing or adding new features to Math Nation, it is unclear why additional studies would be needed as it is conveyed in the application (p. E29). The applicants also convey this project will contribute to understanding technology-based Algebra 1 supports but fall short in explicitly stating what those contributions will be (p. E29).

Reader's Score: 2

Strategy to Scale - Strategy to Scale

1. **The Secretary considers the strategy to scale the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:**

Reader's Score: 27

Sub

1. **(1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.**

Strengths:

The applicants recognize difficulty with conducting large-scale studies, determining cost-effectiveness, along with supporting educators and students in rural communities (pp. E29-32).

Weaknesses:

Details were missing to determine the feasibility of the proposed strategies to address the scaling barriers. Many of the strategies the applicant describes rely on the need for grant funding and how funding will address the barrier. In future work, these barriers to scale would continue to exist, so it is unclear how the strategies address the proposed barriers.

Reader's Score: 4

2. **(2) 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.**

Sub

Strengths:

The applicants provide a set of program project tasks that will be completed in each year of the project, along with identifying which partner will be responsible for ensuring completion of the tasks (pp. E33-34). Each partner is tasked with a certain component related to one of three project objectives that will be addressed throughout the project in order to work towards completion.

Weaknesses:

While the applicants provide a figure and table (pp. E32-33) in the narrative, the timeframes are broad and lack specificity. Specifically, the table is broken into year increments and the figure is broad timeframes by quarter instead of more clearly defined milestones to identify specifically when milestones will be met within that year (e.g., weekly or monthly). The table also does not provide specific details about personnel who will be responsible for ensuring milestones are met. Finally, it is unclear why the evaluation team is involved with refining any materials or training protocols (p. E34). To maintain an independent evaluation, these duties should remain separate for the evaluation team. Therefore, it is difficult to determine if the proposed project tasks will be completed on time and within budget.

Reader's Score: 3

- 3. (3) The 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 or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.**

Strengths:

This project team (pp. E35-36) is well qualified to bring the proposed project to scale. The team spans areas of research, education, professional development, mathematics and evaluation who have clearly conducted prior work to develop and demonstrate preliminary evidence of prior work noted in Appendix B and letters of support noted in Appendix C.

Weaknesses:

No weaknesses noted.

Reader's Score: 10

- 4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.**

Strengths:

The applicants have a clear history of dissemination and well-established outlets to reach the research, policy, technology, and mathematics education sectors based on specific examples provided on (pp. E36-37) and included CVs of proposed project personnel (see Appendix B). This includes managing large federal grants, collaborating with other institutions to disseminate work and created products (pp. E36-37), and conveying information directly to key stakeholders through formal and informal dissemination outlets.

Weaknesses:

No weaknesses noted.

Reader's Score: 10

Selection Criteria - Quality of Project Design

1. The Secretary considers the quality of the design of the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:

Reader's Score: 12

Sub

1. (1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework.

Strengths:

The applicants provide a comprehensive conceptual framework for all of the components that are integrated into the Math Nation program (pp. E36-37). Each component is identified and supported by empirical evidence. They are distinctly selected based on the underlying need to increase student outcomes as presented in the project Logic Model in Appendix G.

Weaknesses:

There was limited empirical evidence to support each of the four areas targeted in the conceptual framework (pp. E36-37). The only area in which the applicants provide such support was for Math Nation efficacy studies. It is unclear if the conceptual basis would change based on delivery in rural education settings.

Reader's Score: 4

2. (2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable.

Strengths:

The applicants identify project goals that are supported by objectives, measures, and outcomes (pp. E39-40). The measures are described clearly and specific, increasing the likelihood that the goals, objectives, and outcomes will be achieved for the proposed project. The team of professionals implementing the proposed objectives are well qualified and have carried out goals and objectives in previous federally funded projects (Appendix B).

Weaknesses:

No weaknesses noted.

Reader's Score: 5

3. (3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

Strengths:

The applicants provide a clear definition of high-needs students in this project (p. E41). The applicants also provide specific elements of Math Nation designed for and tested with other high needs students (pp. E41-42). The target sample seems reasonable to attain given the data provided in the application (p.E41).

Weaknesses:

One concern that was not addressed by the applicants pertains to the use of technology in rural education settings and the need for internet access. It was unclear what the existing capacity is for internet in rural settings. It is also unclear how the applicants will ensure that all students have access to a technology device with which they can access Math Nation. Finally, it is unclear how the applicants will reach their target high-needs population. There are no details specific to the recruitment of 50% rural schools and the methods that will be implemented to recruit rural

Sub

schools. Therefore, it is difficult to determine if the proposed project will successfully address the needs of the target population.

Reader's Score: 3

Selection Criteria - Quality of the Project Evaluation

1. The Secretary considers the quality of the evaluation to be conducted of the proposed project. In determining the quality of the evaluation, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

3. (3) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Sub

4. (4) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. Projects designed to promote educational equity and adequacy in resources and opportunity for underserved students in middle school or high school that examine the sources of inequity and inadequacy and implement responses, including rigorous, engaging, and well-rounded (e.g., that include music and the arts) approaches to learning that are inclusive with regard to race, ethnicity, culture, language, and disability status and prepare students for college, career, and civic life, including one or more of the following:

- (a) Student-centered learning models that may leverage technology to address learner variability (e.g., universal design for learning (as defined in this notice), K–12 competency-based education (as defined in this notice), project-based learning, or hybrid/blended learning) and provide high-quality learning content, applications, or tools.
- (b) Middle school courses or projects that prepare students to participate in advanced coursework in high school.
- (c) Advanced courses and programs, including dual enrollment and early college programs.
- (d) Project-based and experiential learning, including service and work-based learning.
- (e) High-quality career and technical education courses, pathways, and industry-recognized credentials that are integrated into the curriculum.

Strengths:

The applicants state on p. E8 and E17 that they will address competitive preference 1. Additionally, the applicants do provide empirical support for the added elements of Math Nation specifically focused on meeting high-need students (e.g., videos, check your understanding, wall, etc.).

Weaknesses:

This competitive preference priority was not specifically addressed in the projective narrative. The applicants did explicitly convey how they will address and meet competitive preference one. They do not specify how students will access Math Nation materials, what types of technology are provided for student learning, and what is the plan for ensuring access to stable Wi-Fi capabilities in rural communities.

Reader's Score: 1

Competitive Preference Priority - Competitive Preference Priority 2

1. Projects that are designed to address the impacts of the COVID–19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through:

(a) conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and

(b) using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high quality tutoring, expanded access to rigorous coursework and content across K–12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

The applicants state on p. E8 and E17 that will address competitive preference 2.

Weaknesses:

The applicants minimally address this competitive preference priority in the project narrative. They do not provide a baseline of what learning loss in mathematics in for students in Alabama due to the COVID-19 pandemic. This limits the ability to determine if the proposed intervention will improve COVID-19 related learning loss in the area of Algebra 1 mathematics specifically.

Reader's Score: 1

Status: Submitted
Last Updated: 07/28/2022 11:21 PM

Status: Submitted

Last Updated: 07/28/2022 02:55 PM

Technical Review Coversheet

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	0
Sub Total	15	0
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	35	0
Sub Total	35	0
Selection Criteria		
Quality of Project Design		
1. Project Design	15	0
Quality of the Project Evaluation		
1. Project Evaluation	35	33
Sub Total	50	33
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Equity	3	0
Competitive Preference Priority 2		
1. COVID-19	3	0
Sub Total	6	0
Total	106	33

Technical Review Form

Panel #2 - EIR Mid-Phase - 3 - 1: 84.411B

Reader #2: *****

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Questions

Selection Criteria - Significance

1. The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The national significance of the proposed project.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

2. (2) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

3. (3) The potential contribution of the proposed project to increased knowledge or understanding of educational problems, issues, or effective strategies.

Strengths:

N/A

Weaknesses:

N/A

Sub

Reader's Score: 0

Strategy to Scale - Strategy to Scale

1. The Secretary considers the strategy to scale the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

2. (2) 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.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

3. (3) The 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 or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

Sub

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Selection Criteria - Quality of Project Design

1. The Secretary considers the quality of the design of the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

2. (2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

3. (3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

Strengths:

N/A

Weaknesses:

N/A

Sub

Reader's Score: 0

Selection Criteria - Quality of the Project Evaluation

1. The Secretary considers the quality of the evaluation to be conducted of the proposed project. In determining the quality of the evaluation, the Secretary considers the following factors:

Reader's Score: 33

Sub

1. (1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

The applicant's evaluation sufficiently addressed all of the areas related to meeting WWC without reservations. The applicant is utilizing a randomized control trial (RCT). The randomization of treatment and control schools will result in a non-zero probability of being in either the treatment or control school (pg. e44). The randomization occurring at the school level and not the teacher level will mitigate contamination concerns. In addition, the intent-to-treat impact analysis will limit contamination concerns at the student level (pg. e45). As related to attrition, the applicant will calculate both overall and differential attrition (Appendix J.6). The applicant has a thorough discussion and appropriate methodology for handling missing outcome data (Appendix J.6). For instance, if attrition is low listwise deletion will be used, but if attrition is high multiple imputations will be used. This approach will meet the guidelines established by WWC standards. The sample size is based on 40 treatment and 40 control classrooms. This sample size provides power at .80, the acceptable standard, and will yield an acceptable minimum detectable effect size (MDES). The applicant provided an MDES for each research question and outcome in Table J.6. Finally, having 40 treatment schools and 40 control schools will avoid the confounding factor effect of having n=1 in either the treatment or control groups.

Weaknesses:

No weaknesses noted.

Reader's Score: 20

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

The applicant has a thorough and appropriate plan that should guide effective strategies for replication in other settings. As related to generalizability, the applicant's population of study is diverse (pg. e46). Furthermore, the applicant has plans for conducting a moderator analysis based on student, teacher/classroom, and school characteristics. This plan will allow the applicant to collect data and determine if the Math Nation intervention is moderated by student, teacher, classroom, or school characteristics. The applicant is also conducting a cost effectiveness analysis. The applicant has two appropriate research questions to assess implementation fidelity (pg. e48). Based on the generalizability analysis and moderator analyses, this will be sufficient data for providing guidance. Finally, the applicant has a well-developed plan for dissemination in multiple appropriate educational outlets, such as conferences and peer-reviewed academic journals.

Sub

Weaknesses:

No weaknesses noted.

Reader's Score: 5

3. **(3) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.**

Strengths:

The applicant discussed appropriate key project components in the logic model and in the narrative. All of these components were presented in the logic model (Appendix G). The applicant also discussed mediators (pg. e146). The applicant has plans for conducting a moderator analysis based on student, teacher/classroom, and school characteristics. This evaluation component will allow the applicant to collect data and determine if the Math Nation intervention is moderated by student, teacher, classroom, or school characteristics. The applicant in Appendix J8 provided details related to the outcomes being measured. The information provided face validity and at least one of the WWC requirements for reliability. For instance, the applicant will measure whether inquiry-based activities facilitate students' critical thinking, and the measure has a Cronbach Alpha of .74, which is greater than the .60 threshold required by WWC standards. The other reliability indices provided by the applicant were also at or above the .60 threshold (pg. e48-e49). The applicant does have a plan to gather and assess acceptable implementation. In addition, the applicant provided several thresholds of implementation. The applicant will assess aspects of adherence, dosage/exposure, quality of delivery, and participant's responsiveness to the intervention. These are all important components of implementation fidelity.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

4. **(4) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.**

Strengths:

The applicant has aspects of a formative evaluation. In Table J5, there were several formative evaluation activities listed. For instance, user testing of the new features associated with the intervention. The applicant will use this data to modify aspects of the professional development program. There will be continual monitoring of the intervention by a lead teacher. As a final example, the applicant's formative evaluator will analyze the fidelity of implementation data before the second year of the rollout. All of these are great examples of aspects of a formative evaluation.

Weaknesses:

Although the applicant understands many aspects of the intervention, already, given its prior moderate evidence rating by WWC, the applicant is transitioning this intervention into a new setting/population. A more thorough discussion in the evaluation section related to how continuous process improvement will be incorporated into the project would have strengthened this sub-criterion. The ongoing process improvement plan requires closing the feedback loop. It was unclear how the applicant would engage all key stakeholders in the formative evaluation.

Reader's Score: 3

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. Projects designed to promote educational equity and adequacy in resources and opportunity for underserved students in middle school or high school that examine the sources of inequity and inadequacy and implement responses, including rigorous, engaging, and well-rounded (e.g., that include music and the arts) approaches to learning that are inclusive with regard to race, ethnicity, culture, language, and disability status and prepare students for college, career, and civic life, including one or more of the following:
 - (a) Student-centered learning models that may leverage technology to address learner variability (e.g., universal design for learning (as defined in this notice), K–12 competency-based education (as defined in this notice), project-based learning, or hybrid/blended learning) and provide high-quality learning content, applications, or tools.
 - (b) Middle school courses or projects that prepare students to participate in advanced coursework in high school.
 - (c) Advanced courses and programs, including dual enrollment and early college programs.
 - (d) Project-based and experiential learning, including service and work-based learning.
 - (e) High-quality career and technical education courses, pathways, and industry-recognized credentials that are integrated into the curriculum.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Competitive Preference Priority - Competitive Preference Priority 2

1. Projects that are designed to address the impacts of the COVID–19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through:
 - (a) conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and
 - (b) using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high quality tutoring, expanded access to rigorous coursework and content across K–12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Status: Submitted

Last Updated: 07/28/2022 02:55 PM

Status: Submitted

Last Updated: 07/28/2022 03:50 PM

Technical Review Coversheet

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Reader #3: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	0
Sub Total	15	0
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	35	0
Sub Total	35	0
Selection Criteria		
Quality of Project Design		
1. Project Design	15	0
Quality of the Project Evaluation		
1. Project Evaluation	35	33
Sub Total	50	33
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Equity	3	0
Competitive Preference Priority 2		
1. COVID-19	3	0
Sub Total	6	0
Total	106	33

Technical Review Form

Panel #2 - EIR Mid-Phase - 3 - 1: 84.411B

Reader #3: *****

Applicant: Alabama State Department of Education, AMSTI (S411B220028)

Questions

Selection Criteria - Significance

1. The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The national significance of the proposed project.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

2. (2) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

3. (3) The potential contribution of the proposed project to increased knowledge or understanding of educational problems, issues, or effective strategies.

Strengths:

n/a

Weaknesses:

n/a

Sub

Reader's Score: 0

Strategy to Scale - Strategy to Scale

1. The Secretary considers the strategy to scale the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

2. (2) 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.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

3. (3) The 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 or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

Sub

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

Selection Criteria - Quality of Project Design

1. The Secretary considers the quality of the design of the proposed project. In determining the quality of the design of the proposed project, the Secretary considers the following factors:

Reader's Score: 0

Sub

1. (1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

2. (2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

3. (3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

Strengths:

n/a

Weaknesses:

n/a

Sub

Reader's Score: 0

Selection Criteria - Quality of the Project Evaluation

1. The Secretary considers the quality of the evaluation to be conducted of the proposed project. In determining the quality of the evaluation, the Secretary considers the following factors:

Reader's Score: 33

Sub

1. (1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

The impact study design is a school-level randomized controlled trial (RCT) with schools randomly assigned to Math Nation treatment or business-as-usual (BAU) groups. Randomization will occur in two consecutive years, an understandable pragmatic consideration to reach recruitment goals (20 treatment and 20 control schools each year). This design is an appropriate choice to measure changes in teacher instructional practice, student opportunities to learn, and student mathematics outcomes. The design can meet WWC standards without reservations. (e44)

The evaluator's decision to conduct a stratified randomization is understandable to ensure comparable levels of student demographics and prior Algebra I performance by school. (e44)

Table 6 provides a sound order of research questions that are clearly delineated by purpose (e.g., impact, implementation, etc.). The sequencing of questions—from teacher instruction to student outcomes in the impact section—are logical and appropriate. Connecting the research questions to the primary data sources is helpful. Further, the evaluator identified mediators and moderators and addresses issues of implementation within the research questions. (e43) The evaluator demonstrate that the identified outcome measures are valid and reliable. (e48-e49)

The evaluators sufficiently identify the possibility of contamination and correctly indicate that randomization at the school level should minimize the possibility of contamination. (e45)

The proposal clearly presents a sample for the RCT with a sufficient power analysis and justification of the MDES of 0.11 to 0.13 for student outcomes and 0.31 to 0.35 for teacher outcomes. (e44) The design decisions and analysis of statistical power are appropriate. The assumptions for the power analysis are logical given the context of the setting and intervention. The consideration of alternative assumptions helps to support the calculated range of MDES. (e142-e143)

The design to assess outcomes via two-level and three-level linear models is appropriate (e144-e145), as is the decision to assess impact with an intent-to-treat (ITT) analysis. (e45) Not including joiners in the study also makes sense. (e46)

The logic model features a number of resources/inputs, classroom activities/outputs, and outcomes. The logic model is comprehensive. The outputs and outcomes are appropriate. The inclusion of mediators and moderators is quite helpful for understanding everything to be assessed. (e120)

The evaluator notes multiple times that overall and differential attrition is unlikely. (46) Still, the evaluator goes on to

Sub

provide considerable rationale for listwise deletion or multiple imputation in response to missing data, including high levels of attrition. The response sufficiently demonstrates an understanding of steps necessary to deal with both attrition and/or missing data. (e146-e147)

Weaknesses:

No weaknesses are noted.

Reader's Score: 20

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

The proposal indicates that Math Nation will build tools, guides, and other program components iteratively during the course of the project. (e32-e33)

The proposal's dissemination section identifies research conferences and journals (with examples) as logical ways to share results with the research community. Further, the proposal indicates that ALSDE will present at practitioner conferences. Moreover, the proposal highlights WestEd's extensive reach through various media. (e36)

Math Nation will collaborate with Alabama teachers to inform iterations of content and technology. (e37) ALSDE will leverage various connections and mediums to reach other state educational leaders. (e37)

The evaluator's exploratory research questions address issues of sustainability and growth (e.g., the impact of Math Nation on teachers' second year of implementation), as well as replication (e.g., the impact on control teachers' students once the control teachers receive the treatment). Answering these research questions should provide insight into replication. (e43)

The evaluator appropriately identifies moderators and moderator analyses as a way to understand the impact of Math Nation on various student groups in differing settings (e46), which should allow for more informed and intentional efforts to replicate and/or scale the program.

The cost effectiveness analysis is comprehensive and should inform ALSDE, Math Nation, and the field about various aspects of program costs. (e46-e47)

Weaknesses:

No weaknesses are noted.

Reader's Score: 5

3. (3) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.

Strengths:

The proposal identifies a number of measures of implementation fidelity—both what the programmer is to deliver and what teachers are to receive and do—with clear, measurable outcomes. Implementation fidelity thresholds are plainly stated (e.g., at least 95% of teachers engage with the online community at least three times). (e39)

The evaluator provides research questions that identify critical moderators and mediators. (e43). The evaluator understands the difference between moderators and mediators and aligns appropriate objectives and measures accordingly. (e48)

Sub

The comprehensiveness of the evaluation's key project components, mediators, outcomes, and measurable thresholds for acceptable implementation has been addressed above.

Weaknesses:

No weaknesses are noted.

Reader's Score: 5

4. (4) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

Strengths:

Math Nation will provide implementation support guides for teachers. (e33) Math Nation and WestEd will collaborate on formative evaluation strategies. (e34) WestEd's Dr. Walters is listed as a formative evaluation director with a history of leading continuous improvement cycles. (e35)

The element of practitioner inclusion—specifically, plans to include Alabama teacher feedback to inform next steps—should help Math Nation make appropriate real-time adjustments to technology and content. (e37)

The cost effectiveness analysis provided is detailed and identifies analytic and reporting approaches that are appropriate and should yield considerable understanding of the cost of Math Nation compared to Business as Usual (BAU). (e46-e47)

Weaknesses:

Although the proposal indicates that Math Nation will make iterative adjustments to the program, the management plan does not make explicit how the evaluation will inform ALSDE or Math Nation. There also does not appear to be an active role for ALSDE to advance any element of implementation. (e33-e34)

Reader's Score: 3

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. **Projects designed to promote educational equity and adequacy in resources and opportunity for underserved students in middle school or high school that examine the sources of inequity and inadequacy and implement responses, including rigorous, engaging, and well-rounded (e.g., that include music and the arts) approaches to learning that are inclusive with regard to race, ethnicity, culture, language, and disability status and prepare students for college, career, and civic life, including one or more of the following:**
 - (a) **Student-centered learning models that may leverage technology to address learner variability (e.g., universal design for learning (as defined in this notice), K–12 competency-based education (as defined in this notice), project-based learning, or hybrid/blended learning) and provide high-quality learning content, applications, or tools.**
 - (b) **Middle school courses or projects that prepare students to participate in advanced coursework in high school.**
 - (c) **Advanced courses and programs, including dual enrollment and early college programs.**
 - (d) **Project-based and experiential learning, including service and work-based learning.**
 - (e) **High-quality career and technical education courses, pathways, and industry-recognized credentials that are integrated into the curriculum.**

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

Competitive Preference Priority - Competitive Preference Priority 2

1. Projects that are designed to address the impacts of the COVID–19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through:

(a) conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and

(b) using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high quality tutoring, expanded access to rigorous coursework and content across K–12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

Status: Submitted

Last Updated: 07/28/2022 03:50 PM