

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

Status: Submitted

Last Updated: 08/02/2024 06:39 PM

## Technical Review Coversheet

Applicant: Michigan State University (S411B240024)

Reader #1: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	15	0
<b>Strategy to Scale</b>		
1. Strategy to Scale	40	0
<b>Quality of Project Design</b>		
1. Project Design	20	0
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	25	23
<b>Sub Total</b>	100	23
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 1</b>		
1. Promoting Equity	3	0
<b>Sub Total</b>	3	0
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 2</b>		
1. Impact of COVID-19	3	0
<b>Sub Total</b>	3	0
<b>Total</b>	106	23

# Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #1: \*\*\*\*\*

Applicant: Michigan State University (S411B240024)

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

**Strengths:**

n/a

**Weaknesses:**

n/a

Reader's Score: 0

### Selection Criteria - 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

**Sub**

**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.

**Strengths:**

n/a

**Weaknesses:**

n/a

**Reader's Score: 0**

5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.

**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

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:

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 presents a strong evaluation design that is likely to meet What Works Clearinghouse (WWC) standards without reservations if implemented as proposed. Specifically, the applicant proposes to use a school-level clustered-randomized controlled trial design to satisfy the WWC requirements, and this design is eligible for the highest WWC rating (e32). The procedures that will be used to randomly assign the 80 participating schools to treatment or control conditions is clear and will result in valid treatment and control comparison groups (e33). Two of the three student outcome measures in the impact analyses have sufficient validity and reliability due to their use as statewide standardized assessments, and the other—a student motivation and interest survey—will be based on previously validated surveys (e31, e38). The applicant presents solid plans for collecting baseline measures to assess baseline equivalence and for use in estimation models to improve precision (e35). There are clear plans to use a data management strategy so that students can be followed from randomization to outcome collection to ensure that the plans to conduct intent-to-treat analyses are implemented well, and that students joining the treatment or control conditions after randomization are excluded to avoid bias (e34). The statistical models are specified correctly and aligned to the planned confirmatory analyses (e149). The applicant provides a comprehensive discussion of the statistical power analysis which supports the proposed sample size, including different scenarios related to missing data (e147-e148). If missing data becomes an issue, the applicant proposes strategies that are consistent with the WWC standards (e151). Several effective strategies are described to minimize attrition, including the recruitment of schools with high interest in participating, using administrative data for primary student outcomes, and paying teachers stipends for professional learning and data collection activities (e34).

**Weaknesses:**

No weaknesses noted.

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 provides an excellent plan for providing guidance about the extent to which the strategies are suitable for replication or testing in other settings. They demonstrate a solid focus on these efforts with several research questions that will test the extent to which student, teacher, or school characteristics moderate the effects on student outcomes (e31, e150). For example, potential school context moderators include locale, enrollment size, Title 1 status, and potential student characteristics include race/ethnicity, English proficiency, and socio-economic status (e150). The findings from these analyses will provide statistical guidance on whether the treatment is suitable for replication or testing in other settings. In addition, a strength of the applicant's plan is to collect qualitative data to document the context of each district and its supportive structure so that others can compare their context with the implementation sites (e35). There are also excellent plans for collecting qualitative data on implementation activities within the schools for the purpose of identifying barriers and facilitators to implementation. For example, teacher logs, teacher observations and interviews, as well as facilitator interviews, will all be considered in answering the extent to which there are factors that hinder or facilitate implementation (e32). The applicant proposes a reasonable approach to conducting a cost analysis so that this information is available for consideration by those interested in replicating the treatment (e164-165). The evaluation will be conducted by an external evaluator with experience in conducting large-scale randomized controlled trials, which provides confidence that the data collected and inferences from these data will be valid for making decisions related to replicating or testing in different settings

Sub

(e30).

**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 evaluation plan is clearly aligned to the key project components, mediators, and outcomes identified in the project's logic model (e109). For example, the confirmatory analyses will test the impact of the key project components (teacher professional development and quality curricula) on student achievement and motivation, which are specified as outcomes in the logic model. In addition, the applicant proposes to use structural equation modeling to understand whether teacher practices mediate student outcomes as hypothesized in the logic model (e109, e150). The applicant provides a sufficient discussion of the steps that will be taken to estimate the mediation models, including an acceptable approach to testing the fit of the models (e150).

**Weaknesses:**

The applicant does not provide a threshold for acceptable implementation because it will be developed after funding (e39). As such, the applicant is nonresponsive to this component of the criterion and represents only a good response.

**Reader's Score: 3**

**Priority Questions**

**Competitive Preference Priority - Competitive Preference Priority 1**

**1. Competitive Preference Priority 1:**

**Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 3 points)**

**Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:**

- (a) Community colleges (as defined in the NIA)**
- (b) Historically Black colleges and universities (as defined in the NIA)**
- (c) Tribal Colleges and Universities (as defined in the NIA)**
- (d) Minority-serving institutions (as defined in the NIA)**

**Strengths:**

n/a

**Weaknesses:**

n/a

Reader's Score: 0

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

**Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).**

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 the following priority areas:

(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

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**Status:** Submitted

**Last Updated:** 08/02/2024 06:39 PM



Status: Submitted

Last Updated: 08/05/2024 04:05 PM

## Technical Review Coversheet

Applicant: Michigan State University (S411B240024)

Reader #2: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	15	0
<b>Strategy to Scale</b>		
1. Strategy to Scale	40	0
<b>Quality of Project Design</b>		
1. Project Design	20	0
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	25	23
<b>Sub Total</b>	100	23
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 1</b>		
1. Promoting Equity	3	0
<b>Sub Total</b>	3	0
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 2</b>		
1. Impact of COVID-19	3	0
<b>Sub Total</b>	3	0
<b>Total</b>	106	23

# Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #2: \*\*\*\*\*

Applicant: Michigan State University (S411B240024)

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

#### Strengths:

na

#### Weaknesses:

na

Reader's Score: 0

### Selection Criteria - 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:

na

#### Weaknesses:

na

Sub

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:

na

Weaknesses:

na

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:

na

Weaknesses:

na

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.

Strengths:

na

Weaknesses:

na

Reader's Score: 0

5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.

Strengths:

na

Weaknesses:

na

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:

na

Weaknesses:

na

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:

na

Weaknesses:

na

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:

na

Weaknesses:

na

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:

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:**

Overall, this proposal would do an excellent job producing evidence of project effectiveness that would meet the What Works Clearinghouse standards without reservations. The proposal makes a strong case that it meets the measurement standards for What Works Clearinghouse standards without reservations. First, several outcomes utilize state standardized tests or use administrative data (e30) which are deemed valid and reliable. Second, the student science interest and teacher outcomes are measured using previously validated instruments with appropriate reliability (e38-39). These external instruments successfully avoid over alignment. Evaluation design and analysis provide adequate evidence for meeting What Works Clearinghouse standards without reservations for confounding by avoiding n=1 confounding and creating comparison groups that are likely equivalent.

The evaluation utilizes a cluster randomized design with stratified random assignment of schools (e30, e33) which meets What Works Clearinghouse standards without reservations. Additionally, the proposal includes a thorough explanation of comparison group services (e33) which allows appropriate interpretation of results. To meet What Works Clearinghouse standards without reservations regarding sample and compositional changes, the proposal included a well-reasoned explanation for expecting low school attrition and a suitable plan for school level attrition (e34). The evaluation also addresses student joiners with an appropriate plan to exclude them (e34) and describes a tracking plan to assess student and teacher attrition that is more than sufficient (e34). Other key components for this standard that are all included and adequate are the sample description, data plan (e34), proper accounting of clusters with students nested in teachers, nested in schools, a rigorous missing data plan (e151), and a power analysis involving appropriate minimum detectable effect sizes (e32). Specifically, the sample adequacy plan utilizes contextually appropriate design parameter estimates which provide a more accurate guide for sample planning (e147). Lastly, the evaluation includes stipends to encourage teacher participation (e34) which helps ensure an adequate sample and avoid attrition. The evaluation plan includes a detailed explanation of the analytic models to be utilized (e149-150), all of which are suitable. The proposed three-level model for the main impact study is well aligned to the design and sampling plan. Other models for mediation and moderation effects also successfully reflect the data structures and outcomes under consideration (e150). Lastly, the design parameters that capture the main, mediation, and moderation effects of interest are correctly identified (e149-150).

**Weaknesses:**

No weakness noted.

Reader's Score: 15

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

**Strengths:**

Overall, the proposed evaluation would do a very good job providing guidance about effective strategies suitable for replication or testing in other settings. First, the sampling plan includes some considerations for representativeness which allows for better generalization of these results to other settings. Second, barriers to scalability have been identified with sufficient plans to address these barriers (e19). The proposed evaluation includes a well detailed plan for differential effects (e30) involving school, teacher, and student factors which informs replication and testing in other settings. In particular, heterogeneity from student level factors is likely to produce strong evidence of heterogeneity if it is present (e35). Lastly, a well-described and thorough cost effectiveness plan is included (e36-37 and e164-165).

**Sub**

**Weaknesses:**

Moderation effects involving cluster-levels (e.g., school and teacher) are nearly impossible to detect given the planned sample sizes.

**Reader's Score:** 4

**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:**

Overall, the proposed evaluation plan does a very good job articulating project components, mediators, and outcomes, along with a plan to assess implementation. Project components are expressed in a detailed logic model (e109) and several tables (e31, e27). Together these form a clear picture of project components. Specifically, mediators are sufficiently described through the evaluation plan research questions (e30) and other narrative text that also notes the measures to capture them (e37-39). Outcomes are also well described in Exhibit 1 (e27), and again in text (e37-39). Lastly, the proposal includes a very detailed plan to assess implementation of these components. This plan is appropriately built into the evaluation (e30), sources to measure and inform implementation are noted (e35).

**Weaknesses:**

Specific thresholds of implementation are not yet determined and not included in the proposal. The proposal does note a 90% fidelity of implementation threshold but it is not clear what the 90% is referring to (e28).

**Reader's Score:** 4

**Priority Questions**

**Competitive Preference Priority - Competitive Preference Priority 1**

**1. Competitive Preference Priority 1:**

**Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 3 points)**

**Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:**

- (a) Community colleges (as defined in the NIA)**
- (b) Historically Black colleges and universities (as defined in the NIA)**
- (c) Tribal Colleges and Universities (as defined in the NIA)**
- (d) Minority-serving institutions (as defined in the NIA)**

**Strengths:**

na

**Weaknesses:**

na

Reader's Score: 0

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

**Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).**

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 the following priority areas:

(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:**

na

**Weaknesses:**

na

Reader's Score: 0

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**Status:** Submitted

**Last Updated:** 08/05/2024 04:05 PM

Status: Submitted

Last Updated: 08/05/2024 01:46 PM

## Technical Review Coversheet

Applicant: Michigan State University (S411B240024)

Reader #3: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	15	15
<b>Strategy to Scale</b>		
1. Strategy to Scale	40	39
<b>Quality of Project Design</b>		
1. Project Design	20	16
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	25	0
<b>Sub Total</b>	100	70
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 1</b>		
1. Promoting Equity	3	3
<b>Sub Total</b>	3	3
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 2</b>		
1. Impact of COVID-19	3	0
<b>Sub Total</b>	3	0
<b>Total</b>	106	73



# Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #3: \*\*\*\*\*

Applicant: Michigan State University (S411B240024)

## 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: 15

#### Sub

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

#### Strengths:

The applicant provides an excellent proposal which delivers both promising new strategies and builds upon existing strategies. The proposed project (ColSci) is designed to provide a more comprehensive science program than what is available on the market to integrate English Language Arts (ELA) instruction into the science content (e8, 13). Elementary teachers often lack the time in the day to thoroughly teach all four core content areas. ColSci aims to remedy this problem by integrating high-quality ELA into the science content so that teachers can spend less time on the ELA block since it is integrated (e13). The project's quality and design may provide comprehensive new strategies that are transferable to classrooms and has the potential for high impact on student learning.

The application provides evidence (e14) of a statistically significant results from the early-phase study that this project is built upon, justifying the request for the mid-phase grant described in this proposal. The curriculum appears to be well into the development phase and examples of content are described in the application (e16).

#### Weaknesses:

No weaknesses noted.

Reader's Score: 15

### Selection Criteria - 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: 39

#### Sub

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 provided comprehensive information about barriers and strategies to address the barriers that may prevent scaling the project. The application describes multiple barriers and solutions for each barrier that will clearly outline opportunities to build upon existing bodies of work (e18). One of the primary barriers identified in the application were the “prompts” contained within the instructional materials in that they were insufficient in supporting teachers (e18). The proposal provides a solution as the project aims to revise and create new prompts to better meet the intended outcome. The project described professional learning embedded into the program to help teachers utilize the new prompts effectively. This is evidence of appropriately addressing the barrier with solutions to solve the problem.

The project also proposed a solution to the barrier of providing timely and meaningful feedback to students (e19). As a remedy, the project includes the development of rubrics to support the embedded assessments with predictable student responses highlighted (e20). There is a professional learning plan (e19) to support teachers as they learn to effectively utilize the assessments. The new platform will also include a digital assessment suite to assess students' responses automatically. Based on the description of the additional components being added to the resource, and the rationale on overcoming the identified barriers, there is a clear path to successfully bringing the project to scale.

**Weaknesses:**

One barrier not identified that may impede scalability is the consideration that some districts likely have an adopted ELA program that requires the typical 90 minutes of instructional time to teach with fidelity. Consideration should be made as to how to remedy that potential barrier.

**Reader's Score:** 9

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 application provides strong evidence to demonstrate that the management plan is thorough and appropriate for accomplishing the project tasks on time and within budget. A technical advisory group is proposed and there is interest from experts in the field (e21).

Appendix J4 (e131) outlines milestones and activities, the lead assigned to the task as well as supporting partners, and milestones in which to complete each task over a fiveyear timeline.

A project leadership team organizational support chart (e126) is provided to further substantiate the thoughtful approach the team has taken to ensure that the project is completed effectively and efficiently The project Director and Co-Directors will lead multiple groups including technical advisory groups, as well as committees to support: material development, district coordination, professional learning, and RCT design. The qualifications and areas of expertise for each person are listed (e126-130) and their role is clearly identified (e126)

**Weaknesses:**

No weaknesses noted.

**Reader's Score:** 5

Sub

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 provides an excellent amount of evidence to prove that the team has the capacity to bring the project to scale. The cooperating organizations have been identified (e20). Key roles have been identified and narrative descriptions detailing the expertise and capability of managing their assigned roles are provided (e21-23). The collaborating partners (e20) have highly successful track records for bringing desired results in other research studies, including those with the target population as outlined in the study. Team members have experience working together and expertise in their assigned components of the management plan (e20, 21-24, 53-82). The description of the project design, along with noted successes in earlier stages, leads the evaluator to believe that the project team has the capacity to bring the project to scale on a national level by enhancing the product as outlined in the application.

There are letters of support and a commitment to participate in the study from seven school districts (e84-93), demonstrating a strong ability to bring the proposed project to scale.

**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 applicant presented strong evidence of the mechanisms to be used to disseminate information from the proposed project to support further development or replication. The application provides clear evidence that a dissemination plan is in place and capable of broadly delivering information about the project to a wide audience. A comprehensive plan has been developed to ensure that the results of the study are widely disseminated in multiple venues, including publications, conferences, social media, white papers, and through a network of channels established by the research team (e24). The plan is capable of reaching the intended audience.

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 10**

5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.

**Strengths:**

The applicant provided excellent evidence to convey the ability to utilize the products in a variety of other settings. The goal of the project is to scale their product nationally (e25) to increase teacher's capability to effectively teach science. To ensure that the resource aligns to current standards, the proposal includes the development of a standards alignment chart, which will be effective for decision makers to utilize in determining alignment in their districts.

There are many appealing factors in the project that will increase the utility of the product to be effectively used in a variety of settings, such as the integration of ELA and science, the newly designed features in the curriculum, and

**Sub**

the digital platform (e25).

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 5**

**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: 16**

**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:**

Excellent evidence is provided in the application to connect the project design to the conceptual framework. The conceptual framework of Project Based Learning is utilized to ground the study. The researchers have described how the project is clearly within the PBL framework and have provided examples from the resource (e16, 135-144) to emphasize the alignment. Professional development (e18-19) and resource enhancements are intended to support teachers in employing the PBL-based resource.

The conceptual framework is supported by identified theoretical frameworks listed in the Logic Model (e109) and coherently outlines how the framework could lead to the intended outcomes.

**Weaknesses:**

No weaknesses noted.

**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:**

Some good evidence is provided to demonstrate the development of goals and objectives and being specific and measurable. Multiple sub-objectives are listed for each major objective (e27). Each objective has outcomes and measures identified. For example, survey completion, professional learning participation, and implementation fidelity are listed.

Evidence is provided of the surveys that will be administered, for example, on page e162-164 the application includes the student motivation survey that will be utilized as part of the study.

**Weaknesses:**

The application would benefit from a more specific description of which objectives align to the primary goals of the project (e27-28). For example, an objective with sub-objectives is identified but does not directly align to an overarching goal.

**Sub**

The application lacks specific targets for some of the measures. For example, rather than noting “high participation rate” for objective 2.3 (e25), a desired target would bolster the score for this section. Similarly, no targets are provided on pages e208- 210.

**Reader's Score: 3**

- 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 described the proposed project design well to meet the target population's needs. The product's quality coupled with professional learning on how to instruct from a Project Based Learning (PBL) approach will likely positively impact student engagement. The integration of English Language Arts (ELA) may have a positive impact on teachers' willingness to use class time to teach science since the reading and writing are integrated. Combined with the digital platform, use of Artificial Intelligence (AI) and an assessment suite, there is a high likelihood that the design of this project will meet the needs of the target population.

There is a plan to allow for a reiterative design process with the resource development based on data collected in the first year and after each unit (e30). Based on the pilot group feedback on the instructional resources, the materials will be revised to adjust to the feedback (e30),

**Weaknesses:**

The application would benefit from a more thorough description of the iterative process that will be used to revise the instructional materials after the implementation of the first six-week unit (e30). For example, the process for revising the resource prior to the pilot year is presented but the pilot year revision is based on feedback from six teachers after a six-week period of time.

**Reader's Score: 8**

**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:**

NA

**Weaknesses:**

NA

**Sub**

**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:**

NA

**Weaknesses:**

NA

**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:**

NA

**Weaknesses:**

NA

**Reader's Score: 0**

**Priority Questions**

**Competitive Preference Priority - Competitive Preference Priority 1**

**1. Competitive Preference Priority 1:**

**Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 3 points)**

Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:

- (a) Community colleges (as defined in the NIA)
- (b) Historically Black colleges and universities (as defined in the NIA)
- (c) Tribal Colleges and Universities (as defined in the NIA)
- (d) Minority-serving institutions (as defined in the NIA)

**Strengths:**

The project clearly stated partnering with Alabama A&M University ( AAMU) (e17), an Historically Black College and/or University, a service organization and has adapted curricular materials to better serve the rural and urban students targeted in the study. The partnership also provides for two AAMU students to have significant roles in the research and authoring process (e17).

**Weaknesses:**

No weaknesses noted.

Reader's Score: 3

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

**Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).**

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 the following priority areas:

(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:**

Preference priority area not addressed.

**Weaknesses:**

Preference priority area not addressed.

Reader's Score: 0

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**Status:** Submitted  
**Last Updated:** 08/05/2024 01:46 PM

Status: Submitted

Last Updated: 08/05/2024 01:22 PM

## Technical Review Coversheet

Applicant: Michigan State University (S411B240024)

Reader #4: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	15	15
<b>Strategy to Scale</b>		
1. Strategy to Scale	40	40
<b>Quality of Project Design</b>		
1. Project Design	20	16
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	25	0
<b>Sub Total</b>	100	71
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 1</b>		
1. Promoting Equity	3	3
<b>Sub Total</b>	3	3
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 2</b>		
1. Impact of COVID-19	3	0
<b>Sub Total</b>	3	0
<b>Total</b>	106	74



# Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #4: \*\*\*\*\*

Applicant: Michigan State University (S411B240024)

## 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: 15

#### Sub

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

#### Strengths:

There is strong evidence of a promising new strategy that is building on an existing strategy (p. e11; 13). For example, the proposed program intends to add new strategies to a previous model of project-based intervention, evaluate, and scale the program for replication (p. e11). The initiative will use a cross-curricular methodology to teach science curriculum through literacy (p. e13). Furthermore, the proposed program utilizes project-based learning (PBL) as the means in which students will learn and synthesize the new knowledge and skills (p. e13). Utilizing PBL and incorporating a cross-curricular connection into an existing and successful science program are two best practices in the field of education which should yield promising results.

#### Weaknesses:

No weaknesses noted.

Reader's Score: 15

### Selection Criteria - 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: 40

#### 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.

**Sub**

**Strengths:**

There is strong evidence of strategies to address the barriers within the proposed program (p. e17-18). The first barrier that the initiative faced was teachers lacking pedagogical strategies to support implementing the science “prompt” which impacted student engagement, motivation, and academic achievement. The solution is to revise and create new prompts (p. e18) embedded within the curriculum which gives teachers a range of questions to connect previous learning to the current learning.

Furthermore, the initiative will provide teachers with professional development so that teachers learn how to implement the curriculum effectively (p. e17). Activating schema and providing a range of lower level to higher level questioning techniques are best practice. Providing teachers will professional development on how to implement the curriculum supports educators gaining the knowledge and skills needed to be successful with implementation.

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 10**

- 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:**

There is strong evidence of a management plan to support accomplishing the program tasks on time and within budget (p. e131). The Milestones, Responsible Partner, and Timeframe are clear, concise, and aligned to the program goals and include the four objectives of the proposed program (p. e131). For example, the timeline for objective one, activity one is “Develop and test rubric, prompts, feedback, Artificial Intelligence (AI) scoring models, and a teacher dashboard” and will occur during the first year of the initiative (p. e131). These are clearly defined and will support accomplishing the project tasks. Also included in the objectives are the responsible partner which clearly define the responsibilities of the personnel (p. e131).

Furthermore, the objectives and tasks closely align and are reasonable in their scope and sequence of the initiative. For example, the first part of the first objective is to develop and test the strategies to scale (p. e131) and the task to complete this segment of the objective is create rubrics, testing models, feedback, etc. (p. e131). These tasks have a responsible party associated with them, a timeframe, and successfully show the capacity to support the completion of the objectives.

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 5**

- 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:**

There is strong evidence of the proposed program's capacity to bring the program to scale (p. e21-23; 52-82).The resume and vitas for the key personnel show a depth of academic and work experience to support the initiative. For example, all of the principal investigators have terminal degrees (p. e21); the lead PI at MSU specializes in creating

**Sub**

and assessing individualized learning environments (p. e21); this specialized knowledge and skill aligns with the initiative's intent to create a PBL model incorporating a cross-curricular connection.

Furthermore, the primary investigator (PI) at Accelerate Learning, Inc. has a terminal degree in science and is the founder of the nationally recognized STEMscopes curriculum (p. e23) which is used in most Science Technology Engineering and Math classrooms across the nation. This knowledge and skills in the science content area and curriculum design should yield positive success in building capacity within the program.

The WestEd PI has a terminal degree in computer science and a research specialty focused on research design and methodology with a STEM focus (p. e23).

The experience of the proposed program personnel and the depth of their curriculum and design knowledge would provide sufficient capacity to scale the proposed program regionally or nationally.

There is strong evidence for fiscal support (p. e5). The applicant will provide the 10% matching funds to support the proposed program.

**Weaknesses:**

No weakness 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:**

There is strong evidence of the mechanisms to disseminate the program information to support further development or replication (p. e24-25). For example, the applicant will create a webpage to showcase the proposed program (p. e25). Furthermore, programmatic materials and findings will be disseminated through major journal and conference venues such as National Science Teachers association and AERA (p. e25) which are leading education platforms in the nation. The applicant is utilizing multiple platforms to share the initiative which increases the opportunities to further develop and replicate the program.

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 10**

**5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.**

**Strengths:**

There is strong evidence that the proposed program outputs will be used in a variety of settings (p. e25). For example, the proposed program curriculum is aligned with the Common Core Standards (p. e25) which increases the opportunity for most states to incorporate the proposed program into their curriculum adoption. Furthermore, the initiative utilizes a cross-curricular focus of science and literacy which could increase the proposed program's appeal to districts trying to leverage time and money.

Sub

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 5**

**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: 16**

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:**

There is strong evidence of a conceptual framework (p. e25-27). For example, the framework which undergirds this initiative is PBL and is supported with recent research from ████████ et al., 2022 (p. e25). PBL is the major tenet of the proposed program and using recent literature on the effectiveness of the PBL framework supports the quality of the initiative.

**Weaknesses:**

No weaknesses noted.

**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:**

There is some evidence of specific and measurable goals, objectives, and outcomes (p. e27-29). Strategies, objectives, outcomes, and measures are listed for the proposed program (p. e27-29). For example, the second objective states the initiative's intention to complete an evaluation to determine impact and one of the tasks is that the proposed program will "[r]ecruit and randomly assign schools to treatment and control conditions" (p. e28). The measurement for this is that they will have randomly assigned the participating school (p. e28). Furthermore, objective three is to "[d]isseminate findings and plan scaling and sustainment" and the strategy to support the objective is to create a product website; the measurement of this objective is captured in the ability of the public to access the website.

**Weaknesses:**

Not all the outcomes are specific enough to measure and lack a target (p. e27-29). For example, measuring success against the ability to access a website will not provide meaningful data. This missing information impacts understanding the specificity and measurability of the goals, objectives, and outcomes to meet the proposed program.

**Reader's Score: 3**

Sub

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 application provides very good evidence of the extent to which the proposed program is addressing the needs of the target population (p. e29-30). For example, the initiative will conduct design studies during the first year to ensure that the materials are supporting student learning (p. e29). Experts will be used to gauge success, then revisions will be made to tailor the program, and it will be piloted the following year with the proposed revisions (p. e30).

**Weaknesses:**

There is a lack of information about the process that the experts will use to determine student success (p. e29-30). This missing information impacts understanding if meaningful data can be provided on meeting the students' needs.

**Reader's Score: 8**

**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**

Sub

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**

**Priority Questions**

**Competitive Preference Priority - Competitive Preference Priority 1**

**1. Competitive Preference Priority 1:**

**Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 3 points)**

Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:

- (a) Community colleges (as defined in the NIA)
- (b) Historically Black colleges and universities (as defined in the NIA)
- (c) Tribal Colleges and Universities (as defined in the NIA)
- (d) Minority-serving institutions (as defined in the NIA)

**Strengths:**

There is strong evidence to show that Alabama A&M University (AAMU) is a Historically Black college and university (p. e11). The partnership between MSU and AAMU will reach rural, urban, and low-socio-economically disadvantaged schools and their students.

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 3**

**Competitive Preference Priority - Competitive Preference Priority 2**

**1. Competitive Preference Priority 2:**

**Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).**

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 the following priority areas:

(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 did not address Competitive Preference Priority 2.

**Weaknesses:**

The applicant did not address Competitive Preference Priority 2.

**Reader's Score:**     **0**

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**Status:**           Submitted  
**Last Updated:**   08/05/2024 01:22 PM

Status: Submitted

Last Updated: 08/05/2024 11:24 AM

## Technical Review Coversheet

Applicant: Michigan State University (S411B240024)

Reader #5: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	15	15
<b>Strategy to Scale</b>		
1. Strategy to Scale	40	40
<b>Quality of Project Design</b>		
1. Project Design	20	18
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	25	0
<b>Sub Total</b>	100	73
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 1</b>		
1. Promoting Equity	3	3
<b>Sub Total</b>	3	3
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority 2</b>		
1. Impact of COVID-19	3	0
<b>Sub Total</b>	3	0
<b>Total</b>	106	76



# Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #5: \*\*\*\*\*

Applicant: Michigan State University (S411B240024)

## 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: 15

#### Sub

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

#### Strengths:

The applicant provided comprehensive information for building upon a set of existing strategies. The proposal built on existing approaches to teaching science through seeking to enhance, scale and perform a randomized control trial (e12) of ColSci, a digital science curriculum. The project proposes to add additional evidence of the effectiveness of integrating science and literacy within project-based environments (e15) by improving teacher prompts, creating rubrics for assessments and developing a teacher dashboard to reduce time burdens on teachers (e19-20).

#### Weaknesses:

No weakness noted.

Reader's Score: 15

### Selection Criteria - 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: 40

#### 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.

**Sub**

**Strengths:**

The applicant fully identified specific strategies to address cited barriers, and listed two barriers to the initial development of CoSci including the inability to help teachers attend to student's motivation, engagement and thinking (e17) and using embedded assessment to advance student learning in science (e18). They will address these barriers by developing new prompts and embed them in the teacher's guide (e18), which will help the teachers adopt new forms of discourse in the classroom, to assist students with developing motivation toward science and building their science identity (e18). In addition, the applicant will design rubrics to support teachers in assessing student responses on embedded assessments (e19). They will also develop a teacher dashboard to analyze student's responses to embedded assessment tasks.

**Weaknesses:**

No weakness noted.

**Reader's Score: 10**

- 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 detailed a comprehensive management plan which will achieve the objectives of the project on time and within budget. A timeline listing the major milestones of the project was provided such as piloting the enhanced version of CoSci (e131) were provided. These were aligned with project objectives and listed parties responsible for each objective and sub-objective. An additional timeline for project evaluation and data collection was also provided (e146-147). An organizational chart with further delineation of personnel responsibilities was provided (e126-130).

**Weaknesses:**

No weakness noted.

**Reader's Score: 5**

- 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 exhibited a convincing discussion of their capacity to bring the project to scale, including a list of qualified personnel (e21-23). All eight of the project PI's and Co-PI's have Ph.D. degrees in diverse fields such as educational evaluation, science education, educational psychology and curriculum and instruction.

**Weaknesses:**

No weakness 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.**

**Sub**

**Strengths:**

The applicant provided excellent information regarding the dissemination of information of the proposed project to support further development or replication. The applicant will develop a public website with links to project partners (e24). The applicant will also share findings at educational conferences such as the American Educational Research Association (AERA) and publish papers and book chapters based on their research. Project information will also be disseminated through social media channels. The applicant will also utilize professional listservs and e-learning newsletter to publicize their work (e24).

**Weaknesses:**

No weakness noted.

**Reader's Score: 10**

- 5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.**

**Strengths:**

The applicant provided strong evidence of the likely utility of the products to be used in a variety of setting. The applicant discussed how the curriculum aligns with science standards (e25) and how the project will provide teachers with strategies to support science and literacy together (e25). The applicant also discussed the utility of their digital platform will enable students to have access to high-quality science materials (e25).

**Weaknesses:**

No weakness noted.

**Reader's Score: 5**

**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: 18**

**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 provided a strong conceptual framework grounded in project-based learning (PBL) (e15-16). This concept is student-focused and emphasizes student development, design, and construction to meaningful problems (e15), which aligns with the approach utilized for this project. The applicant provided a logic model (e109) which provided further evidence of the quality of the conceptual framework by providing additional information on the theoretical foundations underlying the project.

Sub

**Weaknesses:**

No weakness noted.

**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 provided a table (e27-29) adequately illustrating the primary project objectives and sub-objectives. These included developing and testing strategies to scale and sustain the CoSci curriculum, conducting a rigorous evaluation of the CoSci curriculum and disseminating project findings. Further, project outcomes related to student achievement and teacher performance were described in the logic model (e109).

**Weaknesses:**

Some of the measures provided by the applicant, such as fidelity of the curriculum (e28) and increased student motivation in science learning (e109), are unclear in terms of how they might be measured.

**Reader's Score: 3**

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 provided an excellent discussion of the extent to which the design of the project will address the needs of the target population. From the teacher perspective, the applicant provided insight into the supports that will be provided to teachers, such as resources and professional learning (e29) and how their perceptions of the utility of the teaching prompts, assessment rubrics and dashboard will be assessed (e30) to determine if CoSci will meet the student's needs.

**Weaknesses:**

No weakness noted.

**Reader's Score: 10**

**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)).

Sub

**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**

**Priority Questions**

**Competitive Preference Priority - Competitive Preference Priority 1**

**1. Competitive Preference Priority 1:**

**Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 3 points)**

Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:

- (a) Community colleges (as defined in the NIA)
- (b) Historically Black colleges and universities (as defined in the NIA)
- (c) Tribal Colleges and Universities (as defined in the NIA)
- (d) Minority-serving institutions (as defined in the NIA)

**Strengths:**

The applicant clearly demonstrated a project in partnership with Alabama A&M University, a historically black university. Alabama A&M will partner by providing professional development for teachers and by assisting with the design of project-

based learning materials.

**Weaknesses:**

No weakness noted.

**Reader's Score: 3**

**Competitive Preference Priority - Competitive Preference Priority 2**

**1. Competitive Preference Priority 2:**

**Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).**

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 the following priority areas:

(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:**

No strengths noted.

**Weaknesses:**

The applicant did not address this competitive preference priority.

**Reader's Score: 0**

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**Status:** Submitted  
**Last Updated:** 08/05/2024 11:24 AM