

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

Status: Submitted

Last Updated: 08/06/2021 01:15 PM

Technical Review Coversheet

Applicant: Southern Methodist University (S411B210032)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	15
Sub Total	15	15
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	20	20
Sub Total	20	20
Selection Criteria		
Quality of Project Design		
1. Project Design	20	20
Adequacy of Resources		
1. Quality of the Management	20	20
Quality of the Project Evaluation		
1. Project Evaluation	25	
Sub Total	65	40
Priority Questions		
CPP1		
Computer Science		
1. Computer Science	5	0
Sub Total	5	0
Total	105	75

Technical Review Form

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

Reader #1: *****

Applicant: Southern Methodist University (S411B210032)

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

Strengths:

The proposed project will reach national significance as the applicant proposes to implement several research-based strategies that will reverse the current, national issue of many students experiencing a lack of academic progress in the area of math. The applicant supported its claim based on the projected number of students who will be significantly behind in learning targets beginning in the 2021-2022 academic year and provided an in-text citation (p. e22).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

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

Strengths:

The proposed project plans to utilize Fraction Face-Off (FFO) to promote fraction understanding for students with math difficulty (p. e25) which will contribute to increased knowledge of an educational problem. Specifically, the FFO has demonstrated to be an effective strategy to improve students fraction outcomes compared to students who did not participate in FFO, which has been documented in several studies (p. e26).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

Strategy to Scale - Strategy to Scale

1. The Secretary considers the applicant's strategy to scale the proposed project. In determining the applicant's capacity to scale the proposed project, the Secretary considers the following

factors:

Reader's Score: 20

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 identified specific strategies to address barriers which hindered the applicant from reaching the level of scale that is proposed in the application. The following are the three barriers: (1) one research team developed and tested FFO with grant funding and failed to conduct any further implementation of FFO; (2) university-based graduate students conducted all FFO tutoring which was very costly compared to hiring additional staff; and (3) training costs (money and time) for FFO are high. For the third barrier, the applicant plans to provide virtual training opposed in-person professional development training to mitigate the high training costs of \$6,000 per training session (p. e28).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

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

Strengths:

The applicant demonstrates several effective mechanisms to broadly disseminate information on its project. For example, the applicant plans to create and maintain a project-specific website containing virtual training modules and relevant materials for interventionists at no cost for participating schools (p. e29). The applicant plans to disseminate information to researchers and practitioners through peer-reviewed journals (Learning Disabilities Research & Practice, Journal of Special Education, Exceptional Children, and Journal of Mathematics Behavior) and presenting at related conferences (Council for Exceptional Children, American Educational Research Association, and National Council of Teachers of Mathematics) (pp. e29-e30). The proposed dissemination mechanisms will support further development and possible replication of the proposed project.

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

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: 20

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 proposed project's design is based on a comprehensive conceptual framework (p. e63) with clearly defined inputs, activities, outputs, and outcomes underlying the proposed research. For example, the applicant plans to replicate FFO with varying modes of training, which will provide data regarding interventionist self-efficacy and feedback to determine whether students demonstrate improvement in fraction knowledge and overall math performance (p. e63).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

- 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 goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable (pp. e31-34). For instance, the applicant plans to replicate the proposed project at the fourth grade level utilizing various modes of training. In addition, the project coordinator's objective will be to recruit 40 schools and assign interventionists to FFO trainings by the 2022-2023 academic year (p. e33).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

- 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 project design appropriately includes interventionists and students with math difficulty (p. e36). The proposed project will effectively provide interventionists with professional development to increase their knowledge of fractions (p. e37). In addition, the proposed project design plans to support students with math difficulty by focusing on part-whole and measurement interpretations (p. e37).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

Selection Criteria - Adequacy of Resources

- 1. The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project. In determining the adequacy of resources and quality of the management plan for the proposed project, the Secretary considers the following factors:**

Reader's Score: 20

Sub

- 1. (1) 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:

Based on the qualified personnel and highly regarded institutions, the applicant has the capacity to bring the proposed project to a regional scale (pp. e38-e39). For instance, the principal investigator, has secured over \$22 million in external funding to develop and validate assessment in math to support students with math difficulty. One of the two implementing partner institutions, is ranked within the top 15% in the United States in teacher and school administration preparation programs (p. e39).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

- 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 is adequate to achieve the objectives of the proposed project on time and within budget. For example, the project director's strong history of effective collaboration in implementing school-based research initiatives will contribute to accomplishing project tasks on time and within budget.

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

- 3. (3) The extent to which the costs are reasonable in relation to the objectives, design, and potential significance of the proposed project.**

Strengths:

The proposed project plans to provide resources to implement FFO in a total of 100 elementary and middle schools, which would have a direct impact on 400 teachers and 1,600 students. The proposed project's costs are reasonable in relation to the objectives, design, and potential significance (p. e42). Furthermore, the costs are reasonable based on the one-time cost for conducting future virtual trainings, hosting a website for resources, and implementing materials (i.e., guidebook and student resources) that can be re-used (p. e43).

Weaknesses:

There are no weaknesses in this section.

Reader's Score:

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:

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.**

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:

Priority Questions

CPP1 - Computer Science

- 1. Projects designed to improve student achievement or other educational outcomes in computer science (as defined in this notice). These projects must address the following priority area:**

Expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students such as racial or ethnic minorities, women, students in communities served by rural local educational agencies (as defined in this notice), children or students with disabilities (as defined in this notice), or low-income individuals (as defined under section 312(g) of the Higher Education Act of 1965, as amended).

Strengths:

The applicant did not address CPP 1.

Weaknesses:

The applicant did not address CPP 1.

Reader's Score: 0

Status: Submitted
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Status: Submitted

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Technical Review Coversheet

Applicant: Southern Methodist University (S411B210032)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	15
Sub Total	15	15
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	20	20
Sub Total	20	20
Selection Criteria		
Quality of Project Design		
1. Project Design	20	20
Adequacy of Resources		
1. Quality of the Management	20	17
Quality of the Project Evaluation		
1. Project Evaluation	25	0
Sub Total	65	37
Priority Questions		
CPP1		
Computer Science		
1. Computer Science	5	0
Sub Total	5	0
Total	105	72

Technical Review Form

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

Reader #2: *****

Applicant: Southern Methodist University (S411B210032)

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

Strengths:

The applicant, Southern Methodist University, demonstrates clearly that the Scalability, Capacity, and Learning Engagement (SCALE) for Fraction Face-off project will have national significance in the area of mathematics education. The project will serve students in grades four through eight using a three-tiered approach. Students with mathematics difficulty (MD) will be presented with interventions in tier two with small group instruction and tier three with individual interventions. The focus of the interventions is the understanding and application of fractions, a forerunner to Algebra. The results of this project will be unique in demonstrating effective, tiered interventions that can have national significance in the delivery of math instruction. (Page e-24)

Weaknesses:

No weaknesses found.

Reader's Score:

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

Strengths:

The proposed project will use the Fraction Face-Off (FFO) research-based approach to the tier two interventions. These interventions will rely on tutors as well as classroom teachers to implement the multi-tiered systems of supports. This project will extend the interventions to grades five through eight. The current research for the Fraction Face-Off extends for grade four students only. The expansion and extension to the multi-tiered approach will provide appropriate increased knowledge and understanding of the issues of mathematics understanding and especially the strategies that will be successful as interventions for students with mathematics difficulty. (Page e25-26)

Sub

Weaknesses:

No weaknesses found.

Reader's Score:

Strategy to Scale - Strategy to Scale

- 1. The Secretary considers the applicant's strategy to scale the proposed project. In determining the applicant's capacity to scale the proposed project, the Secretary considers the following factors:**

Reader's Score: 20

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 demonstrates clearly that the identified barriers will be addressed with specific strategies that will assist in reaching the level of scale that is projected by the proposed project. The first barrier is that only one limited research study has been completed for FFO interventions. This project will expand and extend those interventions. The second barrier identified is that university-based graduate students conducted all FFO tutoring in previous study settings. To address this barrier, this project will train school-based personnel to serve students in tiers two and three. Another barrier is that training costs for FFO is high. The proposed project will provide virtual training in place of in-person professional development for involved staff. This type of training will provide a more efficient method of training. (Pages e26-29)

Weaknesses:

No weaknesses found.

Reader's Score:

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

Strengths:

The applicant demonstrates effective mechanisms that will be used to disseminate information on the proposed project. Those mechanisms include a project-specific website for posting the virtual training modules and materials. The applicant will publish in peer-reviewed research and practitioner-oriented journals such as "Learning Disabilities Research and Practice" and "Journal of Mathematics Behavior." Webinars will be conducted each year to describe the teaching of fractions to students with mathematics difficulties which will support further development and replication. (Page e29-30)

Weaknesses:

No weaknesses were found.

Sub

Reader's Score:

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: 20

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 framework for this project is based on the theory of change that FFO, when implemented with fidelity, will lead to improved outcomes for both students and those interventionalists who will be trained in the support of the students with mathematics deficiencies. This is an appropriate framework for the scope of the proposed project. (Page e30) The logic model clearly supports the conceptual framework for the proposed project. The logic model contains inputs, activities, outputs and outcomes that relate to the goals of the project which is improved student achievement in the mathematics area. (Page e63)

Weaknesses:

No weaknesses were found.

Reader's Score:

- 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 proposed project includes clearly specified and measurable goals, objectives and outcomes. The objectives address each one of three primary aims of the project. For example, Aim one: Efficacy Replication in Grade 4 is addressed by eight objectives/outcomes such as recruiting schools for participation. This will be measured by the recruitment of at least 20 schools. Each of the three aims is clearly specified and includes detailed objectives and activities. The aims include training for the interventionists, student expectations for improved math skills, and expansion of FFO to grade levels 6-8. These aims support the quality of the proposed framework. (Pages e31-36 and Pages e263-270)

Weaknesses:

No weaknesses found.

Reader's Score:

- 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.**

Sub

Strengths:

The design of the proposed project includes efforts to effectively meet the needs of the two target populations. Those two populations are the interventionists and students with math difficulty. The training for the interventionists will include an improved understanding of fractions and how to reach students with that knowledge. The students' needs will be met as the project will focus on building fluency with fractions operations and solving of fraction word problems. (Page e37-38)

Weaknesses:

No weaknesses are found.

Reader's Score:

Selection Criteria - Adequacy of Resources

- 1. The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project. In determining the adequacy of resources and quality of the management plan for the proposed project, the Secretary considers the following factors:**

Reader's Score: 17

Sub

- 1. (1) 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 and the partners that will be working together to build capacity to bring the proposed project to scale on a regional level. These partners include the South Methodist University, the University of Missouri, the University of Texas at Austin and American Institutes of Research. The leadership from those partners includes individuals with training and experience in research design, math education, special education, and evaluation. The leadership has worked on similar projects in a collaborative manner. These efforts will support the resources needed for the success of the proposed project. (Page e38-40 and Career Vita)

Weaknesses:

No weaknesses found.

Reader's Score:

- 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 management plan includes clearly defined responsibilities of the key leaders of the proposed project. Each of the key project tasks are clearly identified and linked to one or more of the persons who are responsible. For example, to train FFO interventionists the Project Director and Graduate Research Assistants will coordinate the efforts either in person or virtually. The project directors will receive training from a FFO Consultant and then using the train-the-trainer model will train interventionists. (Pages e32-34 and Pages e40-42)

General timelines correspond to key activities indicating which year of the project the activity will occur. (Pages e32-34)

Weaknesses:

The applicant does not include specific beginning and end dates for the milestones of the proposed project. The applicant only includes yearly timelines. Therefore, it is difficult to determine when, during the grant year, the tasks will be completed. For example, the management plan states that training the FFO interventionists will occur during the years of 2023-24 and 2024-25 . (Page e34)

Reader's Score:

3. (3) The extent to which the costs are reasonable in relation to the objectives, design, and potential significance of the proposed project.

Strengths:

The costs of the proposed project are somewhat reasonable in relation to the objectives, design, and potential significance. Training, guidebooks and student resources are one-time costs and will not include additional expenses after the completion of the grant. That effort is reasonable. (Page e42) The total personnel budget for the project is \$1,261,660.00. This is reasonable based on the number of FTE that will be working with the project from South Methodist University. (Page e273)

Weaknesses:

The applicant indicates that only 1600 students and 400 teachers will be directly benefiting from the interventions described. (Page e42) This is not reasonable in relationship to the scope of the project. The contractual expenditures are extremely high for the scope of the project. A total of over four million dollars will be spent on contractual services from three partner organizations. For example, The Meadows Center at the University of Texas at Austin will be budgeted over 1.3 million dollars. (Page e258-260) The applicant does not justify clearly how the contractual services costs are reasonable and do not include replicated services provided by the lead organization.

Reader's Score:

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:

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:

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:

Priority Questions

CPP1 - Computer Science

1. Projects designed to improve student achievement or other educational outcomes in computer science (as defined in this notice). These projects must address the following priority area: Expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students such as racial or ethnic minorities, women, students in communities served by rural local educational agencies (as defined in this notice), children or students with disabilities (as defined in this notice), or low-income individuals (as defined under section 312(g) of the Higher Education Act of 1965, as amended).

Strengths:

The applicant did not apply for this priority.

Weaknesses:

The applicant did not apply for this priority.

Reader's Score: **0**

Status: Submitted

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Status: Submitted

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Technical Review Coversheet

Applicant: Southern Methodist University (S411B210032)

Reader #3: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	
Sub Total	15	
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	20	
Sub Total	20	
Selection Criteria		
Quality of Project Design		
1. Project Design	20	
Adequacy of Resources		
1. Quality of the Management	20	
Quality of the Project Evaluation		
1. Project Evaluation	25	24
Sub Total	65	24
Priority Questions		
CPP1		
Computer Science		
1. Computer Science	5	
Sub Total	5	
Total	105	24

Technical Review Form

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

Reader #3: *****

Applicant: Southern Methodist University (S411B210032)

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:

Sub

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

Strengths:

Weaknesses:

Reader's Score:

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

Strengths:

Weaknesses:

Reader's Score:

Strategy to Scale - Strategy to Scale

1. The Secretary considers the applicant's strategy to scale the proposed project. In determining the applicant's capacity to scale the proposed project, the Secretary considers the following factors:

Reader's Score:

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:

Weaknesses:

Reader's Score:

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

Strengths:

Weaknesses:

Reader's Score:

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:

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:

Weaknesses:

Reader's Score:

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:

Weaknesses:

Reader's Score:

- 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:

Weaknesses:

Reader's Score:

Selection Criteria - Adequacy of Resources

- 1. The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project. In determining the adequacy of resources and quality of the management plan for the proposed project, the Secretary considers the following factors:**

Reader's Score:

Sub

- 1. (1) 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:

Weaknesses:

Reader's Score:

- 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:

Sub

Weaknesses:

Reader's Score:

3. (3) The extent to which the costs are reasonable in relation to the objectives, design, and potential significance of the proposed project.

Strengths:

Weaknesses:

Reader's Score:

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: 24

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 is proposing both process and outcome evaluations that would produce evidence about the project's effectiveness. The outcome evaluation, if conducted as described, has the potential to yield evidence on the effectiveness of the SCALE intervention that would meet What Works Clearinghouse (WWC) standards without reservations. More specifically, the authors are proposing a complement of four asynchronous block-cluster randomized control trials (RCTs) to examine the research questions. The applicant assumes low attrition (p e.264), allow for joiners (p. e46), and acknowledge the potential need to conduct statistical adjustments to account for any baseline inequivalence (p. e46). Additionally, the authors are proposing to examine post-facto control classes for the presence of intervention components (p. e47). The main impact model can be found on page e48. The power analysis findings reported on pages e45 and e47 are in reference to the sample size of each of the four proposed RCT designs. Each of the four RCTs appear to be sufficiently powered to yield effectiveness evidence.

Weaknesses:

None

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:

The process evaluation proposed is intended to examine implementation fidelity, as well as barriers and facilitators for program success (p. e49). Additionally, the four-block cluster design allows the authors to examine within study characteristics, which will provide evidence on the relative implementation fidelity on the intervention subcomponents, as well as overall model fidelity (p. e 50).

Weaknesses:

None

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:

The applicant describes the key project components and outcomes in the logic model (p. e63). Student and teacher measures are clearly articulated (pp. e50-51).

Weaknesses:

Fidelity thresholds are not explicitly described. Rather the applicant proposes identifying them at the time of the process evaluation.

Reader's Score:

Priority Questions

CPP1 - Computer Science

1. **Projects designed to improve student achievement or other educational outcomes in computer science (as defined in this notice). These projects must address the following priority area: Expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students such as racial or ethnic minorities, women, students in communities served by rural local educational agencies (as defined in this notice), children or students with disabilities (as defined in this notice), or low-income individuals (as defined under section 312(g) of the Higher Education Act of 1965, as amended).**

Strengths:

Weaknesses:

Reader's Score:

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Technical Review Coversheet

Applicant: Southern Methodist University (S411B210032)

Reader #4: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	
Sub Total	15	
Strategy to Scale		
Strategy to Scale		
1. Strategy to Scale	20	
Sub Total	20	
Selection Criteria		
Quality of Project Design		
1. Project Design	20	
Adequacy of Resources		
1. Quality of the Management	20	
Quality of the Project Evaluation		
1. Project Evaluation	25	25
Sub Total	65	25
Priority Questions		
CPP1		
Computer Science		
1. Computer Science	5	
Sub Total	5	
Total	105	25

Technical Review Form

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

Reader #4: *****

Applicant: Southern Methodist University (S411B210032)

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:

Sub

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

Strengths:

Weaknesses:

Reader's Score:

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

Strengths:

Weaknesses:

Reader's Score:

Strategy to Scale - Strategy to Scale

1. The Secretary considers the applicant's strategy to scale the proposed project. In determining the applicant's capacity to scale the proposed project, the Secretary considers the following factors:

Reader's Score:

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:

Weaknesses:

Reader's Score:

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

Strengths:

Weaknesses:

Reader's Score:

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:

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:

Weaknesses:

Reader's Score:

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:

Weaknesses:

Reader's Score:

- 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:

Weaknesses:

Reader's Score:

Selection Criteria - Adequacy of Resources

- 1. The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project. In determining the adequacy of resources and quality of the management plan for the proposed project, the Secretary considers the following factors:**

Reader's Score:

Sub

- 1. (1) 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:

Weaknesses:

Reader's Score:

- 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:

Sub

Weaknesses:

Reader's Score:

3. (3) The extent to which the costs are reasonable in relation to the objectives, design, and potential significance of the proposed project.

Strengths:

Weaknesses:

Reader's Score:

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: 25

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 has arranged for an independent evaluation of program activities and outcomes with American Institutes for Research (AIR, p. e42). The use of an external evaluator is a strength because it helps minimize bias in the evaluation data collection, analyses, and reporting of findings. The evaluation plan calls for a series of four blocked randomized control trials (RCTs) where interventionists (teachers) are assigned, within schools, to either treatment condition or a business-as-usual control condition (p. e46). The applicant specifies that steps will be taken to protect against contamination and preserve the design's ability to provide evidence for the intervention's impact on individual students (p. e46). In addition, the applicant outlines steps to manage attrition (p. e45) including a plan to over-recruit based on prior experience with similar projects.

According to the What Works Clearinghouse (WWC) Standards Handbook, p. 20, in order to be eligible for the WWC's highest rating, a cluster RCT must limit potential bias from changes in the composition of clusters and individuals within clusters after random assignment. The plan outlined by the applicant would allow for RCTs that meet these WWC criteria.

The application provides a detailed power analysis (p. e47) that provides clear explanation of how the study is powered to determine effects of treatment. Assumptions outlined in the power analysis are clear and reasonable.

Sub

Weaknesses:

No weaknesses identified for component 1.

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.**

Strengths:

The evaluation plan includes components that allows the applicant to report on effective strategies and replication in other settings. Specifically, the applicant will use multiple data sources including questionnaires and interviews with intervention teachers (p. e49) to provide formative evaluation data. Interviews and questionnaires will gather information on barriers to implementation, which allows the applicant to speak more clearly on successful strategies – and obstacles – for replication (p. e49).

The study design includes two treatment options (virtual and in-person professional development, p. e49). This information will be helpful in thinking about various settings (e.g., special needs of rural communities) for replication.

Weaknesses:

No weaknesses identified for component 2.

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:

The evaluation plan is clear, and each facet of the program is included in the planned evaluation activities. The evaluation team has outlined a comprehensive set of evaluation questions (p. e43 –e45) and potential mediators (p. e49 – e50) as well as implementation thresholds (p. e50). The evaluation team, if awarded, will develop an implementation fidelity rubric (p. e50) to align with the planned implementation thresholds outlined on p. e50 (e.g., training attendance and completion threshold at 80%).

Weaknesses:

No weaknesses identified for component 3.

Reader's Score:

Priority Questions

CPP1 - Computer Science

1. **Projects designed to improve student achievement or other educational outcomes in computer science (as defined in this notice). These projects must address the following priority area: Expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students such as racial or ethnic minorities, women, students in communities served by rural local educational agencies (as defined in this notice), children or students with disabilities (as defined in this notice), or low-income individuals (as defined under section 312(g) of the Higher Education Act of 1965, as amended).**

Strengths:

Weaknesses:

Reader's Score:

Status: Submitted
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