

# **SEED Renewal Technical Review Form**

*US Department of Education*

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**Division of Effective Educator Development (EED) Grant Review  
2021 SEED Renewal  
Application Technical Review Form  
(CFDA 84.423A)**

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<b>Applicant Name:</b> University of Missouri	Application Number U423A180058
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Summary Ratings		
	Maximum Points	Score
<b>A. Quality of Evaluation Plan</b>	25	25
<b>B. Quality of the Project Design</b>	25	25
<b>C. Strategy to Scale</b>	25	21
<b>D. Adequacy of Resources</b>	25	25
<b>Selection Criteria Total Score</b>	<b>100</b>	<b>96</b>

## **A. Quality of Project Evaluation (up to 25 points)**

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

- (1) The extent to which the methods of evaluation provide for examining the effectiveness of project implementation strategies.
- (2) The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible.

(Maximum Points 25)

Reader's Score: 25

**Strengths:**

- (1) The applicant outlines a sound method of evaluation designed to examine the overall impact and effectiveness of the project's implementation strategies. For example, the evaluation methodology will involve the use of a blocked cluster-randomized trial design. The study is designed to produce evidence of the comparative effectiveness of the two models in improving student and teacher outcomes that would meet What Works Clearinghouse evidence standards without reservations (p. 21). The evaluation methodology is designed to gauge the potential increase in the number of rural teachers using highly effective strategies, student learning strategies, and interest in STEM and the efficiency and effectiveness of implementing a multi-level system of support that integrates STEM across subjects (p. 22).
- (2) The proposal includes detailed methods of evaluation inclusive of objective performance measures that are related to the intended outcomes of the project that are designed to produce quantitative and qualitative data to the extent possible. Objective performance measures include but are not limited to measures of teacher outcomes that examine the effectiveness of the two models of delivering professional development on improving teacher instruction, measures of student outcomes in an effort to understand the differences between the two delivery models in terms of the students' experiences in the classroom and interest in design, and measures to examine implementation fidelity and understand participant experiences with the two delivery models (p. 22). Further, the evaluation's quantitative and qualitative methodology is anticipated to generate evidence about the extent to which the project is delivered as expected under each model and how participants are experiencing and learning through the program (p. 25). The qualitative and quantitative aspects of the evaluation will also derive data from surveys and interviews, and professional development attendance records (p. 26).

**Weaknesses:**

No weaknesses noted.

**B. Project Design (25 points).**

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

- (1) The extent to which the design for implementing and evaluating the proposed project will result in information to guide possible replication of project activities or strategies, including information about the effectiveness of the approach or strategies employed by the project.
- (2) The extent to which the proposed project is designed to build capacity and yield results that will extend beyond the period of Federal financial assistance.

(Maximum Points 25)

Reader's Score: 25

**Strengths:**

- (1) The applicant provides sound evidence that the project's implementation design and evaluation process will result in information to guide possible replication. Sound evidence includes but is not limited to remote administrator and teacher professional development that is anticipated to increase the number of teachers in rural settings using strategies that are highly effective and interdisciplinary, increased student learning strategies and interest in STEM for high-needs students, and the effective implementation of a multi-level system of support (pp. 40-42, 46).
- (2) The applicant sufficiently demonstrates that the project is designed to build capacity and yield results that will extend beyond the period of Federal financial assistance with its train-the-trainer program. The capacity-building efforts also include the development of a multi-level support system to ensure success and build district capacity to sustain and grow the program with consistent results. The system includes school-based implementation, administrator professional development, support of the growth and development of professional learning communities, and an online platform (p. 49).

**Weaknesses:**

No weaknesses noted.

**C. Strategy to Scale (up to 25 points).**

The Secretary considers the strategy to scale for the proposed project. In determining the strategy to scale for the proposed project, the Secretary considers the following factors:

- (1) The feasibility of successful replication of the proposed project, if favorable results are obtained, in a variety of settings and with a variety of populations.
- (2) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

(Maximum Points 25)

Reader's Score:   21  

**Strengths:**

- (1) The applicant demonstrates that if favorable results are obtained, the project can be successfully replicated. For example, the scalability of the project is anticipated to contribute knowledge about how to strategically invest in and support rural school success. It is anticipated that its findings will guide the project's work with colleges of education through faculty and pre-service teacher professional development, and pre-service curriculum development (pp. 47, 50).
- (2) The proposal details a variety of broad dissemination mechanisms that include but are not limited to professional journals, conducting presentations at regional and national conferences, social media presence to include Twitter, Facebook and LinkedIn, and a website with a repository of resources (p. 48).

**Weaknesses:**

- (1) The proposal does not provide evidence that the project can be replicated in other settings beyond those identified as being rural. Therefore, it cannot be fully ascertained if the project can be successfully replicated in a variety of settings and with a variety of populations.
- (2) No weaknesses noted.

**D. Adequacy of Resources (up to 25 points).**

The Secretary considers the adequacy of resources to be conducted of the proposed project. In determining the adequacy of resources, the Secretary considers the following factors:

- (1) The potential for the continued support of the project after Federal funding ends, including, as appropriate, the demonstrated commitment of appropriate entities to such support.
- (2) The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding.

(Maximum Points 25)

Reader's Score: 25\_\_

**Strengths:**

- (1) The applicant provides a concise process for the continued support of the project's initiatives after Federal funding ends, including, as appropriate, the demonstrated commitment of appropriate entities to such support. As noted in the narrative, for example, the applicant's partner IHE will test the project's design-through-inquiry professional development concept to learn how to most effectively scale the program for wide reach and impact (p. 49).
- (2) The applicant demonstrates that the potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding can be achieved through the incorporation of an online community of practice that supports trainers, teachers, and administrators. Further the project's model has an interdisciplinary and integrated STEM focus that is integrated with the Common Core Standards (pp. 34, 50).

**Weaknesses:**

No weaknesses noted.

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Summary Ratings		
	Maximum Points	Score
<b>A. Quality of Evaluation Plan</b>	25	25
<b>B. Quality of the Project Design</b>	25	25
<b>C. Strategy to Scale</b>	25	22
<b>D. Adequacy of Resources</b>	25	25
<b>Selection Criteria Total Score</b>	<b>100</b>	<b>97</b>

## **A. Quality of Project Evaluation (up to 25 points)**

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

- (1) The extent to which the methods of evaluation provide for examining the effectiveness of project implementation strategies.
- (2) The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible.

(Maximum Points 25)

Reader's Score: 25

**Strengths:**

1. The applicant describes the project as a 2-year teacher professional development (PD) program in its second year of implementation with 27 treatment schools and 173 participating teachers. The materials have been developed and teachers are in the process of completing 136 hours of completing the training that uses technology as a tool for high-level and transformative classroom learning. There are 33 trainers at schools and trainers receive 110 hours of PD and individual support from eMINTS staff. (pg.6) The formative evaluation data collection consisted of surveys, focus group observations, and informal conversations that occur between school personnel and eMINTS staff as well as quantitative measurement of change among staff in employing technology in the classroom and its effect on students. The project's evaluations look at the success of the project strategies by examining teacher and student outcomes using a set of validated and objective measures that are directly related to technology, community of learners, authentic learning, and high-quality lesson design. (pg.24)

2. The qualitative measures demonstrate evidence that the program is having an impact on classroom learning experiences. An outside consultant (AIR) conducted observations in spring 2020 and concluded that teachers in the eMINTS schools demonstrated significantly more instructional support than teachers in control group schools in the first year of the program, especially in math and science teachers, whom demonstrated significantly more instructional support than their control counterparts. (pg.10) There was quantitative data collected as well; for example, with regard to student technology access, 51% of eMINTS teachers versus 27% of control teachers reported that at least  $\frac{3}{4}$  of their students had regular home computer access (pg.9) This mix of quantitative and qualitative data provides a better picture of the factors affecting the trainers, teachers, and students. (pg.40)

**Weaknesses:**

1. None noted.

2. None noted.

**B. Project Design (25 points).**

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

(1) The extent to which the design for implementing and evaluating the proposed project will result in information to guide possible replication of project activities or strategies, including information about the effectiveness of the approach or strategies employed by the project.

(2) The extent to which the proposed project is designed to build capacity and yield results that will extend beyond the period of Federal financial assistance.

(Maximum Points 25)

Reader's Score: 25

**Strengths:**

1. The analysis will explore common experiences and strategies across schools that may improve implementation and sustainability of the eMINTS instructional model in rural schools. This study will contribute knowledge about how to strategically invest in and support rural school success which have largely been ignored in STEM education initiatives. (pg.48) The program will be easily replicable due to the availability of information on the project which can be integrated into technologies the school may already have or may be able to gain access to.

2. The applicant explains the project will build capacity due to its use of authentic learning which supports students in real-world inquiries. The project also creates a community of learners that builds a positive classroom environment and encourages student collaboration. Additionally, the project enhances high-quality lesson design by teachers through enabling their capacity to design standards-based lessons with problems found in their own environment. Technology is being used as a tool for high-level and transformative classroom learning. (pg.6) The project builds capacity by elevating a teachers use of technology for STEM in their classroom.

**Weaknesses:**

1. none noted.

2. none noted.

**C. Strategy to Scale (up to 25 points).**

The Secretary considers the strategy to scale for the proposed project. In determining the strategy to scale for the proposed project, the Secretary considers the following factors:

(1) The feasibility of successful replication of the proposed project, if favorable results are obtained, in a variety of settings and with a variety of populations.

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

(Maximum Points 25)

Reader's Score: 22

**Strengths:**

1. The project has shifted the focus from a train the trainer approach to a PLC-driven model that focuses on virtual/remote coaching. eMINTS will test more sustainable and scalable ways to build teacher leaders and effectiveness by adapting two revised models raise skills after the intervention ends. The project has developed a multi-level support system to build district capacity to sustain and grow the program with consistent results (pg.49) The eMINTS program has a commitment from 28 rural schools that have signed letters of commitment to participate in the renewal.(pg.52) The program has already trained more than 420 affiliate trainers across 10 states and Australia who are certified to train teachers for the eMINTS program, so it has a history of favorable results in multiple settings.

2.The applicant will broadly disseminate the projects findings in practitioner journals and national, regional, and statewide educational publications. The college will target publications dedicated to issues of rural education. The eMINTS staff are regular contributors at both regional and national

education conferences where they can share information on the project. The eMINTS website will post information on the project milestones, results, best practices, and access to project materials.(pg.48) The applicant has chosen several logical places to disseminate project information.

**Weaknesses:**

1. There needs to be a better demographic description under the definition of a “rural” setting so that it can be understood how schools will be classified and selected as rural. The classification as a rural school will need to be clearly defined for the purposes of project replication.
2. None noted.

**D. Adequacy of Resources (up to 25 points).**

The Secretary considers the adequacy of resources to be conducted of the proposed project. In determining the adequacy of resources, the Secretary considers the following factors:

- (1) The potential for continued support of the project after Federal funding ends, including, as appropriate, the demonstrated commitment of appropriate entities to such support.
- (2) The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding.

(Maximum Points 25)

Reader’s Score: 25

**Strengths:**

1. The project thus far has developed over 136 hours of online learning some of which are facilitated, and some which are standalone. There are also blended professional development materials that are available for use as open-source materials and are available for any school to access and use. (pg.4) These resources will continue to be posted on the website and the study’s results will still be available after the federal funding ends.

2. These materials add to the field of engineering education that supports the use of the Next Generation Science Standards. Partnerships with educational technology companies for the classroom allow the integration of GPS devices, 3D printers, green screen and 360 video, and electronic probes and sensors. Webinars were created to support integration of different technologies. (pg.4) The support from the college and its partners will support the project after the federal funding ends.

**Weaknesses:**

1. None noted.
2. None noted.



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Summary Ratings		
	Maximum Points	Score
<b>A. Quality of Evaluation Plan</b>	25	25
<b>B. Quality of the Project Design</b>	25	25
<b>C. Strategy to Scale</b>	25	20
<b>D. Adequacy of Resources</b>	25	25
<b>Selection Criteria Total Score</b>	<b>100</b>	<b>95</b>

## **A. Quality of Project Evaluation (up to 25 points)**

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

- (1) The extent to which the methods of evaluation provide for examining the effectiveness of project implementation strategies.
- (2) The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible.

(Maximum Points 25)

Reader's Score: 25\_

**Strengths:**

1. The methods of evaluation are appropriate for examining the effectiveness of the problem implementation strategies. For example, the evaluation is driven by the three goals of the project as well as three research questions that are aligned with those goals (p. 21-22). One of the research questions explores whether the two models of delivering the eMINTS PD differ in their effectiveness of improving students' learning strategies and their interest in design-based learning. (p. 22). To address these questions, the evaluation will employ a randomized trial designed to produce evidence of the comparative effectiveness of the two models in improving student and teacher outcomes that would meet WWC evidence standards without reservations. (p. 23).
2. The proposal notes that the evaluation plan will rely on objective performance measures and utilize quantitative and qualitative data. For example, the evaluation will examine teacher and student outcomes using a set of validated measures that are directly related to the goals of the program. (p. 40-41). The evaluation will use the CLASS protocol to assess classroom interactions and attendance records for students, among other data. (p. 24-25). In addition to quantitative data like these, the project will also collect qualitative data from interviews with randomly selected participants, including teachers, teacher leaders, and project staff who provide coaching and support to the learning community (PLC). (p. 27). This suggests that the evaluation will holistically assess the project activities and project impact.

**Weaknesses:**

No weaknesses noted.

**B. Project Design (25 points).**

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

(1) The extent to which the design for implementing and evaluating the proposed project will result in information to guide possible replication of project activities or strategies, including information about the effectiveness of the approach or strategies employed by the project.

(2) The extent to which the proposed project is designed to build capacity and yield results that will extend beyond the period of Federal financial assistance.

(Maximum Points 25)

Reader's Score:   25

**Strengths:**

1. The proposal shows how information from the evaluation can inform replication of project activities and strategies. For example, the evaluation's design meets the What Works Clearinghouse standards without reservations. (p. 21). This evaluation will take into account teacher and student outcomes as well as measures of implementation. (p. 25-27). This indicates that the information gained from the evaluation can communicate how the project was implemented as well as the project's impact.
2. The proposal provides some description of how the project will build capacity to carry on beyond the term of financial assistance. For example, the proposal notes that the teacher leader professional learning community model is focused on building teacher leader capacity building. (p. 19). The goal of this capacity building is to build leadership and coaching skills so the teacher leader can facilitate effective interdisciplinary implementation in their PLC. (p. 19). More directly, the project is testing two models of teacher professional learning support; remote coach-led PLC and teacher leader-led PLC. (p. 20). The teacher leader-led PLC model, in particular, is focused on building the capacity of teacher leaders to lead their own PLCs.

**Weaknesses:**

No weaknesses noted.

**C. Strategy to Scale (up to 25 points).**

The Secretary considers the strategy to scale for the proposed project. In determining the strategy to scale for the proposed project, the Secretary considers the following factors:

- (1) The feasibility of successful replication of the proposed project, if favorable results are obtained, in a variety of settings and with a variety of populations.
- (2) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

(Maximum Points 25)

Reader's Score:   20  

**Strengths:**

1. The proposal states that the project aims to scale to 28 schools in 2022. (p. 49). This might provide some level of variation in the schools and students served.
2. The proposal describes several strategies to disseminate broadly what is learned from the project. For example, the proposal states that the project team is active in regional and national conferences. (p. 48). Moreover, the proposal conveys that the project uses several social media platforms, as well as maintaining a website with a portal of project resources. (p. 48). In particular, the website includes project milestones, results, and best practices, as well as project materials. (p. 48). Finally, research results will be submitted to national professional and practitioner journals,

and regional and statewide publications. (p. 48). In particular, the proposal notes that the project will target publications dedicated to issues of rural education. (p. 48).

**Weaknesses:**

1. The extent to which the project will implement and obtain results from varied settings and populations is unclear. For example, as the project scales to 28 schools, it is not evident what the organizational characteristics of those schools are or what populations are served by those schools. This would communicate that the project is intentionally testing the program with different learners in different contexts.
2. No weaknesses noted.

**D. Adequacy of Resources (up to 25 points).**

The Secretary considers the adequacy of resources to be conducted of the proposed project. In determining the adequacy of resources, the Secretary considers the following factors:

- (1) The potential for continued support of the project after Federal funding ends, including, as appropriate, the demonstrated commitment of appropriate entities to such support.
- (2) The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding.

(Maximum Points 25)

Reader's Score:   25  

**Strengths:**

1. The proposal provides some evidence that the project has the potential for continued support beyond the term of the grant. For example, a focus of one of the evaluation plan's research questions is to understand the sustainability of the instructional model. (p. 23). This suggests that sustainability is a focus of the project. In addition, the open educational resources that are developed and tested through the program will be accessible to the field beyond the term of the project.
2. The proposal notes that there is the potential for the incorporation of project components beyond the term of the grant. Implementation teams at the schools are currently using the Design-through-Inquiry framework to plan for application of the instructional model in future innovations in order to improve sustainability. (p. 12). This suggests that this framework has been internalized by some of the partner schools. In addition, the role of the school district teams is to create a plan for

incorporating the program model and professional learning practices into the structure of their school. (p. 51).

**Weaknesses:**

1. No weaknesses noted.
2. No weaknesses noted.