

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

Status: Submitted

Last Updated: 06/14/2019 07:41 AM

## Technical Review Coversheet

Applicant: Educational Service Unit 2 (U411C190184)

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

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	25	25
<b>Quality of Project Design</b>		
1. Project Design	35	35
<b>Adequacy of Resources/Quality of Management Plan</b>		
1. Resources/Management Plan	20	15
<b>Sub Total</b>	<b>80</b>	<b>75</b>
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority</b>		
1. Absolute Priority 3	5	5
<b>Sub Total</b>	<b>5</b>	<b>5</b>
<b>Total</b>	<b>85</b>	<b>80</b>

# Technical Review Form

Panel #18 - EIR Early Phase Tier 1 - 18 - 1: 84.411C

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

Applicant: Educational Service Unit 2 (U411C190184)

## 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:

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

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

### Strengths:

The applicant's proposed project, the ESU 2 EIR EMPOWER (E3) expands delivery of the successful Project Lead the Way computer science curriculum to rural settings for K-12 students. The project is significant in that it builds on three research studies that show the benefits of instructional coaching and mentoring for teacher development and improvement and expands on research related to the impact of increasing student self-efficacy and mentoring for improvement in student performance (pgs e22-e25) . As teacher training has been cited as lacking, the proposed project's alternative has great potential to improve outcomes based on inclusion of such into the components of the program (pg. e25-e27). The proposed strategies represent an exceptional approach to supporting high-need, traditionally underrepresented youth in the target area. Further, the project has the potential to contribute greatly to the current field of knowledge with respect to innovative and effective strategies that improve academic outcomes for high – need students.

### Weaknesses:

No weaknesses noted.

Reader's Score: 25

### 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:

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

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

(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.

**Strengths:**

The proposed project is designed around five (5) very clearly stated goals and objectives which are aligned and measurable (pgs. e28-e31). The goals are ambitious yet attainable and represent a thoughtful approach to meeting the needs of the target population. Specifically, as increasing the STEM/CS experience of students is the overall goal, the activities proposed are designed to ensure attainment of that goal overarching goal. Further, the applicant's theory of change is clearly conceptualized within the high quality, research based Five Principles of Effective Professional Development (pg e114).

The applicant includes ample opportunities for the collection and use of feedback (pg. 36-e38). Leadership team monthly meetings as well as the advisory committee's work with program implementation review, will ensure that data is collected and feedback is provided that will lead to continuous improvement in project processes. Because evaluators will provide site-level and project-wide data reports that will be reviewed in monthly meetings with the Leadership Team the possibility of program refinement and improvement based on those reports, is great. Moreover, instructional coaches will observe and provide feedback to teachers based on previously established goals. It is important to note that the ten coaching experiences to be conducted throughout the year represent sufficient duration for this activity and will allow for feedback that can drive improvement, to be shared often (pg. e35).

**Weaknesses:**

No weaknesses noted. This criterion was thoroughly discussed and my score reflects my professional judgment.

**Reader's Score: 35**

**Selection Criteria - Adequacy of Resources/Quality of Management Plan**

**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:**

- (1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks.**
- (2) The qualifications, including relevant training and experience, of key project personnel.**
- (3) The potential for continued support of the project after Federal funding ends, including, as appropriate, the demonstrated commitment of appropriate entities to such support.**

**Strengths:**

The applicant's management plan includes a capable management team and partners to ensure that the project is carried out in an efficient manner. Duties and responsibilities of key personnel are carefully delineated and will ensure that all facets of the project are implemented on time and within budget. As a commitment to sustaining some project components, the purchasing the on-line resources to support STEM Leadership Academy at the high school is a plus (pg. e42)

**Weaknesses:**

The applicant's timeline (pgs. e38 – e39) does not include details related to activities that will occur during years 2-4 of the grant project. In addition, the applicant's timeline does not clearly depict when the project objectives related to student achievement will be met. The timeline lists activities and when they are to be completed, as well as key personnel responsible for activities but there is no indication of how or when milestones related to academic achievement will be

assessed. It is not clear if the achievement of academic objectives will be assessed yearly or at the end of the 5 -year project.

While the applicant expresses their intent apply for a Mid-Phase EIR grant to build on the lessons learned in the Early-Phase program (pg. e42), there is no clear plan provided that would indicate a commitment to sustain the project beyond or without federal financial assistance. This criterion was thoroughly discussed and my score reflect my professional judgment.

**Reader's Score: 15**

### Priority Questions

#### Competitive Preference Priority - Competitive Preference Priority

1. Within Absolute Priority 3, we give competitive preference to applications that address the following priority:

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

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

**Note: Projects addressing this priority must be administered in a manner consistent with nondiscrimination requirements contained in the U.S. Constitution and Federal civil rights laws.**

#### Strengths:

The applicant proposes to offer computer science courses and mentoring to rural and underrepresented populations. The applicant's plan provides sufficient details related to the inclusion of Project Lead the Way (pg. e129-130) and how the computer science courses will be delivered in order to ensure that access to the rigorous coursework is provided to the target population (pgs. e21 – e28).

#### Weaknesses:

No weaknesses noted.

**Reader's Score: 5**

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**Last Updated:** 06/14/2019 07:41 AM

Status: Submitted

Last Updated: 06/14/2019 08:18 AM

## Technical Review Coversheet

Applicant: Educational Service Unit 2 (U411C190184)

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

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	25	22
<b>Quality of Project Design</b>		
1. Project Design	35	28
<b>Adequacy of Resources/Quality of Management Plan</b>		
1. Resources/Management Plan	20	13
<b>Sub Total</b>	<b>80</b>	<b>63</b>
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority</b>		
1. Absolute Priority 3	5	5
<b>Sub Total</b>	<b>5</b>	<b>5</b>
<b>Total</b>	<b>85</b>	<b>68</b>

# Technical Review Form

Panel #18 - EIR Early Phase Tier 1 - 18 - 1: 84.411C

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

Applicant: Educational Service Unit 2 (U411C190184)

## 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:

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

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

### Strengths:

1) The applicant proposed project has the potential to increase knowledge of an effective strategy to improve student engagement and achievement. The applicant evidences the importance of STEM and associated critical thinking skills in students and lack of opportunities for rural and disadvantaged students unless provided by their schools. The applicant also cites both the small pool of STEM/CS professionals and a lack of teacher training (e25) as a problem, as "traditional ways of teaching aren't always effective when promoting STEM/CS thinking" (e25) won't match up with the state's new mastery requirements (e23). As such, it proposes to implement a four-step approach to "create a districtwide STEM/CS culture designed to improve student engagement and achievement" (e26).

(2) The applicant states that it is building on three existing strategies (instructional coaching for teachers, student self-efficacy, and student mentoring) and cites studies for the premise of each as well as developing one innovative strategy (credit recovery through project-based learning) (e22 & e27).

### Weaknesses:

The applicant repeats the four-step premise three times but fails to expound upon the premises or provide additional rationale for the achievement of its stated aim: improved student engagement and achievement. For example, there is a reference to teachers participating in STEM Leadership Academies (e26) but no details about what that training is, how it will build teaching skills, or result in more STEM/CS experiences for students. Similarly, there is no rationale for how a formalized mentoring program will overcome the stigmas they proclaim students have about STEM/CS (e23).

While proposing an innovative new strategy for credit recovery, the applicant provides little narrative regarding its basis in theory or practice and states only that it will be developed (e26).

Reader's Score: 22

### 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:

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

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

**(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.**

**Strengths:**

(1) The applicant provides charts detailing goals, objectives, and measurable outcomes for the project in a summary format (e28-31). The associated logic model describes a series of inputs and activities that appear closely related to the charts (e33).

(2) The applicant provides a solid conceptual framework for the professional development (PD) of STEM/CS teachers, using principles from the Center for Public Education and based on research, and ties that framework to the state's curriculum requirements (e34-35).

(3) The applicant provides for adequate procedures for ensuring both feedback and a continuous improvement process through the use of a Project Implementation Fidelity Matrix that, using systematic data collection, provides the Leadership Team with reports for monthly review and analysis with the evaluator. In addition, an Advisory Board will review program implementation and help make mid-course corrections, as necessary (e36-37). The matrix is further described as being based on the original i3 Fidelity matrix and this version has been used in ten different USED grants (e46).

**Weaknesses:**

(1) While the applicant provides an extensive series of goals, objectives, and measurable outcomes for the project, there is no accompanying narrative to describe each activity and the relationship between the activities and the achievement of the stated goals. For example, the student self-efficacy goal doesn't state any methodology or instrument to be used. The project-based credit recovery program doesn't exist and no goals, objectives or measurements are stated for this element of the program, even on the logic model found on e114.

Overall, success of the stated goals relies heavily on there being a large number of coaches for teachers and mentors for students. There is no narrative describing how these cohorts will be recruited, trained, or retained.

(2) The framework provided only relates to the teacher professional development and not to any other element. This is a glaring omission of how professional development will create the other outcomes, especially since there is a reliance on creating experiences, mentoring, and project-based learning modules for credit recovery.

(3) The data collection system and even the points assigned via the matrix appear to be more quantitative in nature and measuring effort, as opposed to qualitative in the achievement of outputs and outcomes. The reviewer surmises that this is due to a lack of description of the qualitative aspects or how the monthly and Advisory Board review processes will work.

This criterion was thoroughly discussed and my score reflects my professional judgement

**Reader's Score: 28**

**Selection Criteria - Adequacy of Resources/Quality of Management Plan**

**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:**

- (1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks.**
- (2) The qualifications, including relevant training and experience, of key project personnel.**
- (3) The potential for continued support of the project after Federal funding ends, including, as appropriate, the demonstrated commitment of appropriate entities to such support.**

**Strengths:**

(1) None.

(2) The qualifications, including relevant training and experience, of key project personnel appear to be of high quality and meet the requirements of the proposed program.

(3) The applicant demonstrates that one of the participating school districts has demonstrated sustainability and is currently purchasing the online resources to support STEM Leadership Academy, thereby implying that this service will continue beyond the funding period. The applicant also states that the other participating school district "has committed to" allocate resources to do the same through normal purchasing practices.

**Weaknesses:**

(1) The applicant only provides a timeline of activities and responsible parties for the first year of funding and states that the process will be refined and replicated in the remaining four years. As such, the reviewer cannot ascertain whether the proposed project will be adequately managed throughout the period of federal funding.

The budget section of the document is not entirely readable, as many of the cells were too long for the pace provided and the text is rendered incomplete. Moreover, there are several line items that are not part of the narrative (e.g., Wayne State summer camps for girls (e164)) that raise questions. As such, the reviewer cannot clearly ascertain the adequacy of the resources for the achievement of the proposed project's goals and objectives.

The funding provided for STEM coaching ends after year three and then PLW takes over. As noted previously, there is no narrative support for these activities, so one cannot measure the adequacy of this funding as it relates to the achievement of the stated goals (e167).

At \$25K per year, project evaluation costs seem to be out of alignment with the amount of activity required (e168), raising questions about the adequacy of the resource provided for the accomplishment of this critical objective.

(2) The interim nature of the Project Director (e39) is a concern as there is no listing of qualifications sought for the permanent Project Director and what impact finding and onboarding one will have on the operation of the program or its continuous improvement.

(3) The applicant also states that the Raymond Central school district "has committed to" allocate resources to obtain the STEM Leadership resources through normal purchasing practices but fails to say how this will be memorialized as part of the current or future funding for this program, e.g., MOU or letter of commitment.

The applicant appears to rely on positive research findings to qualify for future EIR awards to sustain the program. The flaw in this premise is twofold: first, that there will be positive findings from an experimental treatment, and second, that EIR funding will be available and that a future application will be selected for an award.

This criterion was thoroughly discussed and my score reflects my professional judgement

Reader's Score: 13

## Priority Questions

### Competitive Preference Priority - Competitive Preference Priority

1. Within Absolute Priority 3, we give competitive preference to applications that address the following priority:

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

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

**Note:** Projects addressing this priority must be administered in a manner consistent with nondiscrimination requirements contained in the U.S. Constitution and Federal civil rights laws.

#### Strengths:

The applicant focuses its efforts in two communities served by rural local educational agencies and one of the participating school districts is comprised of majority minority students. The proposed program seeks to implement district-wide STEM/CS courses, at all grades, over the period of funding, to the participating districts. The applicant states that STEM/CS offerings in both districts are limited (e22).

#### Weaknesses:

None

Reader's Score: 5

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## Technical Review Coversheet

Applicant: Educational Service Unit 2 (U411C190184)

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

	Points Possible	Points Scored
<b>Questions</b>		
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	25	25
<b>Quality of Project Design</b>		
1. Project Design	35	31
<b>Adequacy of Resources/Quality of Management Plan</b>		
1. Resources/Management Plan	20	18
<b>Sub Total</b>	<b>80</b>	<b>74</b>
<b>Priority Questions</b>		
<b>Competitive Preference Priority</b>		
<b>Competitive Preference Priority</b>		
1. Absolute Priority 3	5	5
<b>Sub Total</b>	<b>5</b>	<b>5</b>
<b>Total</b>	<b>85</b>	<b>79</b>

# Technical Review Form

Panel #18 - EIR Early Phase Tier 1 - 18 - 1: 84.411C

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

Applicant: Educational Service Unit 2 (U411C190184)

## 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:

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

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

### Strengths:

This project is highly significant to the increased knowledge of effective strategies of integrating STEM and computer science into the traditional stand alone subject disciplines.

This project develops a professional development model that develops a promising new strategy to transition to STEM integration which has been mandated by the state of Nebraska. (p.e26)

Further this project will provide a highly effective strategy for implementing formalized Computer Science curriculum for K-12 students in Nebraska's rural high needs school districts. (p. e27).

### Weaknesses:

none noted

Reader's Score: 25

### 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:

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

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

**(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.**

**Strengths:**

Excellent clear goals and objectives include student engagement in STEM and Computer science across K-12 curriculum, and the addition of nontraditional experiences to support STEM and Computer Science for female minority, special ed, and Low SES students. (p.e27).

Well outlined charts for each goal, measurement and times are included in the proposal each year of the project duration. (p.e29)

The conceptual framework is based on a professional development model that is based on a well researched coaching model. This model includes at least 50 hours of coaching, training and field-based classroom collaboration, that will ensure that the teaching strategy can be learned and effectively implemented (p. e34).

**Weaknesses:**

The management plan ensures there will be adequate feedback in place and promises a coordination between participants, however there are not details as to what form the feedback procedures are to be administered, and how this information will be disseminated for continued improvement opportunities.(p.e36)

This criterion was thoroughly discussed, and my score reflects my professional judgement.

**Reader's Score: 31**

**Selection Criteria - Adequacy of Resources/Quality of Management Plan**

**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:**

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

**(2) The qualifications, including relevant training and experience, of key project personnel.**

**(3) The potential for continued support of the project after Federal funding ends, including, as appropriate, the demonstrated commitment of appropriate entities to such support.**

**Strengths:**

The projects key personnel have extensive qualifications to provide this innovative professional development project with high quality management procedures. The project director comes from a practitioner background in elementary teaching and special education and has an MS in Technology Integration providing a great background for this curriculum innovation Additionally, content experts in math and science will provide a will aligned curriculum model. (p. e39)

Continued support for the project will come from trained teachers and staff who will present at regional, state and national

education conferences. The curriculum will be disseminated through normal media outlets for Nebraska schools. Additionally, Raymond Central district has committed to sustain the resources moving forward. (p.e42).

**Weaknesses:**

The proposed management plan presents a well thought out detailed chart of specific tasks, responsibilities, and timelines for the 1st years implementation, however it fails to provide the plans for the subsequent years as required by the grant. (p.e38)

This criterion was thoroughly discussed, and my score reflects my professional judgement.

**Reader's Score: 18**

**Priority Questions**

**Competitive Preference Priority - Competitive Preference Priority**

- 1. Within Absolute Priority 3, we give competitive preference to applications that address the following priority:**

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

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

**Note: Projects addressing this priority must be administered in a manner consistent with nondiscrimination requirements contained in the U.S. Constitution and Federal civil rights laws.**

**Strengths:**

Proposal intends to create and implement formalized Computer Science curriculum for K-12 students in Nebraska's rural high needs school districts. (p. e27).

**Weaknesses:**

None noted

**Reader's Score:** 5

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**Status:** Submitted

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