

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

Status: Submitted

Last Updated: 06/14/2019 02:16 AM

Technical Review Coversheet

Applicant: Community Unit School District 60 (U411C190169)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	25	25
Quality of Project Design		
1. Project Design	35	33
Adequacy of Resources/Quality of Management Plan		
1. Resources/Management Plan	20	18
Sub Total	80	76
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority		
1. Absolute Priority 3	5	5
Sub Total	5	5
Total	85	81

Technical Review Form

Panel #17 - EIR Early Phase Tier 1 - 17: 84.411C

Reader #1: *****

Applicant: Community Unit School District 60 (U411C190169)

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 project identifies the issue as a K-12 problem and offers a K-12 strategy. A comprehensive approach spanning multiple grade levels offers an addition to the research field. 26

The proposal is based on a piloted study and seeks to build on statistically significant findings. The proposal seeks to enhance an already identified, viable intervention. 24

The proposal provides a substantial research basis for the project and its potential national significance. The cited research is recent, relevant and from reputable peer-reviewed sources. 30-32

The proposal specifies numerous methods for recording and disseminating research findings. The project team presents a strong plan for sharing results via publications and conferences. 42

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:

The project incorporates a variety of national standards to make the justification for student learning strong. The connection to the national standards allows others to connect the outcomes to their specific educational settings. 21

The teacher participants are able to receive additional credentialing in Computer Science. This provides both a professional incentive and additional options for available course offerings. 25

The project delineates specific outcomes for both practice and higher education partners. The collaboration partners have outcomes specific to their settings, helping to connect student learning more broadly to applications. 28-29

The proposal includes multiple measures of student and participant outcomes. The variety of outcome measures offers the potential for ample evidence to support conclusions. 37

There is a defined structure to oversee the project budget and outcomes. The project design appears well throughout and precise. 37

The combination of STEM subjects provides a comprehensive strategy for addressing student needs and interests. The interdisciplinary connections may be helpful to enhance student engagement through interest based activities. 23

The mixed-methods research study is appropriate for educational settings. Variable within educational settings requires both qualitative and quantitative data sources. 23

The logic model presents a realistic and integrated approach. There are multiple pathways to arrive at each individual outcome. 26

The Research-Practice Partnership Model is recognized as a current and proven process. There is an existing community of practice to support this type of research design. 27

The project employs a cohort model that provides a mechanism for feedback and communities of practice. Cohort models afford ample opportunity to iterate and improve the proposal design. 35

Weaknesses:

Some of the surveys and interview questions do not seem to have been developed at this point. Clarity or completion of these items would help maintain the program timelines. 43

The project does not detail consent and teacher selection. It is essential that the privacy and professional respect of the participants be maintained at the highest level. 35

Reader's Score: 33

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 first year of the project is devoted to planning and preparation. This deliberate and careful approach can support lasting change and student learning. 35

The Evaluation & Timeline Tables are detailed and provide a reasonable project management plan. The level of specificity provides a high confidence level for any project outcomes. 44

The roles and responsibilities for the proposal personal are clearly defined and specific. The likelihood of maintaining project timeliness is high. 38-40

The responsibilities are aligned with qualifications of key personnel. The right people appear to have proper roles and responsibilities. 40

A program evaluation team has been identified. This adds validity to findings and reduces the workload on the project team. 38-39

Weaknesses:

The plan provides numerous opportunities for teachers but requires a significant amount of time outside the workday. An emerging issue in teacher learning surrounds the concept of how to provide embedded professional learning so that more uniform and comprehensive experiences are provided to all staff. 34-35

There is not a funding plan indicated for sustained program implementation. The district and partners could better articulate a long-term plan to make the program part of the general operating budget. 37

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:

The students served represent historically underrepresented students in CS. 22

The reported test scores for the target population demonstrate a high need for robust interventions. 22

The program directly addresses the CS EIR Priority through curriculum and instructional training. 21

Weaknesses:

None noted.

Reader's Score: 5

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Technical Review Coversheet

Applicant: Community Unit School District 60 (U411C190169)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	25	25
Quality of Project Design		
1. Project Design	35	35
Adequacy of Resources/Quality of Management Plan		
1. Resources/Management Plan	20	19
Sub Total	80	79
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority		
1. Absolute Priority 3	5	5
Sub Total	5	5
Total	85	84

Technical Review Form

Panel #17 - EIR Early Phase Tier 1 - 17: 84.411C

Reader #2: *****

Applicant: Community Unit School District 60 (U411C190169)

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:

Applicant identifies a critical educational problem – shortage of STEM-qualified workers – and proposes to increase knowledge of how social-emotional development and STEM (taught by teachers trained in coding and CT) can improve student outcomes and enhance organizational and instructional systems.

Applicant has piloted an effective strategy, Computer Science Engineering Design, in elementary & middle schools, with significant positive results in math performance. The project proposes a well-researched yet innovative strategy, using Technological Pedagogical Content Knowledge to strengthen teacher PD, and to improve existing STEM and CS curricula to implement a CS pathway. Use of co-teaching and model classrooms promises to sustain these strategies.

Weaknesses:

None noted.

Reader's Score: 25

Selection Criteria - Quality of Project Design

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(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 proposal includes a well-defined, structured plan with clear goals, objectives, and measurable outcomes. The plan allows for thoughtful, rigorous planning stage in year 1, which allows evaluation team to refine instruments and collect baseline assessment.

The conceptual framework is based on proven strategies of PCK and CSED pilots. Nice inclusion of research/practice partnerships.

Feedback and improvement steps are incorporated into each year's activities. (p. e36 & e37)

Weaknesses:

None noted.

Reader's Score: 35

Selection Criteria - Adequacy of Resources/Quality of Management Plan

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(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:

A thorough, detailed management plan outlines specific responsibilities and relevant experience for key personnel from each entity in the collaboration. Objectives tie closely to related activities and performance measures, with a precise timeline that details participation for each cohort as well.

Although applicant does not discuss continued support explicitly in this section, sustainability is suggested on p. e34 as a result of teachers gains in CT and coding, and best practices as co-teachers, to become school-wide practices that build sustainability.

Weaknesses:

Although it is implied on p. e36 that monthly training cycles will continue beyond the grant period, it is unclear who will provide funding to continue those training cycles.

Reader's Score: 19

Priority Questions

Competitive Preference Priority - Competitive Preference Priority

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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:

This project will target high-need school district that serves a diverse population. Will expand access to rigorous CS coursework (including CS education, robotics and engineering & design) to up to 10,000 students by developing teacher best practices in computational thinking, and with objective of improving math and science performance.

Weaknesses:

None noted.

Reader's Score: 5

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Technical Review Coversheet

Applicant: Community Unit School District 60 (U411C190169)

Reader #3: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	25	25
Quality of Project Design		
1. Project Design	35	35
Adequacy of Resources/Quality of Management Plan		
1. Resources/Management Plan	20	19
Sub Total	80	79
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority		
1. Absolute Priority 3	5	5
Sub Total	5	5
Total	85	84

Technical Review Form

Panel #17 - EIR Early Phase Tier 1 - 17: 84.411C

Reader #3: *****

Applicant: Community Unit School District 60 (U411C190169)

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:

Applicant's proposed project directly impacts a high number of students and teachers – 10,000 students and 150 teachers (p. e20).

Applicant provides detailed analysis from a pilot student that indicated promising results (p. e23 and e24) while also using existing research from other institutions to bolster their claims.

This project identifies a problem that spans grades K through 12 and proposed a project that addresses grades K through 12 to address the need.

Weaknesses:

None

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 applicant provides details of the content students will be learning in each grade band (p. e28). Elementary grades have an adequate mix of hands-on robotics and unplugged activities combined with screen-based activities.

Goals, objectives, and outcomes are stated in measurable terms in table 6 (p. e36). Several of the objectives, such as increasing student achievement in math and science, link back to the research findings used to justify significance for this project.

The applicant plans to use a variety of feedback measures, such as pre/post tests and observational data, to drive continuous improvement within their project (p. e36).

Weaknesses:

None

Reader's Score: 35

Selection Criteria - Adequacy of Resources/Quality of Management Plan

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- (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 has identified project staff that are sufficiently qualified and have participated in large grants before (such as NSF STEM+C) (p. e38 and e39).

The applicant provides a detailed project timeline which included specific performance measures for each task.

Weaknesses:

The continuation plan on page e36 lacks sufficient detail. The applicant seems to state that the co-teaching cycles and monthly trainings will continue beyond the grant period, but provide no indication of how these activities will be funded and sustained.

Reader's Score: 19

Priority Questions

Competitive Preference Priority - Competitive Preference Priority

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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:

This project clearly focuses on expanding access to and participation in rigorous computer science for traditionally underrepresented students. In this case, rigor is a result of the content and activities described within Table 3 (p. e28). The majority of students served by this project will be from low income families (p. e21).

Weaknesses:

None

Reader's Score: 5

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