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

Technical Review Coversheet

Applicant: San Diego Unified School District (U411C190289)
Reader #1: **********

		Points Possible	Points Scored
Questions			
Selection Criteria			
Significance			
1. Significance		25	25
Quality of Project Design			
1. Project Design		35	32
Adequacy of Resources/Quality of Management Plan			
1. Resources/Management Plan		20	18
	Sub Total	80	75
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority			
1. Absolute Priority 3		5	5
	Sub Total	5	5
	Total	85	80

Technical Review Form

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

Applicant: San Diego Unified School District (U411C190289)

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 proposed to implement an evidence-based Computer Science Implementation Model to support teacher growth and student empowerment in learning computer science (p. 1). This approach has the potential to increase the knowledge and skills of participants in the proposed project in computer science.

   The applicant provides compelling evidence of a shortage of professionals with computer science and coding skills to support the need for the proposed project (p. 2).). For example, computer science jobs are the number one source of new wages in the country, yet there are less than 50,000 students entering the workforce with computer science credentials (p. 2). With the increased demand for graduates with computer science skills, the proposed project addresses a major need and will likely contribute to the increased knowledge of effective strategies in this area.

   With a focus on grades 3-8, the proposed project offers a promising new strategy for computer science implementation that is based upon in-depth professional development, a multi-year computer science curriculum pathway and work-based learning program, along with competency certifications for teachers (p. 4). With the combined activities, there is potential to address the existing need presented by the applicant.

   Weaknesses:

   No weaknesses were 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 applicant includes goals, which all relate to enhancing computer science knowledge and skills (p. 13). The goals are accompanied by objectives and measurable outcomes to add clarity in what the proposed project seeks to accomplish (p. 13).

The applicant includes relevant research to support the approach of the proposed project in improving student outcomes in computer science (p. 10). Real-world connections and exposure to relevant work environments can be particularly helpful for underserved students (p. 10).

A multi-year pathway is more likely to yield results than a single professional development session for teachers or a single course for students (p. 12).

The applicant proposes as three-phase rollout of the project so that feedback can be gathered and used prior to scaling the implementation to a large number of schools (p. 15). Some plans are included to utilize formative feedback to make adjustments to the model and address any necessary issues (p. 16).

Weaknesses:

The applicant does not thoroughly explain the connection between the research and the conceptual framework underlying the proposed project (p. 15).

The schedule for obtaining formative feedback may not be frequent enough to solicit the feedback needed to ensure continuous feedback at various stages of project implementation (p. 15).

Reader's Score: 32

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 division of the proposed project into five phases provides organization in clarity in the overall direction of the project activities (p. 17).

    A detailed work plan is provided with clearly defined responsibilities, timelines, and milestones for accomplishing project tasks (p. 18-22). For example, forming the middle school and elementary school teacher cohorts is one milestone listed in

the management plan. TechSmart and the San Diego Unified School District are responsible for this activity and will work collaboratively to see that it is completed (p. 18).

The applicant outlines the qualifications and relevant experience of key project personnel which shows increased potential for accomplishing project goals (p. 23-25).

The applicant includes a general plan to address sustainability in part with a more knowledgeable and confident group of teachers to support continuing computer science learning in grades 3-8 (p. 26).

Weaknesses:

There is not a plan clearly articulated for how funding for professional development will be sustained after the initial Federal funding ends.

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 applicant proposes to implement an innovative model for building computer science knowledge and skills with a potential to reach over 100,000 students (p. 11).

   Providing meaningful experiences in computer science for both teachers and students can help increase student achievement, as well as interest in computer science and confidence in one's ability to learn skills in computer science (p. 11).

   Weaknesses:

   No weaknesses were noted.

Reader's Score: 5

Status: Submitted

Last Updated: 06/14/2019 10:44 AM

Technical Review Coversheet

Applicant: San Diego Unified School District (U411C190289)
Reader #2:   **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Significance			
1. Significance		25	25
Quality of Project Design			
1. Project Design		35	30
Adequacy of Resources/Quality of Management Plan			
1. Resources/Management Plan		20	18
	Sub Total	80	73
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority			
1. Absolute Priority 3		5	5
	Sub Total	5	5
	Total	85	78

Technical Review Form

Panel #24 - EIR Early Phase Tier 1 - 22: 84.411C

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

Applicant: San Diego Unified School District (U411C190289)

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 proposed project has the capability of increasing knowledge in the areas of teacher training models and student proficiency gains in CS skills. The approach involves implementing the CS curriculum in grades 3-8, focusing on the elementary level. Research on the impact of CS on elementary student CS skill attainment will add to the field of knowledge on the area of CS instruction. The partner organizations have planned to build a replicable model (p. e21), which, if the program is successful, will have a positive impact on other educational settings.

   The implementation is projected in 34 schools, reaching over 10,000 students in grades 3-8 with multiple course offerings and pathways. Students will have access to CS courses and opportunities to develop capacity.

   The proposed project aims to help fill future CS jobs by increasing student interest and engagement in CS. This is meaningful in a district with a diverse population often underrepresented in the CS field.

   The multi-dimensional approach to CS skill attainment, including teacher PD, curriculum development, differentiated instruction, opportunities to obtain competency certifications, and work- based learning opportunities provide a comprehensive approach to increasing student interest and engagement (p. e24).

   The proposed plan provides training for teachers to both learn and teach coding skills. The hands-on approach to teacher PD occurs through an external company in a 'bootcamp' style, rather than one-time sessions or online learning modules that may have less of an impact on teacher competency development (p. e26).

   Weaknesses:

   No weaknesses found.

   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 proposal outlines goals, objectives, and outcomes that align to the identified potential significant impacts of the study. Table 2 (p. e33) provides specific and measurable outcomes for each objective, with rigorous expectations for participation and student performance. For example, goal 2 lists specific and measurable outcomes for each of the four objectives, such as 80% of students scoring 75% of higher on summative assessments.

The project design includes phases of expansion, based on prior year experience and feedback, with the goal of full implementation. The design strategically places more students at the elementary level in the pilot so that they have a larger sample size to evaluate during the middle of the project (p. e35, e36).

The proposed project includes a plan for dissemination of information gleaned as outcomes will be broadly shared with educators via publications, conferences, blogs, and social media.

Weaknesses:

Table 2 does not include baseline data from which to draw evaluative conclusions. For example, goal 1 in Table 2 (p. e33) aims to increase the number of teachers teaching CS to 5% but doe not indicate the current percentage teaching. This hold true for each objective.

The proposal is missing a thoughtful, detailed connection between the research and a conceptual framework.

Reader's Score: 30

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 proposed project is organized into five well defined and explained phases with milestones and job responsibilities worked into them (Table 3, p. e38). The implementation rollout and expansion phases are logical and planned in a manner to provide systematic expansion with continuous feedback for improvement.

The budget narrative (p. e120-e127) is specifically outlined with explanations and a management plan to remain within budget and delineates the in-kind contributions of partnering organizations.

Table 4 (p. e43- e45) provides the qualifications of key personnel assigned to manage the proposed project.

Relevant training and experience of all key personnel within school district is included and supported by reputable organizations such as the University of San Diego, LEGO Education, and Tech Smart.

The funding aspect which includes teacher training will be completed prior to the exhaustion of the funds, in years 2 and 3 (p. e46). After funding ends, district will incur the cost of licensing a CS curriculum for continuation of the project.

Weaknesses:

The proposal does not include a plan to secure additional funding to support future teacher PD for new staffing additions. There also does not appear to be a plan to expand the teacher training in the program to grades 9-12 teachers. The students in grades 3-8 will have had significant exposure to CS skills and the district may benefit from training the teachers in high school on continuing the skill development.

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 program in the proposal was developed to improve access and learning of CS to underserved populations in an urban district. The focus is on elementary students and serves students in grades 3-8. The program expands access to CS for the students in the district and provides access to CS coursework, including certification opportunities (p. e24).

   Weaknesses:

   No weaknesses found.

Reader's Score: 5

Status: Submitted

Last Updated: 06/14/2019 09:55 AM

Technical Review Coversheet

Applicant: San Diego Unified School District (U411C190289)
Reader #3: **********

		Points Possible	Points Scored
Questions			
Selection Criteria			
Significance			
1. Significance		25	22
Quality of Project Design			
1. Project Design		35	30
Adequacy of Resources/Quality of Management Plan			
1. Resources/Management Plan		20	15
	Sub Total	80	67
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority			
1. Absolute Priority 3		5	3
	Sub Total	5	3
	Total	85	70

Technical Review Form

Reader #3: **********
Applicant: San Diego Unified School District (U411C190289)

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 describes a well thought out sequence of activities to introduce computer science concepts in grades 3-8 to students in the schools served through formal classes delivered to all students on an annual basis supported by teacher professional development and a multi-year CS curriculum pathway authenticated with CS micro-credentials (described as "Competency Certification" in the grant application on page 4
   - The proposed grant application presents a compelling five-year plan to introduce a strategy to formalize the introduction of CS classes in schools through a multi-phase, long-term strategy in a large district that has the potential to increase knowledge and opportunities for other schools districts with similar sizes, challenges, and with similar goals.
   - The CS Competency Certifications described on page 8 provide an external validation method to ascertain student and teacher mastery of CS content not typically evaluated through high-stakes assessments.

   Weaknesses:

   - Description for what CS courses or curriculum are currently offered in San Diego schools or similar strategies to introduce new classes in schools serving the targeted grades 3-8 would assist in demonstrating that the proposed strategy either builds on or serves as an alternative to an existing approach.

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:

- Goals 1, 2, 3, and 4 as delineated in Table 2 on pages 13-15 are directly related to the project significance described on pages 4-7 and the project design on pages 12-13.
- The objectives and corresponding outcomes for each goal as delineated in Table 2 on pages 13-15 are clearly specified and measurable and include both participation data (i.e. Outcomes 1A – 1C, 2B:2, 3B:1 -3, 4A, 4C, and 4D), perception data around CS (1D, 2C, 4D), development of products (3A, 4B), and performance data (1D, 2B:1) and addressing the absolute priority (2D).
- The conceptual framework to provide "intense content focused experiences rather than one day generic workshops" described on page 5 followed by formal courses for all students to take and micro-credential certificates for both students and staff lay the foundation for the proposed grant sequence of activities.
- Identification of a curriculum that provides structured opportunities for differentiation as described on page 7 will assist all students gain access to CS knowledge and skills.

Weaknesses:

- Additional procedures should be included to ensure formative feedback is provided with greater frequency beyond "at the end of the pilot year" provided by the research team and at the end of "the three year mark (proximal) and at the end of the five year mark (distal)" described on page 15.

Reader's Score: 30

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 key personnel include the necessary qualifications and relevant training and experience to successfully implement the goals and objectives included in the proposed grant application
- Broad range of support from the participating school district, higher education institutions, industry and non-profit and the city government, specifically from the Mayor's office.
- The management plan detailed on pages 18 – 21 is separated into five phases, one for each year, beginning with a planning phase, pilot phase, and then three expansion phases in years 3-5 of the grant include clearly defined responsibilities for each participating organization and measurable milestones for accomplishing the deliverables.
- The plan presents a clear picture how the project proposal will reach the projected number of 32 schools serving 332 teachers and 10,400 students identified in the abstract through the identification of participating schools and numbers of teachers through each phase of the grant timeline.

Weaknesses:

-        No description is included how the proposed strategies will be expanded to the other schools and students in other school clusters after the Federal funding ends in the sustainability plan on page 26.

-        The budget for the first two years of the proposed grant include an allocation of $271,088 to LEGO for "Implementation Support Services" (Page e122) however LEGO is not included in the Timeline and Management plan on pages 18-21 and it is unclear what services will be provided. It is also unclear why LEGO is budgeted for the first two years and there is no request in years 3-5.

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:**

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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:

-        The grant partially addresses Absolute Priority 3 to improve student achievement in computer science in that one of the outcomes for Goal 2, Objective D is to increase the number of underrepresented students that successfully complete CS courses at each school.

 Weaknesses:

-        Little detail is provided how schools representing traditionally underrepresented students will be intentionally selected to insure Competitive Preference Priority 2 is met given the demographics for the SDUSD described on page 11 is 47% Hispanic and 10% African-American.

Reader's Score: 3

Status: Submitted
Last Updated: 06/14/2019 09:37 AM