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

Technical Review Coversheet

Applicant: Alabama State Department of Education (U411C190267)
Reader #1:   **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Significance			
1. Significance		25	20
Quality of Project Design			
1. Project Design		35	34
Adequacy of Resources/Quality of Management Plan			
1. Resources/Management Plan		20	20
	Sub Total	80	74
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority			
1. Absolute Priority 3		5	5
	Sub Total	5	5
	Total	85	79

Technical Review Form

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

Applicant: Alabama State Department of Education (U411C190267)

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:

    Comment   ePage
    The program examines computational thinking which an established research-based approach is.   23
    The proposal provides a substantial research basis for the project.   20
    The inclusion of the school counseling component is a positive addition to the research base.   21
    The design targets compulsory education programs like introductory algebra. This offers the project a wide array of student access because all students must take this course.   23
    The program is modeled after an existing and tested teacher professional learning program. The professional learning workshop proposed was previously conducted by project leadership.   24-25
    The research basis provided is current and substantial.   45-50

    Weaknesses:

    The program focus is limited to grades 9-12. A more expansive program that considers primary grade computer science literacy may have more long-term benefits.   17

Reader's Score: 20

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 seeks to establish communities of practice to support teacher participants. These communities of practice are intended to help sustain program goals and continue supports for teacher participants.   21

The program builds upon established programs in computer science and computational thinking learning environments.   23-24

The program offers participants additional credentialing options. This adds an incentive to participants and also expands access through additional teachers being certified in computer science. 27

The design allows for control comparisons with students taking a standard algebra course without Bootstrap. The comparison offers an opportunity to see directly the influence of Bootstrap on algebra performance. 27-28

The participant surveys and outcome measures are specified. This level of detail helps provide a more validated research design. 43

Weaknesses:

The program does not specify consent protocols. It is essential that the privacy and professionalism of all participants is overtly addressed.   27

Reader's Score: 34

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 program has identified an outside evaluation team. The outcomes will be measured by an independent auditor.   35

The program partners have existing expertise and resources in in-service professional learning. The collaboration involves many experienced personnel and agencies. 26

The program provides a respectful stipend for teacher participants. This honors the professionalism of the teacher participants.   29

The project team offers diverse and significant expertise. The team is comprised of academics, regional experts, and state agents. 33-35

The project has support from the highest levels of state government. The plan is endorsed by the state superintendent of education and the governor.   70-71

The project is receiving funding from the state government for EIR phase. This lends credence to continued support after initial funding.   88

Weaknesses:

None noted.

Reader's Score: **20**

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 focuses on students historically underrepresented in computer science.   20
    The stated program goal is to increase student computer science achievement. The curriculum and professional learning opportunities should support this goal.   30

    Weaknesses:

    None noted.

Reader's Score: **5**

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Status: Submitted
Last Updated: 06/14/2019 02:32 AM

Technical Review Coversheet

Applicant: Alabama State Department of Education (U411C190267)
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	15
	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 #2:   * * * * * * * * * *

Applicant: Alabama State Department of Education (U411C190267)

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 compelling need to develop a more diverse CS and STEM workforce with students from high-need rural communities. Project seeks to increase understanding of strategies that strengthen CS participation, content knowledge and career awareness of rural students.

    Applicant proposes a new approach to address the problem of low participation by rural students in CS. They will develop and blend existing strategies, i.e. infuse algebra with Bootstrap, provide rigorous CS curriculum, involve counselors in CS training, a positive addition to the research base. Applicant cites a sound body of evidence on the promise of using Bootstrap to teach algebra concepts.

    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:

Each goal – establish/expand CS pathways, prep teachers and counselors, increase student CS success – is clearly aligned with detailed, appropriate objectives and measureable outcomes. Milestones are identified. Additionally, implementation level activities are explained, which demonstrates a thorough understanding of preparation involved to launch the project.

The conceptual framework for PACS is well-defined and demonstrates a thoughtful researched approach to achieving the long-term outcomes and goals for this project.

The plan to incorporate feedback to ensure continuous improvement is thorough and detailed with frequency and tools. An advisory committee includes national leaders with expertise in relevant subjects, and have already provided letters of commitment.

Weaknesses:

None noted.

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 management plan appears fully adequate to accomplish project objectives, Personnel are assigned clear responsibilities for activities appropriate for their roles.

    The PACS leadership team is well-qualified to conduct this project, with deep experience in STEM and CS education, mathematics teaching, and evaluation.

    Weaknesses:

    A timeline is not provided to demonstrate the schedule for activities outlined in Table 2, p. e30-e32. Cohorts are identified, but their activities are not tied to an actual timeline.

    Applicant does not discuss ideas on how to sustain PACS after federal funding ends.

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:

   PACS aims to expand access to CS curriculum and opportunities to rural students. The project will improve student outcomes in computer science through rigorous coursework, adding technology-based approach to algebra, and building CS pathway in Alabama.

   Weaknesses:

   None noted.

Reader's Score: 5

Status: Submitted
Last Updated: 06/13/2019 07:52 PM

Status: Submitted
Last Updated: 06/14/2019 08:00 AM

Technical Review Coversheet

Applicant: Alabama State Department of Education (U411C190267)
Reader #3:   **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Significance			
1. Significance		25	20
Quality of Project Design			
1. Project Design		35	35
Adequacy of Resources/Quality of Management Plan			
1. Resources/Management Plan		20	17
	Sub Total	80	72
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority			
1. Absolute Priority 3		5	5
	Sub Total	5	5
	Total	85	77

Technical Review Form

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

Applicant: Alabama State Department of Education (U411C190267)

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 identifies and develops the problem of preparatory privilege in relation to computer science education and then proposes solutions which directly address this problem by increasing access and participation in some of the less privileged communities in the state.

   The applicant details a dissemination plan that lists the ACM SIGCSE conference as one of the main places the project team will be focusing on when sharing information. This is a significant national conference and an appropriate place to share the activities and findings of the proposed project with the broader research community, therefore contributing to increased knowledge of CS education.

   Weaknesses:

   The applicant is using a combination of curricula (Bootstrap, ECS, UTeach CSP) and structures (CS PD Week) that already exist. While the CS PD Week would be state-specific instead of nationwide, this change does not meet the threshold of innovation desired from projects.

Reader's Score: 20

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 a detailed explanation of goals, objectives, and outcomes in Table 2 (p. e30 to e33). The measures in this table are relevant to the project objectives and reasonably stated.

The applicant details a specific recruitment plan and intends to include stipends. This lends credibility to the idea that they could accomplish the goals set forth in this proposed project.

The applicant provides an explanation of how feedback and continuous improvement will be enacted throughout the duration of the project through continuous tracking against project goals and proactive adjustments as needed (p. e36). Additionally, the project will have an advisory committee to help give feedback on the project activities (p. e37).

The applicant supplies a high-quality logic model diagram that includes inputs, activities, outputs, short-term outcomes, mid-term outcomes, and long-term outcomes (p. e83).

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 project team has been identified and have sufficient qualifications. Since the proposed project is focused on professional development, it is good to see that several members of the team have experience in computer science professional development.

   The applicant discusses dissemination in detail (p. e37) and the state government is contributing a significant amount of money to this project. These two items provide confidence that the project materials will be shared and the project activities are likely to continue after federal grant funding has ended.

   Weaknesses:

   The timeline of the project was unclear. Milestones described were linked to cohorts, but because the training for cohorts differed (Bootstrap and AP CSP had one summer training while ECS had training for two separate summers), it was very difficult to understand what activities were happening and when.

Reader's Score: 17

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 high-quality computer science curriculum utilized (Bootstrap, ECS, and UTeach CS). The majority of students served by this project will be from Title I schools in rural areas.

   Weaknesses:

   None

Reader's Score: 5

Status: Submitted
Last Updated: 06/14/2019 08:00 AM