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

Technical Review Coversheet

Applicant: Education Development Center, Inc. (S411C200074)
Reader #1:   **********

		Points Possible	Points Scored
Questions			
Selection Criteria			
Quality of Project Design			
1. Quality of Project Design		40	33
	Sub Total	40	33
Resources and Quality of Management Plan			
Resources and Quality of Management Plan			
1. Resources and Management		35	32
	Sub Total	35	32
Selection Criteria			
Quality of the Project Evaluation			
1. Project Evaluation		25	23
	Sub Total	25	23
Priority Questions			
CPP			
Competitive Preference Priority 1			
1. Computer Science		5	5
	Sub Total	5	5
	Total	105	93

Technical Review Form

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

Applicant: Education Development Center, Inc. (S411C200074)

Questions

Selection Criteria - Quality of Project Design

1. **The Secretary considers the quality of the design of the proposed project based on the following factors:**

Reader's Score: 33

Sub

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

    Strengths:

    The goals, objectives, and outcomes of the proposal are articulated with clarity, as are the proposed methods of measuring the outcomes (p. e19-e25).

    Weaknesses:

    No evidence of weaknesses

    Reader's Score: 10

2. **(2) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.**

    Strengths:

    The proposal clearly describes the needs of the target population: delving deeper into school-level supports necessary to grow rigorous CS courses serving high proportions of high-needs students (p. e25-e27).

    Weaknesses:

    While the proposal describes some aspects of the criteria it will use to recruit districts and schools, it does not provide thresholds for "high schools with substantial populations of high-need students" (p. e24). Further, recruiting schools currently using a non-BJC AP CSP curriculum (p. e39) represents a very different implementation challenge than recruiting schools with no AP CSP program at all. The latter is by far more common nation-wide, and that should be the program's target.

    Reader's Score: 6

3. **(3) The extent to which the design of the proposed project reflects up-to-date knowledge from research and effective practice.**

Sub

Strengths:

The literature review motivates the school CS equity program, the teacher learning program, and the use of BJC with up to date knowledge from research and effective practice (p. e27-e30).

Weaknesses:

The literature review does not sufficiently motivate the need for a Spanish translation of BJC (p. e27-e30). It is not clear if the project staff found schools and districts that expressed interest in materials supporting a Spanish-language version of the curriculum, or Spanish-speaking, bilingual-certified teachers expressed interest in the intensive teacher PD commitment of BJC.

Reader's Score: 9

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

Strengths:

While BJC has shown impressive results in its NYC work with schools, that project was all are set within the particular context of NYCDOE. The proposed project would tackle and find effective strategies address to the variation of implementation challenges the team would meet when implementing their program in 15-25 districts and 40 schools in a variety of districts, allowing for much broader scaling and testing of the combination of curriculum, professional development, and organizational supports (p. e30-e31).

Weaknesses:

I am not convinced this project will build substantial additional knowledge above and beyond the learning BJC has already accomplished in NYC.

Reader's Score: 8

Resources and Quality of Management Plan - Resources and Quality of Management Plan

1. **The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project based on the following factors:**

Reader's Score: 32

Sub

1. **(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.**

Strengths:

For most factors the management plan was adequately described and connected to the key project tasks (p. e33).

Weaknesses:

The management plan and other parts of the proposal did not adequately describe the Spanish-language PD, the year-end seminar, or the Leadership Academy. It is not clear whether the Spanish-language PD and year-end seminar would be online or in person events, nor how extensive would they be. For the Leadership Academy, how do its goals ("provid[ing] an additional mechanism to increase capacity at the school, district, and regional level to

strengthen implementation and sustain program improvements", p. e22) fit in with the goals and timeline of the current proposal? Would these teachers be offered further supports?

Reader's Score: 9

2. **(2) The extent to which the costs are reasonable in relation to the objectives, design, and potential significance of the proposed project.**

   Strengths:

   Providing two years of intensive support—both at the building/district level and in the classroom—for implementing the rigorous BJC curriculum in 40 schools across 15-25 districts is a deep investment into a computer science instructional program aiming at equity (p. e34).

   Weaknesses:

   ~$100,000 per school is a high cost. If an average of 60 students are served per school (p. e39), this comes to ~$1,667 per student—also a high cost.

   Reader's Score: 3

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

   Strengths:

   Key personnel demonstrate expertise in 9-12 computer science education, collaboration and change management with teachers, schools, and districts, teacher professional learning, and formative and impact evaluation (p. e31-e32).

   Weaknesses:

   No evidence of weaknesses.

   Reader's Score: 5

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

   Strengths:

   EDC and their partners' approach to continuous improvement outlined in the proposal demonstrates thoughtfulness and flexibility to conditions on the ground. Further, the existing BJC community's ongoing engagement in innovations to the program show a proven track record (p. e34-e35).

   Weaknesses:

   No evidence of weaknesses.

   Reader's Score: 10

5. **(5) The extent to which the results of the proposed project are to be disseminated in ways that will enable others to use the information or strategies.**

   Strengths:

   The BJC curriculum and implementation supports are freely available online. The project team's record of engagement with K-12 CS organizations and their dissemination plans promise the results of this project will be disseminated widely and effectively (e35-e36).

Sub

Weaknesses:

No evidence of weaknesses

Reader's Score: 5

Selection Criteria - Quality of the Project Evaluation

1. **The Secretary considers the quality of the evaluation to be conducted of the proposed project based on the following factors:**

Reader's Score: 23

Sub

1. **(1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards with or without reservations as described in the What Works Clearinghouse Handbook (as defined in this notice).**

    Strengths:

    The evaluation methods, if well implemented, will likely credible produce evidence about the program's effectiveness (p. e38-e40).

    Weaknesses:

    If available, it would have been helpful for the proposal to provide information on the numbers of additional students enrolled in AP CSP, taking the exam, and passing the exam found in the NYC pilot, as context for the preliminary MDES provided here (p. e39-e40).

    Reader's Score: 14

2. **(2) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.**

    Strengths:

    The logic model and implementation evaluation clearly articulate the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation (p. e40-e42).

    Weaknesses:

    No evidence of weaknesses.

    Reader's Score: 5

3. **(3) The extent to which the methods of evaluation will provide valid and reliable performance data on relevant outcomes.**

    Strengths:

    The proposed measures for program outcomes are for the most part valid and reliable (p. e24).

Sub

Weaknesses:

I am concerned that some districts and schools may not keep accurate data about course enrollment, harming the validity and reliability of this data source (p. e24). Further, the source of the mediator measures is not clear.

Reader's Score: 4

Priority Questions

CPP - Competitive Preference Priority 1

1. Competitive Preference Priority 1: Computer Science

Projects designed to improve student achievement or other educational outcomes in computer science (as defined in this notice). These projects must address the following priority area: Expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students such as racial or ethnic minorities, women, students in communities served by rural local educational agencies (as defined in this notice), children or students with disabilities (as defined in this notice), or low-income individuals (as defined under section 312(g) of the Higher Education Act of 1965, as amended).

Strengths:

BJC has an excellent track record in expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students. The current proposal is a model of engaging collaborative with schools and districts to tackle these challenges in a long-term, sustainable way (e15).

Weaknesses:

No evidence of weaknesses.

Reader's Score: 5

Status: Submitted
Last Updated: 10/30/2020 01:28 PM

Technical Review Coversheet

Applicant: Education Development Center, Inc. (S411C200074)
Reader #2: **********

	Points Possible	Points Scored
Questions		
Selection Criteria		
Quality of Project Design		
1. Quality of Project Design	40	36
Sub Total	40	36
Resources and Quality of Management Plan		
Resources and Quality of Management Plan		
1. Resources and Management	35	34
Sub Total	35	34
Selection Criteria		
Quality of the Project Evaluation		
1. Project Evaluation	25	21
Sub Total	25	21
Priority Questions		
CPP		
Competitive Preference Priority 1		
1. Computer Science	5	5
Sub Total	5	5
Total	105	96

Technical Review Form

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

Applicant: Education Development Center, Inc. (S411C200074)

Questions

Selection Criteria - Quality of Project Design

1. The Secretary considers the quality of the design of the proposed project based on the following factors:

Reader's Score: 36

    Sub

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

   Strengths:

   This study builds upon extensive prior implementation – surpassing the levels typically completed prior to an early phase proposal – and has extremely detailed and clear goals, objectives, and outcomes.

   Weaknesses:

   None observed

   Reader's Score: 10

2. **(2) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.**

   Strengths:

   This project is able to identify specific needs of the target population, ways in which prior iterations have fallen short (e.g., Spanish-language offerings, e22) but will be addressed in the proposed study. It provides specific conceptual orientations that will make the content of computer science more interesting to its target population (e.g., emphasizing social purpose and creative elements, e27). It provides evidence of the success of earlier implementations in increasing participation by the target population of girls, Black, and Latinx students.

   Weaknesses:

   None observed

   Reader's Score: 10

3. **(3) The extent to which the design of the proposed project reflects up-to-date knowledge from research and effective practice.**

Sub

Strengths:

The project proposes to use a professional development process that takes advantage of learning theory in regards to both timing (just-in-time PD offered prior teaching new content) and in building in cycles of learning whereby topics are introduced in initial PD sessions and the revisited in greater depth during the school year. The project recognizes and seeks to respond to barriers to implementation that exist at multiple levels within schools (e28). It recognizes that social factors shape interest (e29) and should be addressed directly.

Weaknesses:

None observed

Reader's Score: 10

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

   Strengths:

   The proposed project would provide insight into some detailed refinements of what is currently known about effective strategies for improving participation and success in CS for the target population.

   Weaknesses:

   The project is building upon an extensive base of learning about implementation barriers and supports and demonstration of the impacts of the intervention. For an early-phase application, the result is that the potential upside of a developmental grant is not especially large. This proposal could arguably be a mid-phase proposal, drawing upon more rigorous research designs, since the specific learning proposed here is ultimately a modest evolution of what has already been learned from earlier contributions to the field.

   Reader's Score: 6

Resources and Quality of Management Plan - Resources and Quality of Management Plan

1. **The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project based on the following factors:**

Reader's Score: 34

   Sub

   1. **(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.**

      Strengths:

      Consistent with some of the existing partnerships and prior work in this area (e34), the management plan provides detail about responsibilities that have been agreed upon by all partners (e32) and provide good detail about specific timelines and milestones. The management plan for this project benefits from the clarity in what the project wants to accomplish and the specific (and interrelated) processes for achieving its goals.

Sub

> **Weaknesses:**

None observed

Reader's Score: 10

2. **(2) The extent to which the costs are reasonable in relation to the objectives, design, and potential significance of the proposed project.**

> **Strengths:**

This project takes advantage of a curriculum that is freely available and partners who are in a very good position to extend this curriculum beyond this study.

> **Weaknesses:**

None observed

Reader's Score: 5

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

> **Strengths:**

Key project personal have exemplary experience for supporting the project as described, based both upon technical qualifications and direct experience with the curriculum.

> **Weaknesses:**

None observed

Reader's Score: 5

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

> **Strengths:**

The project incorporates multiple opportunities at multiple levels of engagement (e.g., teachers, teacher teams, school administrators, district administrators) to solicit feedback on implementation and effects and build in opportunities to refine the work of the project. The project design itself contributes substantially to the potential for learning from participants' experiences.

> **Weaknesses:**

One goal of this project is to increase engagement of the target population, but there is little detail on the experiences of those recruited into the course (and those who chose not to take the course). There is a plan for teachers to provide a self-assessment on recruitment (e20) and for teachers and administrators to review the recruitment toolkit (e35). A stronger proposal would include descriptions of direct opportunities for students to provide feedback.

Reader's Score: 9

5. **(5) The extent to which the results of the proposed project are to be disseminated in ways that will enable others to use the information or strategies.**

Sub

Strengths:

The proposal included detailed timelines for dissemination, multiple specific venues for dissemination, a wide range of more and less formal channels for dissemination, and existing connections to schools currently using the BJC curriculum.

Weaknesses:

None observed

Reader's Score: 5

Selection Criteria - Quality of the Project Evaluation

1. **The Secretary considers the quality of the evaluation to be conducted of the proposed project based on the following factors:**

Reader's Score: 21

Sub

1. **(1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards with or without reservations as described in the What Works Clearinghouse Handbook (as defined in this notice).**

Strengths:

The proposal uses an appropriate research design and has identified many of the key variables that will help to ensure an effective evaluation.

Weaknesses:

The motivation for schools to use the BJC intervention or to use other interventions may differ between the treatment and control schools, given the non-random nature of their assignment. Treatment schools that are interested in substituting BJC for their current non-BJC curricula (e39) may differ from other schools that accept non-BJC curricula because they are in some ways dissatisfied with it. Thus, control schools (non-BJC curricula) will include those that never tried non-BJC curricula and those that did and thought it didn't work well enough to keep using it.

It would be helpful to have some measure of motivation or reflection on experience with existing curricula.

Reader's Score: 13

2. **(2) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.**

Strengths:

The evaluation includes very specific objectives and indicators,and has high thresholds for key program components (e.g., 100% attendance, e42).

Sub

Weaknesses:

Table 5 (e37) refers to outcomes evaluation being conducted in a sample of BJC treatment schools, but an analysis for each BJC school. The sampling of schools is not clear.

The connection to an enhanced school climate (e41, logic model) is not clear. The proposal does not indicate how the intervention is expected to enhance school climate, or whether is relates to the climate specifically around CS.

Reader's Score: 4

3. **(3) The extent to which the methods of evaluation will provide valid and reliable performance data on relevant outcomes.**

Strengths:

The proposed evaluation is based upon existing and well-regarded measures. These are also very specifically aligned with the intention of the project (i.e., test-taking and passing).

Weaknesses:

The self-efficacy measure (e25, 230) is not specified.

Reader's Score: 4

Priority Questions

CPP - Competitive Preference Priority 1

1. **Competitive Preference Priority 1: Computer Science**

   Projects designed to improve student achievement or other educational outcomes in computer science (as defined in this notice). These projects must address the following priority area: Expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students such as racial or ethnic minorities, women, students in communities served by rural local educational agencies (as defined in this notice), children or students with disabilities (as defined in this notice), or low-income individuals (as defined under section 312(g) of the Higher Education Act of 1965, as amended).

   ### Strengths:

   This project is perfectly aligned with expanding access to and participation of underrepresented students in AP CS courses.

   ### Weaknesses:

   None observed

Reader's Score: 5

Status: Submitted
Last Updated: 10/30/2020 04:28 PM

Technical Review Coversheet

Applicant: Education Development Center, Inc. (S411C200074)
Reader #3: **********

	Points Possible	Points Scored
Questions		
Selection Criteria		
Quality of Project Design		
1. Quality of Project Design	40	34
Sub Total	40	34
Resources and Quality of Management Plan		
Resources and Quality of Management Plan		
1. Resources and Management	35	31
Sub Total	35	31
Selection Criteria		
Quality of the Project Evaluation		
1. Project Evaluation	25	21
Sub Total	25	21
Priority Questions		
CPP		
Competitive Preference Priority 1		
1. Computer Science	5	5
Sub Total	5	5
Total	105	91

Technical Review Form

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

Applicant: Education Development Center, Inc. (S411C200074)

Questions

Selection Criteria - Quality of Project Design

1. The Secretary considers the quality of the design of the proposed project based on the following factors:

Reader's Score: 34

Sub

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

   Strengths:

   The grant proposal provides clear goals, objectives and outcomes that are aligned, logical in nature, and measurable. (e19-e23)

   Weaknesses:

   No weaknesses noted.

   Reader's Score: 10

2. **(2) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.**

   Strengths:

   The national level research presented provides a logical argument and intervention for the need identified in the grant application. (e25-e28)

   Weaknesses:

   Additional detail is needed to understand how students will be recruited into these programs. For example, the grant application could supply a listing of motivators that will be provided for students of the target population The proposal could consider different motivators for the target population versus non-targeted populations of students. Finally, the grant proposal would be strengthened by further defining the "high need" and specifically outlining the number of "low income" schools. (e25-e28)

   Reader's Score: 7

3. **(3) The extent to which the design of the proposed project reflects up-to-date knowledge from research and effective practice.**

Sub

Strengths:

The grant proposal provided many resources on effective practices surrounding the grant's most high-level intervention strategies. The strategies appear to be well supported through relevant research. (e27-e28)

Weaknesses:

No weaknesses noted.

Reader's Score: 10

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

Strengths:

The grant proposal's program appears to supply a novel practice that could further the knowledge of some areas of STEM and Computer Science. (e30)

Weaknesses:

The suggested program appears to already have substantial data to support its effectiveness, which reduces its overall level of innovation. The suggested activities surrounding professional development do not appear to be innovative, are found in previous studies, and do not add to the potential understanding of issues surrounding CS. (e30)

Reader's Score: 7

Resources and Quality of Management Plan - Resources and Quality of Management Plan

1. **The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project based on the following factors:**

Reader's Score: 31

Sub

1. **(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.**

Strengths:

The grant proposal includes critical elements of the management plan that support the grant activities, while calling out specifically responsibilities, timelines and milestones. (e33)

Weaknesses:

Within the management plan some of the activity elements could be more detailed in nature, for example going in to specific details on items like "refine CS Equity". This lack of detail results in the reviewer not being able to fully assess the merits of individual activities. (e33)

Reader's Score: 9

2. **(2) The extent to which the costs are reasonable in relation to the objectives, design, and**

potential significance of the proposed project.

Strengths:

The grant proposal provides adequate details regarding specific funded elements that allow the reviewer to access the overall and reasonable costs of the program. (e34)

Weaknesses:

The costs for the overall project appear to be high for the underlying elements of providing professional development to educators. (e34)

Reader's Score: 3

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

Strengths:

The management team appears to be comprised of knowledgeable personnel who have expertise in critical areas of the grant proposal. (e31-e33)

Weaknesses:

No observed weaknesses.

Reader's Score: 5

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

Strengths:

The grant proposal provides various strategies, including designated timing for grant review, for ensuring continual improvement through the grant cycle which will ensure the activities are completed on time and iterative in nature. (e35)

Weaknesses:

It would be helpful to know exactly how often check-ins with educators will take place to understand how the continuous learning model will be supported. (e35)

Reader's Score: 9

5. **(5) The extent to which the results of the proposed project are to be disseminated in ways that will enable others to use the information or strategies.**

Strengths:

The grant application provides numerous effective strategies such as social media and traditional forms of communication to disseminate the findings of this grant with other practitioners. (e36)

Weaknesses:

No observed weaknesses.

Reader's Score: 5

Selection Criteria - Quality of the Project Evaluation

1. **The Secretary considers the quality of the evaluation to be conducted of the proposed project based on the following factors:**

Reader's Score: 21

Sub

1. **(1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards with or without reservations as described in the What Works Clearinghouse Handbook (as defined in this notice).**

   Strengths:

   The grant proposal provides information on critical elements of the grant evaluation that provide insight into the evaluation and meets various elements of WWC standards. (e36-40)

   Weaknesses:

   The grant proposal does not clearly establish how schools will be selected and how the differences in school variables will be accounted for during the evaluation. Further detail on this information would ensure evidence produced in the evaluation meets WWC. (e37-e38)

   Reader's Score: 14

2. **(2) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.**

   Strengths:

   The key metrics for acceptable implementation are clearly presented, in line with strategies, and acceptable thresholds for implementation. (e42)

   Weaknesses:

   The grant proposal mentions mediators as they relate to outcomes, however, without additional details on each mediator, it is difficult to fully evaluate their alignment. (e41)

   Reader's Score: 4

3. **(3) The extent to which the methods of evaluation will provide valid and reliable performance data on relevant outcomes.**

   Strengths:

   The grant proposal provides a cursory overview of its attempts to ensure validity and reliability. (e40)

   Weaknesses:

   The grant application acknowledges validity and reliability, but it does not go into sufficient detail on explaining how it will fully ensure both elements. Without such detail, the evaluator is unable to ensure both will be met within the proposal. (e40)

   Reader's Score: 3

Priority Questions

CPP - Competitive Preference Priority 1

1. Competitive Preference Priority 1: Computer Science

Projects designed to improve student achievement or other educational outcomes in computer science (as defined in this notice). These projects must address the following priority area: Expanding access to and participation in rigorous computer science coursework for traditionally underrepresented students such as racial or ethnic minorities, women, students in communities served by rural local educational agencies (as defined in this notice), children or students with disabilities (as defined in this notice), or low-income individuals (as defined under section 312(g) of the Higher Education Act of 1965, as amended).

Strengths:

The grant application provides rigorous coursework in the form of an AP course to under-represented populations as defined by the competitive preference priority.

Weaknesses:

No applicable weaknesses.

Reader's Score: 5