

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

Status: Submitted

Last Updated: 06/12/2019 09:47 AM

Technical Review Coversheet

Applicant: Touro College (U411C190279)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	25	25
Quality of Project Design		
1. Project Design	35	25
Adequacy of Resources/Quality of Management Plan		
1. Resources/Management Plan	20	15
Sub Total	80	65
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority		
1. Absolute Priority 3	5	5
Sub Total	5	5
Total	85	70

Technical Review Form

Panel #20 - EIR Early Phase Tier 1 - 21: 84.411C

Reader #1: *****

Applicant: Touro College (U411C190279)

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 the basic elements of computer coding as algorithm, sequence, loop, branch and debug on page 1. The applicant goes on to propose that these early STEM skills can be taught to Kindergarten students by utilizing rhythm and music related activities. This represents a promising new strategy that deviates from existing strategies by approaching STEM skills with Kindergarten students.

This is a novel approach to issues of early numeracy skills and basic elements of computer coding. The applicant acknowledges the need for appropriate teacher training to address the challenges and discomfort elementary teachers report when teaching math and science. If the approach can successfully overcome this discomfort, it has a great potential to make a significant contribution to an important educational problem.

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 applicant presents clear goals and objectives on page 5 and 6 of the proposal. The outcomes to be achieved are clear and in measurable terms.

The applicant proposes to develop a professional development curriculum based on direct instruction as well as constructivist teaching strategies. This is an appropriate approach to professional development given the proposed research.

There is a clear logic model guiding this project presented in Appendix G.

The proposed project will build on the conceptual framework that has been established by previous work of others who have studied early mathematics skills and the use of alternative instructional methods.

The proposed weekly meetings during the first year of the project will help to ensure that the goals and objectives are being reached and appropriate adjustments are being made.

Weaknesses:

The logic model in Appendix G indicates that participating teachers will undergo one full day workshop. The applicant is encouraged to identify the assumptions and prior knowledge teachers bring to that workshop in order that they may successfully prepare for the research project.

The applicant is encouraged to explain how the project will continue to realize if it's on track to reach the goals and objectives and make continuous improvements during years two through five when the weekly meeting cease at the end of year one.

Reader's Score: 25

Selection Criteria - Adequacy of Resources/Quality of Management Plan

1. The Secretary considers the adequacy of resources and the quality of the management plan for the proposed project. In determining the adequacy of resources and quality of the management plan for the proposed project, the Secretary considers the following factors:

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

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

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

Strengths:

The applicant provides a table on pages 5 through 8 that provides the project's goals, objectives, and timeline. The information in Table 1 suggests that the project will achieve its objectives on time and within budget.

The key personnel are highly qualified to carry out the proposed project. Their roles and responsibilities are clearly stated in table 1 on pages 5 through 8. Each of the key personnel have provided resumes in Appendix B.

The applicant provides letters of support in Appendix C that indicate the applicant has collaborative partners that will help to ensure the success of the project and the successful dissemination of its findings when complete.

Weaknesses:

The applicant did not address the sustainability of the project beyond the funding cycle.

Reader's Score: 15

Priority Questions

Competitive Preference Priority - Competitive Preference Priority

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

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

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

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

Strengths:

This approach may expand access to and participation in rigorous computer science by developing a foundation for early learners in the fundamental elements of computer coding; algorithm, sequence, loop, branch, and debug using rhythm and music.

Weaknesses:

No weaknesses were found

Reader's Score: 5

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Technical Review Coversheet

Applicant: Touro College (U411C190279)

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	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

Panel #20 - EIR Early Phase Tier 1 - 21: 84.411C

Reader #2: *****

Applicant: Touro College (U411C190279)

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:

An excellent case for supporting the proposed project is clearly described and supported with cited research. The applicant advises the program will be scalable and will include curriculum and teacher professional development for high-need kindergarten students in rural and high-need urban school districts. The target population, high need, is nicely defined (pp. e27-30). The applicant further advises the proposed project is intended to improve math, music and computational thinking instruction in kindergarten.

A particular strength is the project's focus on improving mathematics and computational thinking. As defined in education, computational thinking is a set of problem solving methods that involve finding solutions in ways similar to what a computer can execute. A key element of STEM instruction is a focus that includes computational thinking that allows students to practice problem solving. This is a critical issue; as, United States students are behind globally with regard to problem solving and critical thinking. An additional strength is the targeting of kindergarten students. Human beings learn rapidly between the ages of zero to six. Exposing kindergartners to a curriculum such as the applicant is proposing is advantageous. The proposed project has the potential to greatly increase knowledge or understanding of this critical educational issue.

As described, the project proposes to innovatively "utilize rhythm and music notation activities to address early numeracy skills and the basic elements of computer coding-algorithm, sequence, loop, branch, and debug." An added caveat is the applicant's intention to address social and emotional learning (p. e30)A pilot testing process that "involves developing content, identifying assessments, planning technology tools, and testing lessons with each cycle" is envisioned (p. e27). It is considered the proposed project involves the development of a promising new strategy that is an alternative to existing strategies.

Weaknesses:

N/A

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:

Three project goals with corresponding objectives and outcomes are provided in a beautifully detailed table (pp. e31-34). The table includes a timeline and all goals, objectives and outcomes are clearly specified and measurable.

A Logic Model is presented in Appendix G (p. e99). The Logic Model presents a nice program framework illustrating how the proposed project is expected to progress. Citing research, the applicant discusses the research and theory supporting the development of the new strategy (pp. e35-40). Together the Logic Model and discussion explain why the proposed strategy is a good solution to the targeted problems and present a sound plan of action. There is a good quality conceptual framework underlying the proposed research or demonstration activities.

The applicant proposes several strategies for providing feedback and continuous improvement in the operation of the proposed project. Proposed strategies include weekly meetings during the project's first year, using multiple data sources to analyze student, teacher and project performance, expert examinations and discussions during bi-monthly meetings the first year, and the use of an external evaluator (p. e40). The use of an external program evaluator is a strength; as, external program evaluators are unbiased and are experienced at evaluating programs. Additionally, they mitigate conflicts of interest. Qualitative methods are briefly described with additional information, including the quantitative methods, provided in the evaluation section of the proposal. The procedures for ensuring feedback and continuous improvement in the operation of the proposed project are well described and are considered more than adequate.

Weaknesses:

Too many assumptions are made regarding teachers' prior knowledge. A one day workshop is not considered sufficient to adequately prepare the teachers.

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:

It is advised the project's management team consists of experts in their fields (mathematics, music, computational thinking, and social emotional learning) who have collaborated on prior research and program improvement projects (p. e41). Key personnel roles and project responsibilities are well described and clearly defined (pp. e41-43). As previously mentioned, a detailed table offering a timeline tying goals, objectives and outcomes to activities and responsible parties is provided (pp. e31-34). A standard budget sheet is also provided (pp. e8-9). It is considered the management plan is more than adequate to achieve the objectives of the proposed project on time and within budget.

Resumes are provided (Appendix B) (pp. e58-77) for the six key project personnel. Based on their training and experience, all personnel are considered well qualified to manage the proposed project.

The applicant has provided eight letters of support from collaborating partners (Appendix C) (pp. 84-93).

Weaknesses:

The applicant does not address the issue of continued support of the project after Federal funding ends. However, as eight letters of support for the project are provided by collaborating partners, it is hopeful there will be some support.

Reader's Score: 17

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 proposed project is intended to improve math, music and computational thinking instruction in kindergarten. As described, the project proposes to innovatively "utilize rhythm and music notation activities to address early numeracy skills and the basic elements of computer coding-algorithm, sequence, loop, branch, and debug" (p. e30).

A particular strength is the project's focus on improving mathematics and computational thinking. As defined in education, computational thinking is a set of problem solving methods that involve finding solutions in ways similar to what a computer can execute. A key element of STEM instruction is a focus that includes computational thinking that allows

students to practice problem solving.

The proposed program is clearly designed to improve student achievement in computer science as well as mathematics. It expands access to and participation in rigorous computer science coursework for traditionally underrepresented rural and low-income kindergarten students. This is of importance; as, rigorous computer science is administered to students at a critical, young age.

Weaknesses:

N/A

Reader's Score: 5

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Technical Review Coversheet

Applicant: Touro College (U411C190279)

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	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

Panel #20 - EIR Early Phase Tier 1 - 21: 84.411C

Reader #3: *****

Applicant: Touro College (U411C190279)

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 has potential to increase knowledge. The application presents a novel way of learning STEM, using rhythm and musical notation (e27). The combination of math and music provides motivation and accessibility to students of various abilities (e36). The project addresses ways to overcome discomfort some early educators may feel related to instruction in STEM areas. Socio-emotional learning of students is also addressed (e33).

The applicant builds on existing strategies, including the use of a pilot test. The project describes existing research in music education (e35). The application indicates that there is a research base for the effective strategies upon which it will build (e36). For example, musical symbols were used to represent abstract knowledge or concepts (e37).

Weaknesses:

There are no weaknesses in this area.

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 application contains all of the required components in this area. The proposal includes goals, objectives, persons responsible, timelines and outcomes (e31-34). It also includes specific outcomes (e45-46) as well as performance measures (e127-130). Letters of support from district and partners provide some evidence that outcomes can be achieved (e85-92).

The applicant gives a brief, yet effective conceptual framework linking research in music and mathematics (e36). The proposal uses Kodaly music model as part of its conceptual framework (e35). It also incorporates Universal Design for Learning that ensures access for all students to the curriculum (e36). There is a logic model in Appendix G, with project components, activities, as well as outcomes (e99).

The project contemplates continuing improvement. The applicant plans to hold weekly meetings during the first year of the project to review curriculum (e33). Experts in music and computer science will provide feedback on a biweekly cycle (e40). The external evaluator will also work with project personnel during the various phases of the project to provide feedback (e40).

Weaknesses:

No weaknesses in this area were found.

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 project will likely be completed successfully on time and within budget. The budget narrative is adequate and reasonable, with percent effort of staff listed (e118-126). The indirect costs are reasonable at 15% (e8). Goals, milestones, and timelines are provided in the application (e31-34).

The applicant describes key personnel (e41-42). The roles of the personnel are clearly defined (e30-32). Resumes of staff are included, indicating that they are highly qualified (e58-83).

The application will use project partners to make resources available after the life of the grant (e43). Information will be disseminated through the medium of journal articles (e42).

Weaknesses:

There is a need to demonstrate a source of funding at the end of the grant. Although there are letters of support, no outside sources of grant funds were indicated that might provide assistance after the federal grant 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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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 application has as its focus rural children as well as low-income students (e29). The project contemplates strategies for English Learners as well as for students with disabilities (e38). Letters of support from New York and rural Texas are included in the application (e85-88).

Weaknesses:

There were no weaknesses in this area.

Reader's Score: 5

Status: Submitted
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