

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

Status: Submitted

Last Updated: 07/19/2019 05:23 PM

Technical Review Coversheet

Applicant: Tufts University (U411C190006)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Quality of the Project Evaluation		
1. Project Evaluation	20	14
Sub Total	20	14
Total	20	14

Technical Review Form

Panel #3 - EIR Early Phase Tier 2 - 6: 84.411C

Reader #1: *****

Applicant: Tufts University (U411C190006)

Questions

Selection Criteria - Quality of the Project Evaluation

1. The Secretary considers the quality of the evaluation to be conducted of the proposed project. In determining the quality of the evaluation, the Secretary considers the following factors:

(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).

(2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

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

(4) 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:

On p41 attrition as a threat to validity is addressed in context of WWC parameters.

Design includes use of intact schools with a staggered implementation of treatment during performance period of grant.

15 schools will comprise baseline treatment group, while a second cohort of 15 will serve as an initial control and receive treatment later. This will provide a model for testing treatment decay in the initial group of schools over time.

This design will meet WWC with reservations if the group of 15 control proves to be similar to the treatment group. If random assignment does not provide two similar groups, applicant may need to adjust assignment to ensure two similar groups.

Weaknesses:

Design characterized as a random controlled trial, but the use of intact schools is not a proxy for control of extraneous variables. The underlying curricular plans of each school could explain the observed variance in the dependent variables, as could the SES or myriad other factors that impact a school building.

Grant seeks to impact learners through a curricular intervention related to technology but proposes on p.42 to measure mathematics and literacy as study variables. It is not explained how the treatment would be expected to be directly responsible for observed changes in these domains, nor are there controls for the curricular interventions that would impact them, i.e. mathematics and reading class, curriculum, etc.

Reader's Score: 14

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Technical Review Coversheet

Applicant: Tufts University (U411C190006)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Quality of the Project Evaluation		
1. Project Evaluation	20	15
Sub Total	20	15
Total	20	15

Technical Review Form

Panel #3 - EIR Early Phase Tier 2 - 6: 84.411C

Reader #2: *****

Applicant: Tufts University (U411C190006)

Questions

Selection Criteria - Quality of the Project Evaluation

1. The Secretary considers the quality of the evaluation to be conducted of the proposed project. In determining the quality of the evaluation, the Secretary considers the following factors:

(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).

(2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

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

(4) 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 applicant presents a satisfactory evaluation plan. If well implemented, the methods of evaluation have a reasonable likelihood to produce evidence about the project's effectiveness that would meet What Works Clearinghouse standards with reservations, or potentially, without reservations. The plan features a randomized controlled trial research design with 30 schools randomly assigned to either the treatment group in year 1 or comparison group with delayed implementation in year 3 (pg. 23). The sample size is sufficient for analysis and attrition has been adequately addressed.

The evaluation plan includes an implementation study that is intended to assess fidelity of project implementation. The research team will develop two fidelity indices to inform the process: fidelity of intervention and status of teacher implementation (pg. 26). The findings will be used to support replication in the second round of project implementation. Various data will be collected to inform the implementation study including instructional logs, semi-structured interviews, and perception surveys (pgs. 11; 27). Several appropriate and relevant measures will be used to assess project impact on students' Computer Science acquisition. The evaluation plan delineates the key project components, outcomes, and measures as linked to the Computer Science curriculum and activities. For example, as teachers implement the curriculum, impact on student learning will be assessed with measures that examine computational thinking abilities and programming concepts (pg 11; Appendix I).

Weaknesses:

The research design does not fully articulate how baseline equivalence would be established, specifically in terms of which pre-test student assessments would be used (pg. 24) and whether the school groups are similar on observable characteristics. This lack of detail could impact results and the ability to produce strong evidence about project effectiveness. Furthermore, the applicant does not provide convincingly demonstrate that the implementation of the Computer Science curriculum and teaching materials would support reading achievement, literacy fundamentals, and math achievement as shown in the study design and logic model (pgs. 11-12; Appendix G). Specifically, reading and math outcomes and the related measures were not explicitly described in the project design (pgs. 11-12). It was unclear why these elements were not an integral part of the project design and instead were only built into the impact study (pg. 24).

Finally, the applicant indicated that the implementation study findings would inform their project; however, it was not clear whether these findings would also allow for replication in other settings. Additionally, the criteria were vague on a measurable threshold for acceptable implementation because sufficient description of the indicators was not provided (pg. 26).

Reader's Score: 15

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