

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

Status: Submitted

Last Updated: 07/18/2019 11:49 AM

Technical Review Coversheet

Applicant: Small School Districts' Association (U411C190234)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Quality of the Project Evaluation		
1. Project Evaluation	20	11
Sub Total	20	11
Total	20	11

Technical Review Form

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

Reader #1: *****

Applicant: Small School Districts' Association (U411C190234)

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:

Design uses a matching methodology that is clearly articulated on p.54 in terms of establishing equivalence on key variables

Applicant notes use of embedded computer skills assessments at student level on p.57

Student achievement impacts will be measured with validated assessments, p.57

Applicant notes use of an HLM model on p.55 to measure impacts

Weaknesses:

Applicant begins to explain design of control groups on p.53, but the entire design is not explained. It is noted that 69 schools will participate over 5 years, but the reader is not told how the study implementation will work, how many controls are involved, how treatments will be allocated over the 5-year period, nor how the measurements will be administered. There is no additional appendix explaining the design further.

Based on the explanation on p.54-55, it is not possible to determine if the design meets WWC with reservations.

There is no mention of the threat posed by study mortality or attrition through transfer or school leaving.

On p.57, the use of TechSmart course software as a student measure is mentioned. It is not explained how controls will be exposed to the same measure for comparison purposes. It is not clear how these data will be used in the analysis plan or the HLM model.

Explanation of power calculation on p.54 does not provide numbers used for underlying assumptions.

Unclear how frequently evaluator will be involved on site and what role will be in collecting, analyzing and reporting data.

The overall timeline for collecting and analyzing data is not articulated. Some student measures appear to be administered yearly, while others are ongoing, e.g. TechSmart. It is ambiguous as to how all these measures be used in one large HLM model.

Reader's Score: 11

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Technical Review Coversheet

Applicant: Small School Districts' Association (U411C190234)

Reader #2: *****

	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 #2: *****

Applicant: Small School Districts' Association (U411C190234)

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 an adequate evaluation plan. The evaluation methods meet most of the criteria to meet What Works Clearinghouse standards with reservations. The applicant proposes to conduct a quasi-experimental design with a non-random, matched comparison group (pg. 28). Several variables will be considered when forming the comparison group including prior year's math and science standardized achievement scores, school size, and socioeconomic status (pgs. 28-29). Reasonable and relevant research questions were designed to address project implementation and impact. Two-level hierarchical linear modeling will be used to assess project impact on student outcomes.

For project implementation to be evaluated, a fidelity matrix will be designed to provide on-going formative feedback. Project impact on student participants will be assessed through several solid measures including the Smarter Balanced Mathematics and California Science Test standardized tests and the Computational Thinking Scale (pg. 32). The teachers' mock teaching practical will be scored by trainers using an observation rubric (pg. 32). The project components and outcomes are satisfactorily described; most of the measurable thresholds can be reasonably documented such as 90% of teachers will complete the hands-on final coding project and 50% of students will earn four or more competency certificates (pgs. 16-17).

Weaknesses:

The research design is missing information about group sample size and potential attrition. Although the applicant reports that 265 teachers and over 8,000 students will participate in the project over a five-year period, it was unclear how many participants would be in the treatment group for data analysis each year. Also, participant attrition was not discussed as to whether the applicant considered it to be a concern or not. Due to these omissions, sufficient evidence was not provided to show a strong likelihood that the project would meet the What Works Clearinghouse standards.

The evaluation plan also does not identify the data sources and measures intended for use in assessing the fidelity of implementation (pg. 31). This information could have simply been linked within the Goals, Objectives, and Outcomes table or in the Logic Model, or provided in a separate data collection table. Because the measures were not described, it was

not seen how the evaluation would provide guidance about effective strategies suitable for replication.

Reader's Score: 14

Status: Submitted

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