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

Status: Submitted
Last Updated: 07/12/2019 11:36 AM

Technical Review Coversheet

Applicant: New York Hall of Science (U411C190044)
Reader #1: **********

		Points Possible	Points Scored
Questions			
Selection Criteria			
Quality of the Project Evaluation			
1. Project Evaluation		20	18
	Sub Total	20	18
	Total	20	18

Technical Review Form

Panel #10 - EIR Early Phase Tier 2 - 7: 84.411C

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

Applicant: New York Hall of Science (U411C190044)

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 clearly explained a randomized controlled trial (RCT) to be implemented with cohorts 2 and 3 to determine the potential impact of the intervention on students' outcomes (pg.e29) and the cluster-randomized experiment of students participating in the Pack to determine differences of outcomes between the groups assigned randomly (pg.e45-e46). The applicant also explained the school-level attrition estimation of 8% (pg.e47) and 10% of the student level (pg.126). The specified design of the intervention on students outcomes would estimate the effectiveness of the intervention; thus, meeting the What Works Clearinghouse standards.

The applicant clearly detailed the process to measure the fidelity of implementation with teachers regarding the key program components such as: 1) facilitation of professional development and online community of practice by NYSCI and Participate trainers; 2) teacher participation in professional development and online community of practice, and 3) classroom implementation of The Pack.

The evaluation team would develop indices of the Pack constructs to determine the level of implementation among teachers (pg.e44). In addition, internal reliability measures for student outcomes were presented for computational thinking skills to demonstrate how the data to be collected would produce valid and reliable data (pg.e45). The information to be collected from the instruments indicated in the proposed project would be able to obtain the same results when the instrument is administered in other times and the instruments would measure the desired constructs.

The applicant clearly detailed the methodological design (cluster-randomized design (pg.e45); the key components of the project (teachers' professional development and student outcomes) in the logic model (pg.e108); outcomes, measures, data collection methods and data collection tools (pg.e43-e44); and research questions guiding the proposed project. The information was clearly detailed to demonstrate the continued monitoring of the proposed project to develop measures for replication and determine information for implementation purposes. Statistical Power analysis was clearly detailed to indicate the minimum detectable effect size (pg.e46), statistical power analysis calculations, and fidelity indicators of the key components (e.g., facilitation of online community of practice by participate trainers, teachers' professional development and coaching, and classroom implementation of The Pack) (pg.e125-e128).

Weaknesses:

The applicant did not clearly describe the fidelity of implementation protocols for the key project components. The applicant did not clearly note the outcomes of the proposed project to develop the fidelity of implementation protocols to replicate the proposed project.
The applicant did not clearly state targets for the objectives of the proposed project (pg.e25-e28).

Reader's Score: **18**

Status: Submitted
Last Updated: 07/12/2019 11:36 AM

Status: Submitted
Last Updated: 07/16/2019 11:59 AM

Technical Review Coversheet

Applicant: New York Hall of Science (U411C190044)
Reader #2: **********

		Points Possible	Points Scored
Questions			
Selection Criteria			
Quality of the Project Evaluation			
1. Project Evaluation		20	18
	Sub Total	20	18
	Total	20	18

Technical Review Form

Panel #10 - EIR Early Phase Tier 2 - 7: 84.411C

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

Applicant: New York Hall of Science (U411C190044)

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 project evaluation proposes an experimental research design (cluster-randomized and control trial). The evaluation will randomly assign 48 middles schools to a treatment or a control group (192 science teachers, and 24,000 students in grades 6-8 from New York City community school district). This includes putting teachers in treatment and control groups with delayed treatment controls. This design meets the WWC standards without reservations requirements (pg. 23-24).

The project evaluation provides clearly articulated evaluation questions addressing project impact on student outcomes and fidelity of project implementation (pg. 25). Having clearly established research questions is a strength because it brings a sense of focus to the entire evaluation process.

The project evaluation provides the detailed results of the power analysis assessing for minimum sample sizes and detectable effect sizes to adequately assess program impact and expected attrition (pf. 24-25; Appendix 15).

The project evaluation provides a comprehensive list of formative and summative evaluations, qualitative and quantitative, for teachers and students participating in the program: pre and post implementation surveys, classroom observations, semi structured interviews, and student assessments (pg. 21-23).

The implementation of well-known assessments such as NAEP will be providing the project with valid and reliable student outcome data (pg. 25). A power analysis is also provided addressing potential issues with attrition (pg. 24-25).

The project evaluation proposes to identify a measurable threshold for acceptable implementation prior to data collection (summative evaluation), specifically formative evaluations (pg. 29-30).

The project evaluation proposes general guidelines for the future replication of PACK in other schools and sustainability of the project (pg. 25).

The project evaluation proposes to conduct a formative and summative evaluation to provide the project leadership team

with valuable data sources to make educated decisions about the implementation of the PACK program in terms of teacher and student outcomes (pg. 22-25)

Weaknesses:

Further details about the desirable outcomes and sustainability of the program for replication are necessary.

The project's student outcomes are not totally clear. For example, what is the expected percentage of student computation skill?

Reader's Score: **18**

Status: Submitted
Last Updated: 07/16/2019 11:59 AM