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

Technical Review Coversheet

Applicant: Green River Regional Educational Cooperative (U411C190146)

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

		Points Possible	Points Scored
Questions			
Selection Criteria			
Quality of the Project Evaluation			
1. Project Evaluation		20	17
	Sub Total	20	17
	Total	20	17

Technical Review Form

Panel #5 - EIR Early Phase Tier 2 - 10: 84.411C

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

Applicant: Green River Regional Educational Cooperative (U411C190146)

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:

   1. The evaluation plan includes an impact and implementation study (p. e44), with research questions articulated for each study (p. e45, p. e47). These research questions are well-aligned with guiding questions of the project, which focus on the impact of STEM(cs) professional development and education on rural teachers and the students they serve (p. e30-e34). The impact study is likely to produce evidence of program effectiveness that meet What Works Clearinghouse Standards with reservations given specific attention paid to matching treatment schools with similar rural schools and ensuring baseline equivalence of those matches through propensity score-matching processes (p. e45). This initial process is further strengthened by the identification of four comparison schools for each treatment group, which increases the likelihood that baseline equivalence can be achieved (p. e46). The impact study is also likely to produce evidence of program effectiveness given the use of a Comparative Interrupted Time Series analysis to evaluate five years of pre- and post-treatment data for both Cohort 1 and Cohort 2 (p. e46).
   2. The explanation of how a hierarchical linear modeling design and accompanying analysis is clear, given the description of a three-level model comprised of students (level 1), teachers (level 2), and schools (level 3) (p. e46). This attention to levels of moderating variables at the student, teacher, and school level will not guide the analyses of outcomes in the proposed study, but will provide a level of detail regarding outcomes that is necessary for testing the program in other areas serving rural populations with similar characteristics.
   3. The evaluation plan is likely to provide valid and reliable performance data, given the use of criterion-referenced state standardized tests (the Kentucky Performance Rating for Education Progress) to measure student outcomes in science and math (p. e45). The evaluation of math and science in these areas, and across time for the treatment and control groups, is highly likely to produce data relevant to program outcomes.
   4. Key program components and mediators (p. e46) are described, and the evaluation plan appropriately addresses outcomes within the majority of data to be collected and analyzed (p. e46-47).

Weaknesses:

A primary weakness is the lack of questions related to development of teacher knowledge (p. e45, p. e47). The development of teacher knowledge through professional development and opportunities for the attainment of additional certifications and formal education in STEM(cs) is a cornerstone of the proposed project, and therefore warrants the collection and analysis of data within both the impact and implementation studies. The collection and analysis of qualitative data (focus groups, follow-up interviews) is underdeveloped; it is not clear how participants will be selected for focus groups or interviews in order to ensure representativeness, and methods of analyzing this qualitative data are not discussed (p. e48). Given these issues, it is not clear how the qualitative data will be linked to, and inform, project outcomes. A key aspect of the STEM(cs) project is the implementation of activities designed to increase educators' knowledge and effectiveness, however, there are no research questions related to these outcomes (p. e34). Although a fidelity matrix that will link intervention components to indicators, this matrix does not appear to be included within the proposal, nor is the matrix described in the proposal narrative (p. e48). This omission limits the extent to which this aspect of the evaluation can be determined to demonstrate linkages between key program components and the fidelity with which interventions were provided.

Reader's Score: 17

Status: Submitted
Last Updated: 07/18/2019 12:19 PM

Technical Review Coversheet

Applicant: Green River Regional Educational Cooperative (U411C190146)
Reader #2:   **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Quality of the Project Evaluation			
1. Project Evaluation		20	16
	Sub Total	20	16
	Total	20	16

Technical Review Form

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

Applicant: Green River Regional Educational Cooperative (U411C190146)

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 proposes a comparative interrupted time series design. There is some explanation of matching and how baseline equivalence will be conducted (pg. 23). Research questions on page 22 are appropriate to guide evaluation of program impact on student outcomes and are aligned with the project's second objective included on page 8. Measurable outcomes for objectives and data collection methods provided on pages 8-10 are appropriate to address the intended goals. Multiple data collection methods and sources will be used. This would ensure data triangulation and increase the validity and reliability of the data. Data collection methods are also clearly aligned with project objectives appropriate for performance measure data (pgs. 8-10). Some explanation of how the design will be carried out is provided, including points of data collection, sample size, power analysis, and how attrition will be accounted for (pgs. 23-24). The explanation of how data will be analyzed using HLM is clear and appropriate to determine impact outcomes. As such, it can be determined that the evaluation meets WWC standards with reservations.

    Some information on how the applicant will ensure continuous feedback and conduct periodic assessment of progress toward achievement. Implementation research questions on page 24 will elicit outcomes to determine fidelity of implementation. How each RQ fits into the implementation study is clearly explained on page 25. The process for how fidelity will be determined is also explained, including how a fidelity of implementation score will be used to answer RQ 4. The applicant states that threshold values will be determined and provides data collection methods for the implementation study.

    Weaknesses:

    Some explanation about the design process is unclear. The applicant states that comparison/treatment groups will be similar rural schools (pg. 22). Including more detail about the variables on which the groups will be matched would strengthen the study. Because this is an interrupted time series design, more explanation of the intervention and data collection timeline is needed to determine if the methodology is appropriate to elicit the intended outcomes. Some explanation on why the comparison group is four times larger than the treatment group is needed, as well as how that

may or may not impact the data (pg. 23). Since one of the main objectives stated on page 8 is to improve teacher knowledge, practice, and effectiveness, it would strengthen the study to include RQs related to teacher outcomes to ensure the study will be carried out as such to determine whether or not that objective is met.

Some information on the implementation study is needed. It would strengthen the study to align RQs with the data collection methods and analysis. This would help to better determine whether or not the methodology is appropriate to elicit the data needed to answer the research questions. For example, the applicant states that data from RQ3 will be used to assign a fidelity of implementation score; however, the data collection methods to address RQ 3 is unclear. Additionally, the applicant mentions that a fidelity matrix will link key components of the intervention to their indicators (pg. 25). Including some examples of the indicators and links to data sources would provide a clearer picture of how the implementation study would be carried out. More information about what the participant surveys will measure is unclear. Data analysis for the implementation study is unclear, including how surveys and qualitative data will be analyzed and what analysis methods will be used to correlate the implementation score with student proficiency in math and science, as stated on page 25.

Reader's Score: 16

Status: Submitted
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