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

Status: Submitted Last Updated: 06/29/2018 06:54 PM

# Technical Review Coversheet

#### Applicant: East Carolina University (U423A180096) \*\*\*\*\*\*\*

Reader #1:

		Points Possible	Points Scored
Questions			
Selection Criteria			
Quality of Project Design			
1. Project Design		35	32
Significance			
1. Significance		20	19
Quality of the Management Plan			
1. Management Plan		25	23
Quality of the Project Evaluation			
1. Project Evaluation		20	19
	Sub Total	100	93
Priority Questions			
Competitive Preference Priority			
Promoting STEM Education/Computer Science			
1. CPP1		3	3
	Sub Total	3	3
	Total	103	96

# **Technical Review Form**

# Panel #11 - Supporting Effective Educator Development - 11: 84.423A

Reader #1: \*\*\*\*\*\*\*\*\*
Applicant: East Carolina University (U423A180096)

## Questions

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 proposed project represents an exceptional approach to the priority or priorities established for the competition.

(2) The extent to which the training or Professional Development services to be provided by the proposed project are of sufficient quality, intensity, and duration to lead to improvements in practice among the recipients of those services.

(3) The extent to which the services to be provided by the proposed project involve the collaboration of appropriate partners for maximizing the effectiveness of project services.

(4) The extent to which the services to be provided by the proposed project are focused on those with greatest needs.

(5) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

# Strengths:

The proposal connects aspects of the proposed PD to evidence, including the PD's focus on analyzing data to improve instruction to Carlson et al. (2011) study, effective feedback and coaching on STEM to Schoenfeld (2012), overall structure that replicates concepts of NISL (Nunnery et al., 2010).

The proposal shows a really strong mix of partners that clearly meet the various needs of the project. ECU, IEL, Latham Clinical Schools Network, Carnegie Center for Advancement of Teaching, and Spakplug Games all address different aspects of the collective effort.

The sequencing logic for goals and outcomes is convincing, connecting principal improvement to different, relevant outcomes for teachers and students.

Micro credentialing is thoughtfully included throughout the proposal as a way to invite, encourage, and advance school leaders.

The overall scaffolding of courses and credentials is a logical way to build over time.

The services are designed to advance principals serving students with great need, specifically low-income students in rural settings.

### Weaknesses:

Regarding intensity and duration, the majority of participants will only be completing the MC. That is a relatively light course load to anticipate significant changes in knowledge and practice.

Some acknowledgement about how the supports to be offered are the right or best supports to impact outcomes teachers and students would strengthen a well conceptualized section.

#### **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 importance or magnitude of the results or outcomes likely to be attained by the proposed project, especially improvements in teaching and student achievement.

(2) The extent to which the costs are reasonable in relation to the number of persons to be served and to the anticipated results and benefits.

(3) The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding.

(4) The extent to which the results of the proposed project are to be disseminated in ways that will enable others to use the information or strategies.

### Strengths:

The proposal does an effective job of connecting the core of the work to prior research literature and then building an explanation about how the completion of or participation in various programmatic elements (e.g., IEL national conferences) build ongoing networks that entrench the lessons learned. Moreover, there are a number of compelling dissemination outlets and strategies that address multiple stakeholder groups.

Courses are to be continued at ECU and provided online beyond the project. IEL will incorporate lessons across networks. Ongoing networking and relationship building, participation in conferences and development of tools should help sustain in study districts. Collectively, there is a considerably, intentional effort to build knowledge and community within the project groups, especially among school leaders, but also scale lessons strategically.

#### Weaknesses:

The costs seem reasonable overall, but it would be helpful to demonstrate the estimated cost per student.

Reader's Score: 19

### Selection Criteria - Quality of the Management Plan

1. The Secretary considers the quality of the management plan for the proposed project. In determining the quality of the management plan for 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 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.

(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.

#### Strengths:

Table 4 nicely articulates clear and reasonable objectives that are tied to measurable outcomes.

The structure of Figure 2 makes it easy to identify roles and responsibilities. It also effectively communicates who will occupy which roles and which roles still need to be occupied. There are considerable roles to fill, but the proposal demonstrates a serviceable plan to meet project management needs.

Personnel seem qualified and experienced with the type of PD services proposed and the management and administration of a grant such as this one. The advisory board seems well equipped to provide nuanced guidance.

Table 5 shows a reasonable timeline and communicates who will be directly responsible for completing tasks.

## Weaknesses:

The timeline could be more explicit. Identifying seasons or academic periods tasks will be completed leaves too much flexibility.

The proposal could address feedback loops in more detail. Specifically, the evaluation team's role in providing feedback is clear, but the remainder of the section is relatively generic. The proposal could better detail how the project team will establish feedback loops within itself or receive feedback directly from leaders receiving the PD.

# Reader's Score: 23

### 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 WWC standards with or without reservations as described in the WWC Handbook.

(2) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

(3) The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible.

(4) The extent to which the methods of evaluation will provide valid and reliable performance data on Relevant Outcomes.

Note: Applicants may wish to review the following technical assistance resources on evaluation: (1) WWC Procedures and Standards Handbooks: https://ies.ed.gov/ncee/wwc/Handbooks (2) "Technical Assistance Materials for Conducting Rigorous Impact Evaluations": http://ies.ed.gov/ncee/projects/evaluationTA.asp; and (3) IES/NCEE Technical Methods papers: http://ies.ed.gov/ncee/tech\_methods/. In addition, applicants may view two optional webinar recordings that were hosted by the Institute of Education Sciences. The first webinar discussed strategies for designing and executing well-designed Quasi-Experimental Design Studies and is available at: http: //ies.ed.gov/ncee/wwc/Multimedia.aspx?sid=23. The second webinar focused on more rigorous evaluation designs, discussing strategies for designing and executing studies that meet WWC evidence standards without reservations. This webinar is available at: http://ies.ed.gov/ncee/wwc/Multimedia.aspx?sid=18.

### Strengths:

The external provider has a strong track record of doing this type of research and evaluation.

The proposal identifies a quasi-experimental design that could meet WWC standards with reservations.

Propensity score matching is a logical choice to identify comparison groups. Student and other characteristics identified as covariates are also logical selections based in research. The proposal also details the need to establish baseline equivalency and how potential adjustments will be made to account for any discrepancy. MDES is also accounted for, and rationale is provided for using a three-level HLM to analyze data.

# Weaknesses:

The evaluation seems to be condensed due to a lack of space. Details about the instruments – the content they will include and their validity and reliability properties (or how they will be analyzed if the instruments are to be developed) would strengthen the proposal.

Reader's Score: 19

#### **Priority Questions**

**Competitive Preference Priority - Promoting STEM Education/Computer Science** 

1. Projects designed to improve student achievement or other educational outcomes in one or more of the following areas: Science, technology, engineering, math, or Computer Science. These projects must address the following priority area:

Increasing the number of educators adequately prepared to deliver rigorous instruction in STEM fields, including Computer Science, through recruitment, Evidence-Based Professional Development strategies for current STEM educators, or evidence-based retraining strategies for current educators seeking to transition from other subjects to STEM fields.

#### Strengths:

The focus of the coaching component of the PD is on math. This is consistent and featured throughout the proposal.

#### Weaknesses:

No weaknesses noted.

#### Reader's Score:

Status:	Submitted
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3

Status: Submitted Last Updated: 06/29/2018 05:17 PM

# Technical Review Coversheet

# Applicant: East Carolina University (U423A180096)

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

		Points Possible	Points Scored
Questions			
Selection Criteria Quality of Project Design		35	32
Significance 1. Significance		20	19
Quality of the Management Plan 1. Management Plan		25	25
Quality of the Project Evaluation 1. Project Evaluation		20	20
	Sub Total	100	96
Priority Questions			
Competitive Preference Priority Promoting STEM Education/Computer Science			
1. CPP1		3	3
	Sub Total	3	3
	Total	103	99

# **Technical Review Form**

# Panel #11 - Supporting Effective Educator Development - 11: 84.423A

Reader #2: \*\*\*\*\*\*\*\*\* Applicant: East Carolina University (U423A180096)

## Questions

# 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 proposed project represents an exceptional approach to the priority or priorities established for the competition.

(2) The extent to which the training or Professional Development services to be provided by the proposed project are of sufficient quality, intensity, and duration to lead to improvements in practice among the recipients of those services.

(3) The extent to which the services to be provided by the proposed project involve the collaboration of appropriate partners for maximizing the effectiveness of project services.

(4) The extent to which the services to be provided by the proposed project are focused on those with greatest needs.

(5) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

# Strengths:

Sufficient evidence is provided to demonstrate the proposed project represents an exceptional approach to the established priority in that it is based upon the success of previous programs in building the capacity of principals through evidence-based professional development (p. 5-7). Additionally, the focus on STEM can enable principals to provide quality feedback to their teachers in order to enhance their instructional practices in the STEM areas (p. 6).

Within the proposed project, principals can earn up to three professional credentials: Academic Discourse Micro-Credential (MC), Academic Discourse Advanced Micro-Credential (AMC), and Doctorate in Educational leadership (Ed.D.) (p. 1). This further represents an exceptional approach in addressing the need for principal professional development in that it can have long-term growth opportunities for leaders to increase the potential of attracting candidates into the program.

Evidence is provided to demonstrate sufficient time and quality of the professional development in the proposed project. For example, the duration and intensity of the MC experience is designed to replicate NISL, with additional follow-up to support the long term nature of the improvement science approach (p. 14). With NISL being a well-recognized program demonstrating a history of success, modeling after this design is also likely to lad to improvements in practice.

The ECU Department of Educational Leadership is an experienced and expert provider of online learning, indicating that the capacity to provide high quality professional development in the manner proposed is evident (p. 14).

Details regarding some of the partners who will provide services in the proposed project indicate multiple collaboration opportunities that can maximize the effectiveness of project services. For example, one partnership is with the IEL, which has also developed expertise in facilitating Leadership Learning Exchanges in multiple communities for 15 years (p. 15). This indicates a potential for maximizing leadership services.

Student achievement data is provided for the participating schools in the proposed project (p. 17). The data indicate a great need for support as evidenced by lower performance on state tests and a lower math benchmark on the ACT than

other schools in the area and across the state.

The proposed project includes sufficient evidence of addressing the needs of the target population through intensive principal training and support with a focus on STEM and STEM learning experiences (p. 19).

# Weaknesses:

More clarity on specific activities within the project that each partner will support is needed to determine the extent to which effectiveness can be maximized (p. 17). For example, details on how specifically The Carnegie Center for the Advancement of Teaching will be leveraged to support the professional development efforts are lacking.

Reader's Score: 32

### **Selection Criteria - Significance**

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(2) The extent to which the costs are reasonable in relation to the number of persons to be served and to the anticipated results and benefits.

(3) The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding.

(4) The extent to which the results of the proposed project are to be disseminated in ways that will enable others to use the information or strategies.

#### Strengths:

Building the capacity of principals to support teaching practices in the STEM field and provide more effective coaching and feedback to teachers to improve instructional practices has the potential to lead to greater student achievement as teachers improve their strategies and approaches (p. 20).

Some evidence suggests that specific project components can be integrated into the ongoing programs within the university (p. 24). For example, using video reality technology to simulate classroom interactions are likely to spread throughout the department of Educational Leadership and College of Education to other principal and teacher preparation programs

Dissemination through the Coalition for Community Schools is one method proposed to communicate the results of the proposed project (p. 26). This represents an effort to coordinate with other agencies and reach those who could potentially benefit from the proposed project. Additionally, plans to use Sparkplug to develop a mobile app version of the VR simulation teaching diagnostic observation and coaching

Skills could further be used to disseminate results to a wide variety of stakeholders (p. 26).

### Weaknesses:

The cost appears high based on the number of participants (p. 22), and a per-pupil calculation is lacking.

Reader's Score: 19

### Selection Criteria - Quality of the Management Plan

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(2) 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.

(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.

# Strengths:

Objectives are aligned with outcomes that are clearly specified and measurable to guide completion of the proposed project (p. 27-28). These also align with the overall goal of increasing mathematics achievement by supporting principals to engage with teachers to improve practices (p. 26).

The time commitments and responsibilities of key staff members are included (p. 29-30). This illustrates clarity and direction in who will be in charge of facilitating task completion of major project tasks.

Milestones are detailed through each year of the proposed project (p. 32-34), which represents planning and organization to support the completion of activities at each stage of the project.

An advisory board is included in the proposed project (p. 31). This practice allows for the potential to collect feedback and use that feedback to inform project decision-making.

Evidence of collecting formative feedback is provided through collaboration with Policy Associates, the coaches, and the advisory board (p. 34). Through use of surveys, focus groups, and interviews, feedback can be obtained in multiple ways and be used to improve project components (p. 34-35).

### Weaknesses:

No weaknesses were noted.

### Reader's Score: 25

### 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 WWC standards with or without reservations as described in the WWC Handbook.

(2) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

(3) The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible.

(4) The extent to which the methods of evaluation will provide valid and reliable performance data on Relevant Outcomes.

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## Strengths:

The evaluation is comprised of a quasi-experimental matched comparison group design that will meet the What Works Clearinghouse Standards with reservations (p. 36).

Formative data will be collected through surveys, interviews, focus groups, and administrative data reviews to provide timely feedback about progress and challenges that surface during project implementation (p. 37).

Research questions are presented with corresponding performance measures to illustrate clarity in how overall performance will be assessed (p. 39).

The evaluation includes a three-level hierarchical linear growth model, nesting students in schools, and including measures on the extent to which the principals adopt and apply the skills and knowledge from the proposed program activities (p. 40). From this method, quantitative data will be obtained.

### Weaknesses:

No weaknesses were noted.

Reader's Score: 20

### **Priority Questions**

**Competitive Preference Priority - Promoting STEM Education/Computer Science** 

1. Projects designed to improve student achievement or other educational outcomes in one or more of the following areas: Science, technology, engineering, math, or Computer Science. These projects must address the following priority area:

Increasing the number of educators adequately prepared to deliver rigorous instruction in STEM fields, including Computer Science, through recruitment, Evidence-Based Professional Development strategies for current STEM educators, or evidence-based retraining strategies for current educators seeking to transition from other subjects to STEM fields.

#### Strengths:

The proposed project includes opportunities for principals to improve their observations of STEM lessons and provide effective feedback to teachers focusing on content and academic discourse (p. 2-3). This feedback can improve instruction in STEM, and in turn, student achievement.

#### Weaknesses:

No weaknesses were noted.

### Reader's Score: 3

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# Technical Review Coversheet

#### Applicant: East Carolina University (U423A180096) \*\*\*\*\*\*\*

Reader #3:

		Points Possible	Points Scored
Questions			
Selection Criteria			
Quality of Project Design		0.5	
1. Project Design		35	33
Significance			
1. Significance		20	19
Quality of the Management Plan		0.5	0.5
1. Management Plan		25	25
Quality of the Project Evaluation		22	
1. Project Evaluation		20	20
	Sub Total	100	97
Priority Questions			
Competitive Preference Priority			
Promoting STEM Education/Computer Science			
1. CPP1		3	3
	Sub Total	3	3
	Total	103	100

# **Technical Review Form**

# Panel #11 - Supporting Effective Educator Development - 11: 84.423A

Reader #3: \*\*\*\*\*\*\*\*\* Applicant: East Carolina University (U423A180096)

## Questions

# 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:

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(2) The extent to which the training or Professional Development services to be provided by the proposed project are of sufficient quality, intensity, and duration to lead to improvements in practice among the recipients of those services.

(3) The extent to which the services to be provided by the proposed project involve the collaboration of appropriate partners for maximizing the effectiveness of project services.

(4) The extent to which the services to be provided by the proposed project are focused on those with greatest needs.

(5) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs.

# Strengths:

The project represents an exceptional approach to the meeting the requirements of Absolute Priority 2. The project intends to provide targeted PD to principals in high needs schools by using a networked improvement community approach to implement professional development for principals. They will use evidence-based professional learning in two sequential micro-credentials: (1) the MC for 220 principals in years 1 to 3 and an additional 72 principals in years 4 and 5; (2) the AMC for a subset of 24 of the persons who complete the MC and choose to continue in the AMC (pp. 5). The Project I4 design is based on the results of two studies of two different programs that showed promising practices as defined by the Federal Register for working with principals; the National Institute of School Leadership (NISL) Executive Development Program for principals and the Johns Hopkins Center for Data-Driven Reform in Education (pp. 6-7). Both have demonstrated success in working with principals.

The training and professional development services provided by the proposed project are of sufficient quality, intensity, and duration. The duration and intensity of the MC experience is designed to replicate NISL, with additional follow-up to support the long-term nature of the improvement science approach. The training includes professional coaching from experienced school leaders to assist principals in implementing improved practices at their schools (pp. 14).

The services to be provided by the proposed project demonstrate an exceptional approach to involving and collaborating with appropriate partners. The IEL partnership brings capacity in several key areas necessary to project success including recruitment, expertise in facilitating LLEs, and convening of national forums (pp. 15). IEL has extensive networks facilitating scalability to a national cohort of principals serving high need schools; all IEL partners have experience in working with high needs school districts and students (pp. 15-16). These partnerships will be of significant benefit to the project. In addition, the partnership with Latham Clinical Schools Network (LCSN) is a formal collaborative of 43 mostly rural eastern NC school districts committed to partnering for research, pre-service educator development, and school improvement support. This partnership will help identify the school principals with the greatest needs (pp. 16).

The services to be provided by the proposed project are focused on those with greatest needs. In North Carolina, Project I4 will focus recruitment efforts on the Latham Network Districts and the eastern part of Wake County. These districts

serve predominately rural, low-income communities where student achievement is significantly lower than in other North Carolina districts (pp. 17). Recruiting for our national cohort will focus on partner districts in California. These districts serve diverse, low-income communities with high numbers of English Language Learners (pp. 17).

The project design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs. Through the coaching model, principals receive substantial feedback from the NIC coach; they use virtual reality to enhance their abilities to observe and give feedback; they get feedback on their ability to design interventions using the improvement sciences so that they can influence teacher and student learning and change the ways they "do business" in addressing the instructional core in their schools (pp. 19).

# Weaknesses:

Additional information on the national districts to be recruited in California would have benefited the proposal.

Reader's Score: 33

### **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 importance or magnitude of the results or outcomes likely to be attained by the proposed project, especially improvements in teaching and student achievement.

(2) The extent to which the costs are reasonable in relation to the number of persons to be served and to the anticipated results and benefits.

(3) The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding.

(4) The extent to which the results of the proposed project are to be disseminated in ways that will enable others to use the information or strategies.

# Strengths:

The anticipated results will likely to be attained by the proposed project, especially improvements in student achievement. The project is designed to build on the positive results of two studies (Carlson. Borman, & Robinson, 2011; Nunnery et al., 2011) of programs working to improve student outcomes through work with school leaders. Both studies have been reviewed by the WWC and found to have statistically significant positive effects on math achievement (pp. 19). In addition to matching the effect size of the sample studies, the proposal is relying on evidence from the Grissom et al. (2013) study that identifies how principals can improve teacher practice in the service of impacting student outcomes (pp. 20). By combining the practices of several successful studies, the anticipated results should be positive.

The costs are presented as reasonable in relation to the number of persons to be served and to the anticipated results and benefits. The project has a per- participant costs for this project, \$30,368 for first 3 years (pp. 21) which is reasonable and in line with other similar programs. The majority of grant expenditures are directly for participants, including training grant stipends, direct service to the participants (i.e. coaching, participation in IEL conferences), and development and deployment of the instruments and technology tools for participants' use in their schools (pp. 23).

The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding. The project has a multi-tiered plan for continuing the program after federal funding ends. The MC credits will continue to be offered online through the university (pp. 24). The cohort experience and Summer LLEs build ongoing networks of relationships and support – these supports help sustain principals as they implement new practices at their schools. Participants can also attend other IEL national conferences, and finally, the

project provides tools that schools can use for an affordable price to continue collecting formative data for iterative improvement (pp. 24-25)

The dissemination of results of the proposed project is extensive and will enable others to use the information or strategies. The project partnerships with IEL and Carnegie bring valuable dissemination networks. The Carnegie Project for the Advancement of Teaching at Stanford partnership also has annual summits at which we plan to present posters and sessions (pp. 26). The use of mobile apps and social media will also be extensive.

### Weaknesses:

Though there is a plan for continuing the program in a variety of ways after the federal funding has ended, almost all come at an additional expense to the participants.

Reader's Score: 19

### Selection Criteria - Quality of the Management Plan

1. The Secretary considers the quality of the management plan for the proposed project. In determining the quality of the management plan for 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 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.

(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.

### Strengths:

The project goals, objectives, and outcomes can be achieved by the proposed project. The primary goal of the project is to increase student achievement in mathematics by supporting principals to engage with teachers to improve practice (pp. 26). This goal is supported by three specific objectives, each of which is has measurable outcomes to determine the level of success (pp. 27-28).

The management plan is sufficient to achieve the objectives of the proposed project on time and within budget appears to be adequate. Members of the grant team have extensive experience running projects of comparable size. The grant director will operate in a full-time capacity, and the lead partnership will match this with a full-time member of their own dedicated to the grant (pp. 31). A clear and specific timeline, with individuals responsible for each task, and benchmarks for success is provided (pp. 32-34).

The procedures for ensuring feedback and continuous improvement in the operation of the proposal are adequate for the scope of the project. The grant leadership team will model the PDSA cycle in their work on the project and work collaboratively with Policy Associates and with the coaches and the advisory board to determine areas for improvement. Formative evaluation findings will be presented on a quarterly basis so that needed changes can be considered and implemented in a timely manner (pp. 34).

# Weaknesses:

None

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 WWC standards with or without reservations as described in the WWC Handbook.

(2) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

(3) The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible.

(4) The extent to which the methods of evaluation will provide valid and reliable performance data on Relevant Outcomes.

Note: Applicants may wish to review the following technical assistance resources on evaluation: (1) WWC Procedures and Standards Handbooks: https://ies.ed.gov/ncee/wwc/Handbooks (2) "Technical Assistance Materials for Conducting Rigorous Impact Evaluations": http://ies.ed.gov/ncee/projects/evaluationTA.asp; and (3) IES/NCEE Technical Methods papers: http://ies.ed.gov/ncee/tech\_methods/. In addition, applicants may view two optional webinar recordings that were hosted by the Institute of Education Sciences. The first webinar discussed strategies for designing and executing well-designed Quasi-Experimental Design Studies and is available at: http: //ies.ed.gov/ncee/wwc/Multimedia.aspx?sid=23. The second webinar focused on more rigorous evaluation designs, discussing strategies for designing and executing studies that meet WWC evidence standards without reservations. This webinar is available at: http://ies.ed.gov/ncee/wwc/Multimedia.aspx?sid=18.

### Strengths:

The methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the WWC standards with or without reservations as described in the WWC Handbook. The project team will contract with an outside evaluator, Policy Studies Associates, Inc. PSA has extensive experience conducting rigorous, experimental and quasi-experimental impact research as well as formative and process evaluation to provide an independent evaluation of the impact and implementation (pp. 35). The impact evaluation component comprises a quasi-experimental matched comparison group design that will meet the What Works Clearinghouse Standards with reservations (pp. 36).

The methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes. The evaluation will report regularly on the analysis of formative data collected through surveys, interviews, focus groups, and administrative data reviews to provide developers with timely feedback about progress towards planned outcomes (pp. 37). A specific schedule for reporting back is supplied in the application. The instruments used to evaluate the program are both quantitative (state test scores) and qualitative in design teacher, principal surveys) and align to the specific outcomes.

The methods of evaluation will provide valid and reliable performance data on Relevant Outcomes. The objective performance measures proposed for each of the intended outcomes of Project I4 align with the research questions. The performance measures reflect information from both the implementation and impact evaluations (pp. 38-39).

#### Weaknesses:

None

Reader's Score: 20

### **Priority Questions**

## **Competitive Preference Priority - Promoting STEM Education/Computer Science**

1. Projects designed to improve student achievement or other educational outcomes in one or more of the following areas: Science, technology, engineering, math, or Computer Science. These projects must address the following priority area:

Increasing the number of educators adequately prepared to deliver rigorous instruction in STEM fields, including Computer Science, through recruitment, Evidence-Based Professional Development strategies for current STEM educators, or evidence-based retraining strategies for current educators seeking to transition from other subjects to STEM fields.

### Strengths:

The project is specifically designed for STEM principals and teachers through two major strategies: 1) principals will learn to analyze data including classroom, district, and state testing results, classroom observations, teacher and student surveys, and examples of student work to drive improvement in STEM subjects, particularly mathematics; and 2) principals will learn to improve their observations of STEM lessons and provide effective feedback to teachers focusing on content and academic discourse (pp. 2).

#### Weaknesses:

None

Reader's Score: 3

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