

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

Status: Submitted

Last Updated: 09/18/2014 12:41 PM

Technical Review Coversheet

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	
Selection Criteria		
Significance		
1. Significance	35	31
Quality of Project Design		
1. Project Design	30	26
Quality of the Management Plan		
1. Management Plan/Personnel	20	18
Quality of the Project Evaluation		
1. Project Evaluation	15	0
Total	100	75

Technical Review Form

Panel #10 - 2014 Development Full Panels - 10: 84.411C

Reader #1: *****

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Questions

Summary Statement - Summary Statement

1. Summary Statement (Optional)

General:

Reader's Score:

Selection Criteria - Significance

1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(3) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

Note: In responding to this criterion, the Secretary encourages applicants to explain how the applicant's proposed project addresses the absolute priority and the subpart that it seeks to meet. Additionally, the Secretary asks that applicants explain how the proposed project is unique. Applicants should explain how their proposed projects fit into existing theory, knowledge, or practice, and how their proposed projects will serve as exemplars for new practices in the field.

Strengths:

The proposal focuses on engineering and a connection from middle school through college. The focus on back to basics and reverse engineering is novel, and the Smithsonian invention kits represent an integration of technology with college and career ready standards. The CAD online tool development by Fablevision represents a novel application and an accessible resource as more schools invest in 3D printing technologies. The potential to disseminate the kits nationally represents a significant contribution and shift in the ways advanced engineering instruction is delivered from middle school through high school.

Weaknesses:

The proposal would benefit from more detail in the description of ways this project bridges technology with college and career ready standards.

Reader's Score: 31

Selection Criteria - Quality of Project Design

1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(2) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

Note: In responding to this criterion, the Secretary encourages applicants to address what activities the applicant will undertake in its proposed project, and how the applicant will ensure its project implementation is successful in achieving the project goals.

Strengths:

The proposal includes a well-developed logic model and demonstrates significant pilot testing a revision in the process of implementation (page e24). The integration of student assessments (developed by teachers) with Virginia State SOL (standards of learning) in the timeline and project implementation demonstrates coordination between multiple stakeholders (p. e26-e27). The summer professional development institutes provide significant time for teacher testing of the kits, followed during the school year with common planning periods (p. e28). The proposal identifies pathways to college programs and career skill development and readiness on pages e30 and e31.

Weaknesses:

The description of the kit is unclear, and does not define whether it is tangible, virtual, or both, nor does it include a detailed description of the contents of the kit. The proposal lacked an identification of risks and strategies to mitigate risks to project success.

Reader's Score: 26

Selection Criteria - Quality of the Management Plan

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.

(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project's long-term success.

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

(4) The extent to which the project director has experience managing projects of similar size and scope as the proposed project.

Note: In responding to this criterion, the Secretary encourages applicants to address how the project team will evaluate the success or challenges of the project and use that feedback to make improvements to the project, and the role of key partners and their impact on the long-term success of the project, and how the project director's prior experiences have prepared them for implementing the proposed project of this size and scope successfully.

Strengths:

The applicant identifies personnel and includes adequate FTE to implement project goals. The key personnel represent the broad spectrum of stakeholder organizations. Pages e34-e36 include a detailed timeline with milestones identified, and the applicant includes sufficient metrics and feedback plan to ensure continuous improvement. The partnership with Fablevision for Fab@School Designer software is novel and critical to the success of this project. The key personnel have experience in technology integration, professional development, and nearly every other field involved in this project. The key partners have demonstrated significant support and contributions to the project.

Weaknesses:

The lead PI has included a letter of support and endorsement, which is slightly awkward due to his involvement in the project.

Reader's Score: 18

Selection Criteria - Quality of the Project Evaluation

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

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measurable threshold for acceptable implementation.

(4) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.

Note: In responding to this criterion, applicants should describe the key evaluation questions and address how the proposed evaluation methodologies will allow the project to answer those questions. The Secretary encourages applicants to include questions about the effectiveness of the proposed project with the specific student populations being served with grant funds. Further, the Secretary encourages applicants to identify what implementation and performance data the evaluation will generate and how the evaluation will provide data during the grant period to help indicate whether the project is on track to meet its goals. Finally, applicants should also address whether sufficient resources, which may include the qualifications of the independent evaluator, are included in the project budget to carry out the evaluation effectively.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Status: Submitted
Last Updated: 09/18/2014 12:41 PM

Status: Submitted

Last Updated: 09/18/2014 02:16 PM

Technical Review Coversheet

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	
Selection Criteria		
Significance		
1. Significance	35	30
Quality of Project Design		
1. Project Design	30	26
Quality of the Management Plan		
1. Management Plan/Personnel	20	15
Quality of the Project Evaluation		
1. Project Evaluation	15	0
Total	100	71

Technical Review Form

Panel #10 - 2014 Development Full Panels - 10: 84.411C

Reader #2: *****

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Questions

Summary Statement - Summary Statement

1. Summary Statement (Optional)

General:

Reader's Score:

Selection Criteria - Significance

1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(3) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

Note: In responding to this criterion, the Secretary encourages applicants to explain how the applicant's proposed project addresses the absolute priority and the subpart that it seeks to meet. Additionally, the Secretary asks that applicants explain how the proposed project is unique. Applicants should explain how their proposed projects fit into existing theory, knowledge, or practice, and how their proposed projects will serve as exemplars for new practices in the field.

Strengths:

The project aims to teach science and engineering through the creation of Smithsonian Invention Kits. The target group includes middle schools in Central Virginia in urban, rural-fringe, and rural settings. It addresses Priority 5 through the use of project based learning activities; an integrated curriculum and opportunities to develop competencies using emerging technologies; and build teacher efficacy through focused professional development. The University of Virginia jointly established the nation's first Laboratory School for Advanced Manufacturing in collaboration with the Albemarle and Charlottesville schools that integrates engineering design into the middle school curriculum through advanced manufacturing technologies. The goal of the program for the students is not to create an exact physical replica of the invention, but to reinterpret and reinvent the device using modern manufacturing technology. This is a novel and unique approach and allows middle school students to explore and use modern technologies to update the inventions. The collaboration with the Smithsonian and Princeton also provide for some unique partnerships. This does provide potential contribution to the development of theory, knowledge and practice through the implementation of the invention kits and through the increased opportunity for students to enroll in engineering courses at the middle schools level.

Weaknesses:

The PD provided to teachers lacks details and how the schools were identified is unclear. More specifics on the program content would have been helpful and in discussing the schedule and how it is being implemented.

Reader's Score: 30

Selection Criteria - Quality of Project Design

1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(2) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

Note: In responding to this criterion, the Secretary encourages applicants to address what activities the applicant will undertake in its proposed project, and how the applicant will ensure its project implementation is successful in achieving the project goals.

Strengths:

The logic model presented in this proposal provides a clear conceptual framework for this project. It includes the inputs, activities, outputs and outcomes. There is a list of objectives that are included in the proposal and the course outcomes will be aligned to the Virginia Standards of Learning. Timelines are included and the proposal described the opportunities for PD. There is follow up during the school year and it will be available online. Videos will be created of the way in which Invention Kits are employed in pilot classrooms. Background information will be provided where appropriate. The project will use a national advisory panel to review the contents and share with other. This project will be expanded to high school and align with college and career ready standards and will provide for college credit.

Weaknesses:

The specific content for the PD is not clearly identified and how this project will be implemented is unclear in the proposal. The plan of action does not have metrics and the various opportunities for students are explained but not discussed from a K-12 viewpoint and how it will be designed for a student to access during the school day. This lacks an explanation on the commitment of the teachers and the school district.

Reader's Score: 26

Selection Criteria - Quality of the Management Plan

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.

(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project 's long-term success.

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

the proposed project.

(4) The extent to which the project director has experience managing projects of similar size and scope as the proposed project.

Note: In responding to this criterion, the Secretary encourages applicants to address how the project team will evaluate the success or challenges of the project and use that feedback to make improvements to the project, and the role of key partners and their impact on the long-term success of the project, and how the project director 's prior experiences have prepared them for implementing the proposed project of this size and scope successfully.

Strengths:

Two school personnel will provide 50% of their time to directing this project. Key staff assigned to work with the program is clearly identified and are qualified and experienced as evidenced by the description in the narrative and the resumes in the Appendices. Project timelines are included and provide information on project outcomes. The applicant demonstrates sufficient commitment on the project by partner responsibilities in project development and participation, and by letters of commitment and support outlining specific intent in support of the project. Staff working on the project is representative of the partner organizations. This representation provides for the development of a strong foundation for the project and appropriate oversight. The continuous improvement and feedback was discussed in the proposal through the national advisory panel and through the pilot program.

Weaknesses:

The timelines tend to be generic and lack specificity. It does not appear that the two directors have extensive experiences in managing such a large project.

Reader's Score: 15

Selection Criteria - Quality of the Project Evaluation

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

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measurable threshold for acceptable implementation.

(4) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.

Note: In responding to this criterion, applicants should describe the key evaluation questions and address how the proposed evaluation methodologies will allow the project to answer those questions. The Secretary encourages applicants to include questions about the effectiveness of the proposed project with the specific student populations being served with grant funds. Further, the Secretary encourages applicants to identify what implementation and performance data the evaluation will generate and how the evaluation will provide data during the grant period to help indicate whether the project is on track to meet its goals. Finally, applicants should also address whether sufficient resources, which may include the qualifications of the independent evaluator, are included in the project budget to carry out the evaluation effectively.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: **0**

Status: Submitted

Last Updated: 09/18/2014 02:16 PM

Status: Submitted

Last Updated: 09/18/2014 07:22 AM

Technical Review Coversheet

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Reader #3: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	
Selection Criteria		
Significance		
1. Significance	35	32
Quality of Project Design		
1. Project Design	30	28
Quality of the Management Plan		
1. Management Plan/Personnel	20	15
Quality of the Project Evaluation		
1. Project Evaluation	15	0
Total	100	75

Technical Review Form

Panel #10 - 2014 Development Full Panels - 10: 84.411C

Reader #3: *****

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Questions

Summary Statement - Summary Statement

1. Summary Statement (Optional)

General:

Reader's Score:

Selection Criteria - Significance

1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(3) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

Note: In responding to this criterion, the Secretary encourages applicants to explain how the applicant's proposed project addresses the absolute priority and the subpart that it seeks to meet. Additionally, the Secretary asks that applicants explain how the proposed project is unique. Applicants should explain how their proposed projects fit into existing theory, knowledge, or practice, and how their proposed projects will serve as exemplars for new practices in the field.

Strengths:

The applicant addresses the absolute priority and subparts required by the i3 guidelines (Pages e15 & e17). Although hands on science kits or project based learning kits for STEM related instruction is not novel, the expansion of the Smithsonian Invention Kits to include new technologies is unique (Page e17). The expansion of the pilot program to a regional area would suggest the program is reproducible and would likely serve as an exemplar model in the field of STEM education (Page e18).

Weaknesses:

It is unclear if the initial start up funding is necessary for school systems to reproduce the program. Cost of materials, equipment and professional development could be a barrier to entry for many school systems. The cost concern is highlighted by the current laboratory school and existing program's receipt of several funding sources and large partnerships that were necessary to build the foundation (Pages e18, e20 & e33).

Selection Criteria - Quality of Project Design

1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(2) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

Note: In responding to this criterion, the Secretary encourages applicants to address what activities the applicant will undertake in its proposed project, and how the applicant will ensure its project implementation is successful in achieving the project goals.

Strengths:

The logic model is rational in its construction, and realistic with the outcomes expected (Pages e23). The project objectives are well defined and provide clarity (Pages e14 & e24-e30). The program will cycle students through two pilot programs. Refining the kits with two student populations over a three-year development period increase the likeliness of high quality products (Page e24). It appears that many of the existing STEM activities are available for public use (Pages e95-e101). The artifacts provide clarity to the outcomes expected. The three-year timeline provides benchmarks to reach objective two (Page e27). Opportunities to present findings at conferences support efforts to share exemplar practices (Page e28). The National Advisory Panel is clearly delineated and responsibilities are sufficiently described further providing credibility to the project's outcomes (Pages e29-e30 & e91-e93). Student achievement is benchmarked against Virginia standards (Page e26). The summer institutes of three-week durations are adequate for initial professional development; common plan time and online activities should support proper classroom instruction and project implementation (Pages e28 & e29).

Weaknesses:

The term "Kits" are used throughout the proposal. Additional information regarding what the "Kits" entail would enhance understanding. The logic model includes reproducible online resources; however, the term "Kit" does not infer online resources (Page e23). Information regarding the existing online "Kits" is limited in the scope of yearlong course work as described (Pages e95-e101). The existing activities are described in Appendix J; however, the new advanced high school course work is missing. It is also unclear if teachers will be compensated for summer work (Page e28).

Selection Criteria - Quality of the Management Plan

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.

(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project 's long-term success.

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

the proposed project.

(4) The extent to which the project director has experience managing projects of similar size and scope as the proposed project.

Note: In responding to this criterion, the Secretary encourages applicants to address how the project team will evaluate the success or challenges of the project and use that feedback to make improvements to the project, and the role of key partners and their impact on the long-term success of the project, and how the project director 's prior experiences have prepared them for implementing the proposed project of this size and scope successfully.

Strengths:

The individuals in key leadership positions appear to be well qualified and possess sufficient time to conduct the described duties (Pages e32-e34 & e54-e74). The project timeline is detailed and allows for frequent reviews of progress (Pages e34-e36)

Weaknesses:

A hierarchy of project management with reporting responsibilities and newly created positions would provide additional understanding of the proposal's management team. This would limit role confusion and clearly indicate if substantial supports are in place to sustain this expansion project.

Reader's Score: 15

Selection Criteria - Quality of the Project Evaluation

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

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measurable threshold for acceptable implementation.

(4) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.

Note: In responding to this criterion, applicants should describe the key evaluation questions and address how the proposed evaluation methodologies will allow the project to answer those questions. The Secretary encourages applicants to include questions about the effectiveness of the proposed project with the specific student populations being served with grant funds. Further, the Secretary encourages applicants to identify what implementation and performance data the evaluation will generate and how the evaluation will provide data during the grant period to help indicate whether the project is on track to meet its goals. Finally, applicants should also address whether sufficient resources, which may include the qualifications of the independent evaluator, are included in the project budget to carry out the evaluation effectively.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: **0**

Status: Submitted

Last Updated: 09/18/2014 07:22 AM

Status: Submitted

Last Updated: 09/19/2014 03:39 PM

Technical Review Coversheet

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Reader #4: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	
Selection Criteria		
Significance		
1. Significance	35	0
Quality of Project Design		
1. Project Design	30	0
Quality of the Management Plan		
1. Management Plan/Personnel	20	0
Quality of the Project Evaluation		
1. Project Evaluation	15	11
Total	100	11

Technical Review Form

Panel #10 - 2014 Development Full Panels - 10: 84.411C

Reader #4: *****

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Questions

Summary Statement - Summary Statement

1. Summary Statement (Optional)

General:

Reader's Score:

Selection Criteria - Significance

1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(3) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

Note: In responding to this criterion, the Secretary encourages applicants to explain how the applicant's proposed project addresses the absolute priority and the subpart that it seeks to meet. Additionally, the Secretary asks that applicants explain how the proposed project is unique. Applicants should explain how their proposed projects fit into existing theory, knowledge, or practice, and how their proposed projects will serve as exemplars for new practices in the field.

Strengths:

Reviewed by content reviewers.

Weaknesses:

Reviewed by content reviewers.

Reader's Score: 0

Selection Criteria - Quality of Project Design

1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(2) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

Note: In responding to this criterion, the Secretary encourages applicants to address what activities the applicant will undertake in its proposed project, and how the applicant will ensure its project implementation is successful in achieving the project goals.

Strengths:

Reviewed by content reviewers.

Weaknesses:

Reviewed by content reviewers.

Reader's Score: 0

Selection Criteria - Quality of the Management Plan

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.

(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project 's long-term success.

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

(4) The extent to which the project director has experience managing projects of similar size and scope as the proposed project.

Note: In responding to this criterion, the Secretary encourages applicants to address how the project team will evaluate the success or challenges of the project and use that feedback to make improvements to the project, and the role of key partners and their impact on the long-term success of the project, and how the project director 's prior experiences have prepared them for implementing the proposed project of this size and scope successfully.

Strengths:

Reviewed by content reviewers.

Weaknesses:

Reviewed by content reviewers.

Reader's Score: 0

Selection Criteria - Quality of the Project Evaluation

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

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measurable threshold for acceptable implementation.

(4) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.

Note: In responding to this criterion, applicants should describe the key evaluation questions and address how the proposed evaluation methodologies will allow the project to answer those questions. The Secretary encourages applicants to include questions about the effectiveness of the proposed project with the specific student populations being served with grant funds. Further, the Secretary encourages applicants to identify what implementation and performance data the evaluation will generate and how the evaluation will provide data during the grant period to help indicate whether the project is on track to meet its goals. Finally, applicants should also address whether sufficient resources, which may include the qualifications of the independent evaluator, are included in the project budget to carry out the evaluation effectively.

Strengths:

The applicant's evaluation plan is designed to assess the implementation of the project and its impact on student achievement. The well-respected evaluator American Institute of Research (AIR) will use an interrupted time series analysis. As accurately noted by the applicant, this is one of the strongest designs in positing causal claims from a treatment. The applicant provided several important components related to the evaluation plan clearly outlined starting on (pg. e35), (a) the key evaluation questions which will guide the evaluation, these questions link back to the goals/objectives of this project; (b) there are questions identified to assess implementation (see pg. e37) under Outputs and impact, see (pg. e37) under Outcome; (c) the type of quantitative analyses which will be used to answer the impact question. The applicant's proposed analytical method is appropriate in addressing the impact research question. The key method is a three-level hierarchical linear model (HLM). This method is a widely acceptable quantitative statistical method to address impact research questions where there are nested data.

Weaknesses:

The extent to which the evaluation plan clearly articulates a measureable threshold for acceptable implementation was not clearly identified in the proposal. In addition, the extent to which the evaluation plan includes a proposed sample size and minimum detectable effect size that aligns with the expected project impact was not provided in the proposal.

Reader's Score: 11

Status: Submitted
Last Updated: 09/19/2014 03:39 PM

Status: Submitted

Last Updated: 09/18/2014 09:29 PM

Technical Review Coversheet

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Reader #5: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	0
Selection Criteria		
Significance		
1. Significance	35	0
Quality of Project Design		
1. Project Design	30	0
Quality of the Management Plan		
1. Management Plan/Personnel	20	0
Quality of the Project Evaluation		
1. Project Evaluation	15	10
Total	100	10

Technical Review Form

Panel #10 - 2014 Development Full Panels - 10: 84.411C

Reader #5: *****

Applicant: ALBEMARLE COUNTY PUBLIC SCHOOLS (U411C140105)

Questions

Summary Statement - Summary Statement

1. Summary Statement (Optional)

General:

NA

Reader's Score: 0

Selection Criteria - Significance

1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(3) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

Note: In responding to this criterion, the Secretary encourages applicants to explain how the applicant's proposed project addresses the absolute priority and the subpart that it seeks to meet. Additionally, the Secretary asks that applicants explain how the proposed project is unique. Applicants should explain how their proposed projects fit into existing theory, knowledge, or practice, and how their proposed projects will serve as exemplars for new practices in the field.

Strengths:

NA

Weaknesses:

NA

Reader's Score: 0

Selection Criteria - Quality of Project Design

1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(2) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

Note: In responding to this criterion, the Secretary encourages applicants to address what activities the applicant will undertake in its proposed project, and how the applicant will ensure its project implementation is successful in achieving the project goals.

Strengths:

NA

Weaknesses:

NA

Reader's Score: 0

Selection Criteria - Quality of the Management Plan

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.

(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project 's long-term success.

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

(4) The extent to which the project director has experience managing projects of similar size and scope as the proposed project.

Note: In responding to this criterion, the Secretary encourages applicants to address how the project team will evaluate the success or challenges of the project and use that feedback to make improvements to the project, and the role of key partners and their impact on the long-term success of the project, and how the project director 's prior experiences have prepared them for implementing the proposed project of this size and scope successfully.

Strengths:

NA

Weaknesses:

NA

Reader's Score: 0

Selection Criteria - Quality of the Project Evaluation

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

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measurable threshold for acceptable implementation.

(4) The extent to which the proposed project plan includes sufficient resources to carry out the project evaluation effectively.

Note: In responding to this criterion, applicants should describe the key evaluation questions and address how the proposed evaluation methodologies will allow the project to answer those questions. The Secretary encourages applicants to include questions about the effectiveness of the proposed project with the specific student populations being served with grant funds. Further, the Secretary encourages applicants to identify what implementation and performance data the evaluation will generate and how the evaluation will provide data during the grant period to help indicate whether the project is on track to meet its goals. Finally, applicants should also address whether sufficient resources, which may include the qualifications of the independent evaluator, are included in the project budget to carry out the evaluation effectively.

Strengths:

A series of research questions connected directly to the logic model (p. e23) are described on page e37. The research questions are grouped by inputs, outputs, and outcomes and directly address both fidelity of implementation and project effects on student outcomes.

The project will use a comparative quasi-experimental interrupted time-series (ITS) design to assess outcomes. All primary measures (8th grade science scores, attendance, and attendance in STEM course) will be collected for three years prior to the project and through the project to model the impact of project activities. Additional assessments will be developed based on the content focus of the project and used to assess student-level growth. Overall, this approach is appropriate and, assuming a positive impact after 1-year of implementation, should result in robust findings.

The analysis of the ITS models will include a three-level model to adjust for school-level differences (p. e41) and difference-in-difference models will be used to assess differences on teacher survey measures. This plan is credible and adequate to address the research questions.

The evaluation team has extensive experience and expertise to complete the project on time. They have prior experience conducting i3 evaluations, as well as other large research projects.

The allocated budget and resources are also appropriate for a project of this size.

Weaknesses:

The project will utilize the Classroom Assessment Scoring System (CLASS) to assess teacher instruction and student engagement. Although the CLASS is a validated and appropriate measure of teacher instruction and student engagement, it is unclear how the CLASS is connected to the research questions described on page e37 or how it will provide information about the components of the intervention (e.g., use of Invention Kits). More support and connection is necessary for using the CLASS.

The evaluation did not include a power analyses and minimum detectable effect size. Although the sample size was predetermined (p. e37), a power analysis should be completed to ensure the study is accurately powered to identify an effect.

Additional detail about the models would have been helpful, including a discussion about item scaling, particularly for

attendance and STEM courses, as they are count data.

The evaluation plan did not include much information about how the implementation of all key program components will be assessed. For example, the research questions included reference to participation in the regional professional development networks and utilization of data from technology. The assumption is that these components would be measured via the focus groups and surveys (p. e39), but more detail about how and what would be measured should have been included.

No measurable threshold of acceptable implementation was described.

Reader's Score: 10

Status: Submitted
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