

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

Status: Submitted

Last Updated: 09/22/2014 10:37 PM

Technical Review Coversheet

Applicant: The Curators of the University of Missouri (U411C140081)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	
Selection Criteria		
Significance		
1. Significance	35	34
Quality of Project Design		
1. Project Design	30	30
Quality of the Management Plan		
1. Management Plan/Personnel	20	18
Quality of the Project Evaluation		
1. Project Evaluation	15	0
Total	100	82

Technical Review Form

Panel #12 - 2014 Development Full Panels - 12: 84.411C

Reader #1: *****

Applicant: The Curators of the University of Missouri (U411C140081)

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 proposes to create a game-based 3-d virtual learning environment to support middle school learning in hydrologic systems and scientific argumentation. The proposed project targets small and rural schools that may have limited access to Next Generation Science Standards (NGSS) materials and experiences in their schools. The Mission Hydo Science game can provide engaging distance and blending learning opportunities for students. (p 2-3)

The applicant proposes to use "strong theory" for learning progressions and the theory of transformational play in implementing the project. Use of 3-D play and non-player characters to support engagement and learning by students is proposed. Three distinctive components of the proposed project include learning analytics, four-week curriculum, and dashboard for teacher support. Learner experience is at the forefront of the design of the game. (p 3-5)

Leveraging the growth and prevalence of gaming in diverse environments, especially education will contribute to the practices being explored today. The use of predictive learning analytics into the game will add to the discussion of personalization and interventions. The creation of the game as a software product also has high scalability. (p 6)

Weaknesses:

The application does not include descriptive information on how the project will share information on the practice in the field of study. Additional information is needed to describe how the proposed project will be shared and disseminated during implementation and after project completion.

Reader's Score: 34

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:

Although the applicant shares five goals in the application, it does state developing and testing a scalable model for distance and blended learning for small and rural schools as its overarching goal. (p 6-7) The proposed project's Logic Model highlights all of the inputs, outputs, outcomes for the proposed project. The applicant shares that an iterative design process will be incorporated throughout the life of the project. (p 7-8)

The application includes information on the proposed projects 4 cycles of design & development, implementation & data college, and analysis & results in which the first three cycles advance and inform the design. The 4th cycle is program evaluation. Cycles 1-3 are highlighted as usability, usage, and feasibility with Cycle 4 being pilot testing. The applicant includes information that provides a clear path from design, development, implementation, and completion. (p 8-15)

Three risks are identified in the application include choices in developing the learning system, effective learning analytics, and teacher comfort with MHS/technology tools. Appropriate strategies to mitigate the risks are shared including using an iterative process, formative evaluation, and designing the student experience to be successful. (p 15-16)

Weaknesses:

There are no weaknesses identified.

Reader's Score: 30

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 application includes project milestones table that shares the milestone, cycle in which the milestones are to be completed, responsible entity (organization), and yearly targets. The applicant proposes to use annual project methods and metrics for review of project performance that includes cognitive walk-throughs. (p 16-17) Usage and feasibility study data will be used for Learning Analytics with a formative annual report presented by the project evaluator.

The annual review and the advisory board will provide opportunities for external feedback and contribution to the design process. In addition to external feedback, student and teacher feedback will be provided during the usability and usage cycles. (p 18)

Letters of commitment for the identified organizations are included and an advisory board of representatives from the organizations will be established.(Appendix G) An annual multi-day conference will be held to build the team in year 1 and review and improvement in years 2-4. (p 18)

The applicant shares the capacities of Principal Investigators that will be involved in the project. The Principal Investigators have extensive experience in ED and NSF grants. The applicant's Principal Investigator was recently involved in an IES grant for a Virtual Learning Environment for youth with Autism. (p 19-20, Appendix F)

Weaknesses:

The application does not include information on the time allocated of 20% by the Principal Investigator as being able to effectively manage the proposed program. The limited amount of time to managed is a concern to effective implementation of the propose project through project completion.

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: This criterion was evaluated by another reviewer.

Weaknesses:

N/A: This criterion was evaluated by another reviewer.

Reader's Score: **0**

Status: Submitted
Last Updated: 09/22/2014 10:37 PM

Status: Submitted

Last Updated: 09/23/2014 02:05 PM

Technical Review Coversheet

Applicant: The Curators of the University of Missouri (U411C140081)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	0
Selection Criteria		
Significance		
1. Significance	35	34
Quality of Project Design		
1. Project Design	30	30
Quality of the Management Plan		
1. Management Plan/Personnel	20	18
Quality of the Project Evaluation		
1. Project Evaluation	15	0
Total	100	82

Technical Review Form

Panel #12 - 2014 Development Full Panels - 12: 84.411C

Reader #2: *****

Applicant: The Curators of the University of Missouri (U411C140081)

Questions

Summary Statement - Summary Statement

1. Summary Statement (Optional)

General:

In summary, this proposal represents a well-developed plan to meet Absolute Priority 5.

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:

The applicant intends to implement a game based technology aligned to the new next generation science standards to increase student achievement and engagement and teacher efficacy.

Current examples of game based success is provided (p3)

The plan presents a very unique approach to education through the use of a game, written argumentation, and a focus on NGSS with a particular focus on earth science/hydrology. No known program exists that addresses these parts together. (p3-6)

This game will contribute to the open source software that could be adapted to meet the needs of similar programs in the future.

Weaknesses:

No plan is given to explicitly share the theory knowledge, or practice developed from this proposal.

Reader's Score: 34

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 goals are clear and coherent with an extensive action plan to achieve its goals. For example, the proposal plans 4 cycles of design and development: usability, usage, feasibility, and pilot testing. (p10)

The team has experience completing a similar sort of rigorous evaluations system. (p11).

Outputs of student activity are clearly noted in table 2 (p12).

A learning analytics system with precedent will be implement to provide feedback on student behaviors and outcomes (p13)

A detailed plan to support teachers is provided that includes training and simulations along with a network community of MHS participants. (p14)

Potential risks are noted, most importantly, that of teacher support. The plan directly addresses the issue of insufficient teacher intervention. (p15)

Weaknesses:

No weaknesses found

Reader's Score: 30

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 management plan articulates key responsibilities and well defined objectives though the table on page 16. The table includes yearly milestones.

An annual review board will have four metrics mentioned on pages 17 and 18 and include a cognitive walkthrough in the first year, measure participant performance in years 2 and 3; finally in year four a team will use data from the usage and feasibility studies to judge the adequacy of data.

There is a demonstrated commitment of key partners from the letters of commitment in Appendix G.

To provide adequate procedures for ensuring feedback and continuous improvement the project proposes having an advisory board comprised of researchers and educators that will meet five times across each of the four cycles (p18)

In addition, annual conferences, and a formal evaluation report from the evaluator will be utilized for feedback (p18)

The PI has sufficient experience with similar size and scope grants as evidenced by receiving grants totaling over \$8.0 million (p19)

Weaknesses:

The PI will only spend 20% of their time on this project which seems inadequate. In addition, there is no project director to oversee the day-to-day operations of the grant.

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: 09/23/2014 02:05 PM

Status: Submitted

Last Updated: 09/23/2014 03:46 PM

Technical Review Coversheet

Applicant: The Curators of the University of Missouri (U411C140081)

Reader #3: *****

	Points Possible	Points Scored
Questions		
Summary Statement		
Summary Statement		
1. Summary Statement	0	
Selection Criteria		
Significance		
1. Significance	35	35
Quality of Project Design		
1. Project Design	30	30
Quality of the Management Plan		
1. Management Plan/Personnel	20	18
Quality of the Project Evaluation		
1. Project Evaluation	15	0
Total	100	83

Technical Review Form

Panel #12 - 2014 Development Full Panels - 12: 84.411C

Reader #3: *****

Applicant: The Curators of the University of Missouri (U411C140081)

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 via the integration of a 3D virtual learning environment for middle school hydro science. The unique/novel approach is the comprehensive unit taking place completely in the virtual world, with students and teachers interacting with one another (instead of each participant in isolation) (p 4). This structure fits into existing theory that indicates high attrition rates in online learning due to feeling isolated (p 2); games and simulations (which encourage transformational play) increase student understanding; and a personalized teacher support system (p 6).

Weaknesses:

None found.

Reader's Score: 35

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:

Applicant clearly and coherently lays out all project goals and activities in Appendix D. These include:

- Four key components of: a 3D virtual learning system; science curriculum based on learning progressions; a teacher support system; and a learning analytics system (p 2)
- A description of the virtual learning system and how students will interact with it (p 5-6)
- An effective teacher support system that provides PD not only on the use of the MHS but also the learning model, analytics system, feedback it provides, philosophy behind its development, and curriculum and collaborative strategies (p 7).

Applicant identifies appropriate risks and plans for mitigation (p 15-16), including risks associated with:

- the pedagogical choices when developing learning resources (mitigated by iterative process and advisory board)
- the effectiveness of the Learning Analytics and data mining/use (mitigated by multiple trials and continued data analysis after grant period is over)
- the potential for teachers to feel overwhelmed (mitigated by monitoring teacher feedback and providing additional support when needed)

Weaknesses:

None found.

Reader's Score: 30

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:

Key responsibilities, objectives, timelines and milestones are indicated in the chart on pages 16-17. All key partners have indicated commitment (Appendix G). Feedback will be provided via annual conferences, formative evaluation reports, and advisory board input (p 18). The project director has the experience and background relevant to successfully lead this project (p 19).

Weaknesses:

The method by which participating teachers/students will be selected is not indicated. Additionally, the Project Director position is only allotted 20% FTE (Budget Narrative, e135).

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: 09/23/2014 03:46 PM

Status: Submitted

Last Updated: 09/22/2014 02:13 PM

Technical Review Coversheet

Applicant: The Curators of the University of Missouri (U411C140081)

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 #12 - 2014 Development Full Panels - 12: 84.411C

Reader #4: *****

Applicant: The Curators of the University of Missouri (U411C140081)

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:

Not required to complete

Weaknesses:

Not required to complete

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:

Not required to complete

Weaknesses:

Not required to complete

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:

Not required to complete

Weaknesses:

Not required to complete

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:

- Key research questions are provided for impact evaluation on page 21. These questions are sufficient to determine the extent to which the proposed outcomes will be met.
- The proposal includes an explanation of the research process for the impact study, including the design chosen, methodology, analysis, sample size for the treatment and comparison groups, threshold and effect size (pgs. 22-25), all of which provides confidence that outcomes and impact can be determined. The applicant clearly explains how the effect size translates into student gains.
- The applicant provides a clear process for evaluating project implementation (pgs. 8-12), including data collection. Measurable thresholds are provided for implementation evaluations, and outcomes are provided for implementation (pg. 8) and impact (pg. 7-8). This provides confidence that project fidelity will be maintained, and that project is more likely to be replicated.

Weaknesses:

- Key questions are missing for implementation evaluation.
- The sample size used for implementation study is small (pg. 9). More explanation is needed to support why such a small sample size is proposed.
- The applicant states that the participating schools have not been selected (pg. 22). Although specific schools have not been identified, more information about how they will be selected, including the variables on which they will be selected and qualified, would strengthen the study.
- The sample size for the treatment group is more than double the size of the comparison group (pg. 22). It would strengthen the study if the applicant provides an explanation of the implications of such a difference in size on the accurately determining the project impact and/or how the applicant could mediate any potential risks to skewing results.

Reader's Score: 11

Status: Submitted
Last Updated: 09/22/2014 02:13 PM

Status: Submitted

Last Updated: 09/22/2014 10:13 PM

Technical Review Coversheet

Applicant: The Curators of the University of Missouri (U411C140081)

Reader #5: *****

	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	12
Total	100	12

Technical Review Form

Panel #12 - 2014 Development Full Panels - 12: 84.411C

Reader #5: *****

Applicant: The Curators of the University of Missouri (U411C140081)

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:

This selection criterion was scored by another peer reviewer.

Weaknesses:

This selection criterion was scored by another peer reviewer.

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:

This selection criterion was scored by another peer reviewer.

Weaknesses:

This selection criterion was scored by another peer reviewer.

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:

This selection criterion was scored by another peer reviewer.

Weaknesses:

This selection criterion was scored by another peer reviewer.

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:

Evaluation Questions

Evaluation questions are clearly indicated in the application (page e36).

Evaluation Design

A strength of the evaluation is the design, which is a cluster random assignment design as indicated on page e36.

Recruitment and Sampling Plan

A strength of the evaluation is that it describes the recruitment and sampling plan. As indicated on page e37, Schools will be randomly assigned to treatment and control conditions. The sample size is indicated as follows, "20 classes of DL students expecting 10 students per class, and 40 classes of BL students expecting 25 students per class". In total, the sample will include 840 treatment students. Also, the evaluation plan includes a power analysis and minimum detectable effect size.

Instrumentation

The evaluation plan clearly lists and describes the data collection instruments that will be used, which are established measures.

Analysis Plan

The analysis plan includes hierarchical linear modeling, which is appropriate for comparisons consisting of groups that are nested (or otherwise arranged hierarchically) as described on pages e39 and e40.

Implementation Plan

The evaluation plan includes fidelity measures clearly listed on pages e40 and e41, which are appropriate for the project as indicated by the logic model. Also, thresholds as indicated on page e40.

Resources

A strength of the evaluation plan are the resources, which the applicant has to carry out the evaluation. Further, on page e41, the plan clearly outlines the role of the external evaluator.

Weaknesses:

Implementation Question

The implementation thresholds are not necessarily a reflection of implementation measures, which would focus more so on the occurrence and frequency of planned program implementation activities. On page e41, the implementation threshold number 3 states, "for teachers in both treatment and comparison groups, at least 80% of the teachers will rate efficacy on the TSES above the midpoint of "some influence" for items. This is not a process indicator.

There are several staff members with roles in the evaluation, as described on page e41. The evaluation plan would be stronger with an explanation of why the evaluation roles and responsibilities have been designated this way across several staff members from different agencies.

Recruitment

On page e37, the evaluation plan states that specific participating schools have not yet been identified. The evaluation plan would be stronger with a statement indicating alternate strategies if the intended number and types of schools are not recruited.

The plan would be stronger with an explanation of the limitations of and justifications for unequal sample size group comparisons (unbalanced design indicated on page e37).

Reader's Score: 12

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