

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

Status: Submitted

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Technical Review Coversheet

Applicant: Teachers College, Columbia University (U336S140014)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	15
Quality of Project Design		
1. Project Design	45	45
Quality of the Management Plan		
1. Management Plan	20	18
Quality of the Project Evaluation		
1. Project Evaluation	20	18
Priority Questions		
Competitive Preference Priority 1		
Promoting STEM Education		
1. CPP 1	5	5
Competitive Preference Priority 2		
Implementing Academic Standards		
1. CPP 2	2	2
Total	107	103

Technical Review Form

Panel #9 - 2014 TQP Grant Review- 9: 84.336S

Reader #1: *****

Applicant: Teachers College, Columbia University (U336S140014)

Questions

Selection Criteria - Significance

1. 1) The Secretary considers the significance of the proposed project.
- 2) In determining the significance of the proposed project, the Secretary considers the following factors:
 - i) The extent to which the proposed project is likely to build local capacity to provide, improve, or expand services that address the needs of the target population.
 - ii) The likelihood that the proposed project will result in system change or improvement.
 - iii) The extent to which the proposed project will prepare personnel for fields in which shortages have been demonstrated.

Strengths:

The proposal notes that Teachers' College cohort of teacher residents that have taught for three years, 90% of them are still teaching. (p. 46). This provides substantial evidence of the level of system change occurring through this work, as well as improvement, by addressing the need to retain teachers. As an extension of the current work, better and more experienced teachers are staying in the workforce.

The proposal notes that Teacher Residency at Teachers' College 2 (TR@TC2) will continue to support Mentor Teacher learning and growth through high-quality professional development, leadership opportunities, and professional learning communities. Participating schools will benefit from access to university resources and from working with school- and university-based educators to shape teacher preparation. They will participate in research and learn from evaluations, which will expose them to cutting edge thinking and new ideas. (p. 48). This offers evidence for the project's focus of building the capacity of teachers.

The proposal also notes that the data that the program will collect on the intersection of STEM, ESL and special education in teacher preparation and its impact on student learning. These data will be particularly meaningful and relevant to NYC principals given the system-wide special education reform underway with its focus on inclusive classrooms and full access to the academic curriculum for all. (p. 48). This is further evidence of the system change and improvement that this project is likely to have.

The proposal also notes that following the path of its predecessor residency program, TR@TC2 will bring certified, experienced, knowledgeable teachers to schools where the achievement gaps are especially pronounced. (p. 48). In addition, the proposal makes clear that the program is directed to prepare teachers in the content areas identified by the New York City Board of Education as having the most shortages; namely, science, special education and English as a second language. (p. 15-16). These offer evidence for the project addressing both the needs of the target population and shortage areas of the district.

The proposal also notes that the data that the program will collect on the intersection of STEM, ESL and special education in teacher preparation and its impact on student learning. These data will be particularly meaningful and relevant to NYC principals given the system-wide special education reform underway with its focus on inclusive classrooms and full access to the academic curriculum for all. (p. 48).

The proposal also notes that following the path of its predecessor residency program, TR@TC2 will bring certified, experienced, knowledgeable teachers to schools where the achievement gaps are especially pronounced. (p. 48).

(iii)

The proposal makes clear that the program is directed to prepare teachers in the content areas identified by the New York City Board of Education as having the most shortages; namely, science, special education and English as a second language. (p. 15-16).

Weaknesses:

No weaknesses noted.

Reader's Score: 15

Selection Criteria - Quality of Project Design

1. 1) The Secretary considers the quality of the design of the proposed project.

2) In determining the quality of the design of the proposed project, the Secretary considers the extent to which the proposed project consists of a comprehensive plan that includes a description of:

i) The extent to which the proposed project is supported by strong theory (as defined in this notice).

ii) 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.

iii) The extent to which the proposed activities constitute a coherent, sustained program of training in the field.

iv) 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.

v) The extent to which the applicant demonstrates that it has the resources to operate the project beyond the length of the grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any partners; evidence of broad support from stakeholders (e.g., State educational agencies, teachers unions) critical to the project's long-term success; or more than one of these types of evidence.

Note: In order to address this criterion, applicants are encouraged to develop logic models to demonstrate their project's theory of action. Applicants should connect available evidence of past history of successful outcomes to their logic models. Applicants may use resources such as the Pacific Education Laboratory's Education Logic Model Application (www.relpacific.mcrel.org/PERR.html) or the Northeast and Island's REL Skill Builder Workshops (www.relnei.org/events/skill-builder-archive.html) to help design their logic models. In addressing this criterion, applicants are also encouraged to connect the project design to the intended impact of the project, including an explanation of how the project will affect the preparation, placement, retention, induction, and professional development of teachers, and ultimately student achievement. Finally, applicants are encouraged to discuss the role and commitment of each partner and how the IHE and LEA(s) plan to sustain their partnership beyond the life of the grant.

Strengths:

The proposal demonstrates several ways in which the professional learning opportunities will be of high quality. For example, the proposal states that the Teaching Residents (TRs) will be engaged in: university coursework required by their specific certification area; an Intensive Summer Institute (ISI); two residency experiences over the full school year

anchored by an ongoing Core Integrating Seminar (CIS); school visits and observations; and other professional development activities. (p. 18).

In addition, the proposal states that in the first two years of teaching, the TRs will continue their professional development through the help of Induction Mentors (p. 18).

In addition, the proposal mentions that all TRs, regardless of certification area, will develop basic competencies in: STEM Literacy and Enrichment; Instructional Technology and Assistive Technology; Universal Design for Learning and Curriculum Development; and Co-Teaching and Co-Planning across Science, Special Education and English as a Second Language. (p. 18).

The table on page 19 describes the timeline by which teaching residents will be guided through their learning and work experiences. These include an introduction to the field, intensive summer institutes through two years of induction once the TRs are teaching (p. 20-26). This duration of professional development further demonstrates that these professional learning experiences will be of high quality.

In addition to the four pillars that guide the design of the program, the project focuses a core curriculum that concentrates on learners' integrated and multiple needs, the use of research-based practices that have demonstrated a large effect on student achievement, an intentional focus on middle school learners and the use of educational rounds and professional learning communities (p. 27-30). Also, the proposal also includes a logic model that lists long term and short-term results. These examples provide evidence for theoretical perspective that is guiding the work. (p. e244). In addition, the pillars provide coherence to the overall project and approach to professional development.

Working with the American Museum of Natural History, the Teaching Residents and Induction Residents will participate in Seminars on Science. (p. e262). In addition, the proposal describes institutional collaborations that will support the project, such as utilizing Barnard College faculty for science and math content courses. (p. e262). These examples serve as evidence of the extent to which inter-organizational collaboration serves the overall goals of the project.

By making connections within the University and outside, such as the examples above as well as with science education (p e17-e18), the program is intentionally looking to see this work continue beyond the term of the grant.

Weaknesses:

No weaknesses noted.

Reader's Score: 45

Selection Criteria - Quality of the Management Plan

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

2) In determining the quality of the management plan for the proposed project, the Secretary considers the following factors:

i) 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.

ii) The qualifications, including relevant training and experience, of key project personnel.

iii) The extent to which performance feedback and continuous improvement are integral to the design of the proposed project.

Note: In order to address this criterion, applicants are encouraged to include in the application narrative a clear, well thought-out implementation plan that includes annual timelines, key project milestones, and a schedule of activities with sufficient time for developing an adequate implementation plan, as well as a description and qualifications of the personnel who would be responsible for each activity and the level of effort each activity entails. Applicants may also describe how the partnering organizations will communicate and coordinate in order to achieve project goals.

Strengths:

The proposal states that the PI for the project is experienced in both managing grants as well as research on teacher education (p. 39, e126).

Also, although positions like lecturer and project manager have not been hired, the proposal articulates their anticipated role and expectations for their skills and experience (p. 39-40).

The proposal states additional key staff have extensive experience appropriate for carrying out the project and realizing its goals (p. 40-42). Moreover, the responsibilities for each of the key staff personnel are provided in their descriptions (p. 39-43). These examples provide extensive evidence that the key project personnel had adequate skills and training to carry out the project effectively.

The project management in appendix h.2 conveys the timeline for the project as well as the areas of work, which serve as milestones. For example, the steering committee will meet once in the spring and fall of each year, but not in the summer (p. e246). This frequency is adequate for making programmatic changes from semester to semester. And page 43 clarifies who is on the steering committee. Furthermore, the Teacher Education Policy Committee at TC, which meets twice each month, will also be engaged in assessing program progress with particular attention to TRs' experience, curriculum and instruction in the program and to lessons applicable for other teacher education programs at TC and beyond. These two examples serve as evidence that mechanisms are in place that are designed into the project for continuous improvement or performance feedback.

Weaknesses:

On page 246, the proposal's management plan does not include all of the members of the project team to show who is responsible for all of the work activities in the project.

Reader's Score: 18

Selection Criteria - Quality of the Project Evaluation

1. 1) The Secretary considers the quality of the evaluation to be conducted of the proposed project.

2) In determining the quality of the evaluation, the Secretary considers:

i) The extent to which the methods of evaluation provide valid and reliable performance data on relevant outcomes.

Note: In response to this selection factor, applicants are encouraged to include data on student learning.

ii) The extent to which the methods of evaluation are thorough, feasible, and appropriate to the goals, objectives, and outcomes of the proposed project.

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

Note: In addressing this criterion, applicants are encouraged to include a plan for how the project's evaluation will address the TQP Grant Program performance measures established by the Department under the Government Performance and Results Act of 1993 (GPRA), as well as the measures established in section 204(a) of the HEA. (The specific performance measures established for the overall TQP Grant Program are discussed under Performance Measures in section VI of this notice.) Further, applicants are encouraged to describe how the applicant's evaluation plan will be designed to collect both output data and outcome data, including benchmarks, to monitor progress. Finally, each applicant is encouraged to select an independent, objective evaluator who has experience in evaluating educational programs and who will play an active role in the design and implementation of the project's evaluation.

Strengths:

The proposal states that the Consortium for Policy Research in Education (CPRE) will conduct the evaluation of TR@TC2, which will be both summative and formative. (p. 30). This is evidence that the work will be carried out by an experienced and competent evaluator.

The proposal states that the evaluation will provide a descriptive analysis of educational, workforce and teacher practice outcomes (p. 32). The specific data sources for the analyses are mentioned as well (p. 37-38). This provides evidence that the evaluation plan is appropriate and feasible based on the objectives of the project.

The proposal also states that an impact evaluation will be carried out comparing the teaching residents with students from the traditional certification model from teachers college. This comparison will include the categories from the descriptive analysis as well as compare student achievement for both groups. The proposal also specifies how student achievement will be measured—state achievement test (p. 33). To carry out the comparison, the proposal notes that propensity score matching will be used to guide the selection and analysis. (p. 34). These examples are evidence that the methods employed for the evaluation plan are thorough with respect to the goals and objectives of the project.

The evaluation will also study how teaching practice evolves over time and whether rates of development can be attributed to entry characteristics of the teaching residents (p. 36).

Weaknesses:

The proposal does not specifically address the performance measures established by the Department under the Government Performance and Results Act of 1993 (GPRA), as well as the measures established in section 204(a) of the HEA.

Reader's Score: 18

Priority Questions**Competitive Preference Priority 1 - Promoting STEM Education****1. Projects that are designed to address one or both of the following priority areas:**

a) Increasing the opportunities for high-quality preparation of, or professional development for, teachers or other educators of STEM subjects.

b) Increasing the number of individuals from groups traditionally underrepresented in STEM, including minorities, individuals with disabilities, and women, who are teachers or educators of STEM subjects and have increased opportunities for high-quality preparation or professional development.

Note: Applicants that respond to Competitive Preference Priority 1 and Absolute Priority 1 are still required to implement the required reforms within the whole teacher preparation program, as reflected in sections (a) and (b) of Absolute Priority 1.

In responding to this competitive preference priority, applicants are encouraged to include the following elements in their proposed projects:

1) Institutional collaboration to ensure that students in a college of education who intend to teach STEM courses have access to courses that build appropriate content knowledge. Such students should have access to course sequencing that is equal to the course sequencing for other STEM majors outside the college of education.

2) Emphasis on hands-on and inquiry-based STEM experiences for prospective teachers, including dedicated research or laboratory experiences, STEM discipline-specific pedagogical instruction, and explicit instruction in the interdisciplinary connections between learning sciences and STEM instruction; and

3) Early and multiple field-based instructional experiences for prospective teachers that are structured to provide exposure to a variety of teaching and learning environments, and that are coordinated and aligned with the teacher preparation curriculum.

Strengths:

For example, the proposal states that the program rests on four pillars: STEM Literacy and Enrichment; Instructional Technology and Assistive Technology; Universal Design for Learning and Curriculum Development; and Co-Teaching and Co-Planning across Science, Special Education and English as a Second Language (p. 2). These pillars are also evident in the diagram on page 3.

Also, the proposal states that the project will partner with the science education program at Teachers College with experts in STEM content as well as STEM pedagogy. (p. 3-4).

The proposal lists institutional partnerships that will be in place to support this work including Barnard College with access to science and mathematics professors, the American Museum of National History with extensive resources, material and digital, for participants to explore (p. 4).

The proposal mentions that the proposed project will continue the recruiting strategies that have yielded a cohort composition in past projects ranging from 25% to 50% of students of color. (p. 5)

Weaknesses:

No weaknesses found.

Reader's Score: 5

Competitive Preference Priority 2 - Implementing Academic Standards

1. Projects that are designed to support the implementation of internationally benchmarked, college- and career-ready academic standards held in common by multiple States and to improve instruction and learning, including projects in the following priority areas:

a) The development or implementation of professional development or preparation programs aligned with those standards.

b) Strategies that translate the standards into classroom practice.

Strengths:

The proposal provides extensive evidence for this competitive preference priority.

The proposal makes an argument for how the four pillars guiding the project will support the implementation of internationally benchmarked standards. For example, it states that an aspect of STEM literacy will be exposure to the Common Core standards in mathematics as well as Next Generation Science Standards. (p. 6) Moreover, the proposal states that the emphasis on Universal Design for Learning principles in curriculum development will equip TRs with the skills to use their content knowledge to 1) design and implement, high quality, rigorous and content-rich curriculum; 2) use formative, varied and authentic assessments to continuously gather evidence about students' understanding and progress in order to make instructional adjustments that address gaps and support their learning; 3) ensure multiple access points into the academic curriculum so that all learners can be supported to meet high standards; 4) differentiate instruction through adaptations and modifications designed to meet the needs of English language learners and students with disabilities. (p. 6).

The proposal also mentions that the training will focus on an aspect of STEM literacy and that will be exposure to the Common Core standards in mathematics as well as Next Generation Science Standards. (p. 6).

Weaknesses:

No weaknesses found.

Reader's Score: 2

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Technical Review Coversheet

Applicant: Teachers College, Columbia University (U336S140014)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	15
Quality of Project Design		
1. Project Design	45	36
Quality of the Management Plan		
1. Management Plan	20	20
Quality of the Project Evaluation		
1. Project Evaluation	20	17
Priority Questions		
Competitive Preference Priority 1		
Promoting STEM Education		
1. CPP 1	5	5
Competitive Preference Priority 2		
Implementing Academic Standards		
1. CPP 2	2	2
Total	107	95

Technical Review Form

Panel #9 - 2014 TQP Grant Review- 9: 84.336S

Reader #2: *****

Applicant: Teachers College, Columbia University (U336S140014)

Questions

Selection Criteria - Significance

1. 1) The Secretary considers the significance of the proposed project.
 - 2) In determining the significance of the proposed project, the Secretary considers the following factors:
 - i) The extent to which the proposed project is likely to build local capacity to provide, improve, or expand services that address the needs of the target population.
 - ii) The likelihood that the proposed project will result in system change or improvement.
 - iii) The extent to which the proposed project will prepare personnel for fields in which shortages have been demonstrated.

Strengths:

- i. The project is likely to build capacity to improve services for the target population. The benefits from the wealth of experience acquired from the successful implementation of the Teaching Residents at Teachers College, Columbia University Program (TR@TC), which was supported by a 2009 Teacher Quality Partnership Grant. The overarching goal of this project is to improve student academic achievement by improving the effectiveness of new teachers in high demand STEM subject areas in advanced content knowledge and effective instructional strategies. Learner capacity will be built through university coursework required by their specific certification area; an Intensive Summer Institute (ISI); two residency experiences over the full school year anchored by an ongoing Core Integrating Seminar (CIS); school visits and observations; and other professional development activities(page 18 and 45).
- ii. The project will likely result in improved achievement of students and the ability of Teaching Residents regarding teacher preparation and effectiveness. Teacher residents will be immersed in experiences and professional learning that takes into account needs and readiness of Teaching Residents. Teaching Residents will be offered an integrated curriculum that addresses the multiple issues and needs that learners embody and bring to the classroom. TRs will examine issues relating to language, culture, socio-economic circumstances, immigration, context or environment, and education (pages 23-29, 48-50). Empirically-based practices with large effects on achievement will also be used. The project will prepare another 90 highly qualified teachers for the partner LEAs. Designed to be generative in nature, so as to qualitatively impact and reshape what we know about preparing quality teachers and about achieving excellent outcomes for students who have been underserved and left to lag behind.
- iii. The program will prepare teachers to work in academic fields where there is a shortage of teachers (page e32). According to the NYCDOE website (project partner), the shortage areas for which district public schools in NYC may hire external teachers (teachers not currently employed by the NYCDOE) include science, special education and English as a second language. There is also a serious need for teachers willing to work in our high-need schools. High need schools often have high percentages of students with special needs, including English language learners (ELLs) and special education students” many of which are in low income neighborhoods.

Weaknesses:

No weaknesses noted.

Reader's Score: 15

Selection Criteria - Quality of Project Design

1. 1) The Secretary considers the quality of the design of the proposed project.

2) In determining the quality of the design of the proposed project, the Secretary considers the extent to which the proposed project consists of a comprehensive plan that includes a description of:

i) The extent to which the proposed project is supported by strong theory (as defined in this notice).

ii) 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.

iii) The extent to which the proposed activities constitute a coherent, sustained program of training in the field.

iv) 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.

v) The extent to which the applicant demonstrates that it has the resources to operate the project beyond the length of the grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any partners; evidence of broad support from stakeholders (e.g., State educational agencies, teachers unions) critical to the project's long-term success; or more than one of these types of evidence.

Note: In order to address this criterion, applicants are encouraged to develop logic models to demonstrate their project's theory of action. Applicants should connect available evidence of past history of successful outcomes to their logic models. Applicants may use resources such as the Pacific Education Laboratory's Education Logic Model Application (www.relpacific.mrel.org/PERR.html) or the Northeast and Islands REL Skill Builder Workshops (www.relnei.org/events/skill-builder-archive.html) to help design their logic models. In addressing this criterion, applicants are also encouraged to connect the project design to the intended impact of the project, including an explanation of how the project will affect the preparation, placement, retention, induction, and professional development of teachers, and ultimately student achievement. Finally, applicants are encouraged to discuss the role and commitment of each partner and how the IHE and LEA(s) plan to sustain their partnership beyond the life of the grant.

Strengths:

i. The applicant presents a Logic Model to demonstrate the project is supported by strong theory. The Logic Model presented for the project outlines long and -term outcomes for major components of the project and times of occurrence. The model outcomes demonstrate the level of functioning expected to result from program activities.

ii. Project participants will receive sufficient professional development and training on the project. Participants (residents) will be provided a variety of enhanced professional development. Targeted professional development will be around co-teaching/planning and assessing students' work; professional development in STEM and Math subjects throughout the program. Collaboration with the National Institute of Education in Singapore will connect educators and researchers who are expert in Singapore Math for the purpose of professional development for TRs and partnership schools (Program Narrative).

iii. The applicant provide sufficient information to demonstrate the project includes a sustained program of training. The program includes an 18-month residency, comprehensive two-year induction support, enhanced professional

development, supportive mentoring and collaborative research (ABSTRACT). Program features will include a core curriculum focused on learners' multiple and integrated needs; education rounds that engage Teaching Residents as communities of learners amongst themselves and within their residency communities; the use of empirically-based practices with large effects on achievement; and a deliberate focus on middle school learners where the issues of shortages and under-qualified teachers are evident. The program has as its foundation four instructional pillars: STEM Literacy and Enrichment; Instructional Technology and Assistive Technology, Universal Design for Learning and Curriculum Development; and Co- Teaching and Co-Planning across Science, Special Education, and English as a Second Language.

iv. The applicant clearly demonstrates how the project involves the collaboration with appropriate partners. Teachers College, Columbia University (TC) proposes to partner with the New York City Department of Education, a consortium of high-needs schools, three academic programs at TC, Barnard College, and the American Museum of Natural History to create a model teacher residency program that improves the quality of new and prospective teachers in high-need public schools in New York City (Abstract, pages 11-15)). The project will produce 90 high quality teachers. The eligible partnership for the project comprises a high-need LEA, a consortium of high-need schools served by the LEA, a partner institution of higher education (IHE), programs of education within the IHE, plus a department of Arts and Sciences within the partner institution. The New York City Department of Education (NYCDOE) is the high-need LEA for the partnership. Teachers College, Columbia University (TC) will serve as the partner IHE and also the fiscal manager of the grant. TR@TC2 will have the full support of the Office of Teacher Education (OTE), which operates at the nexus of the university and the public schools. OTE works closely with eight academic departments at the College to facilitate and support teacher education at TC and serves as the primary liaison between TC and both the NYC Department of Education and the NYS Department of Education. The arts and sciences partner working with TR@TC2 is Columbia University's Barnard College. The Barnard program in Urban Teaching combines courses and faculty from various departments to prepare students for NYS teacher certification. The American Museum of Natural History (AMNH) will support the project as a cultural community partner.

(v) The applicant describes non-federal support of the project. Support will be in the form of personnel from the applicant organization. Support will include faculty and staff, supplies, marketing services and admission fees credits of scholarship for each resident (Budget Narrative). Supervisors with up to \$150/Resident or Inductee to cover travel costs for visits to schools and required meetings.

Weaknesses:

i. The Logic model presented to support the project does not act as a clear conceptual framework. The information presented on the model is not reflective of inputs and outputs that lead to positive outcomes and long-term impacts.

v. Information is not clearly presented on how the project may be supported beyond the grant period. No information is presented on financial support from the applicant or the project partners. Further, no information is provided to determine if project partners will continue the support currently being provided.

Reader's Score: 36

Selection Criteria - Quality of the Management Plan

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

2) In determining the quality of the management plan for the proposed project, the Secretary considers the following factors:

i) 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.

ii) The qualifications, including relevant training and experience, of key project personnel.

iii) The extent to which performance feedback and continuous improvement are integral to the design of the proposed project.

Note: In order to address this criterion, applicants are encouraged to include in the application narrative a clear, well thought-out implementation plan that includes annual timelines, key project milestones, and a schedule of activities with sufficient time for developing an adequate implementation plan, as well as a description and qualifications of the personnel who would be responsible for each activity and the level of effort each activity entails. Applicants may also describe how the partnering organizations will communicate and coordinate in order to achieve project goals.

Strengths:

i. The applicant presents a management that has potential to help guide staff in managing the program and ensuring the project will be completed within budget (Appendix H.2 page e246). The plan aligns some program events with groups and individuals involved and a time-frame for completions. A project team will assume major responsibility for the implementation and management of the project. This team will include both full- and part-time personnel, as well as several current staff (page 39-44).

ii. The applicant identifies staff assigned to work on the project (pgs. 32- 38). The PI for the project will be a Professor of Education, who will assume the role of Director. The individual is a well-known teacher education scholar, and has extensive experience in teacher preparation, both as a professor and as an administrator, and has conceptualized and successfully implemented several funded, multi-year projects, aimed at improving and diversifying the teaching force, including TR@TC, TC's first residency program supported by a 2009 TQP grant (page 39). The PI will devote [REDACTED] of her time to the project in the first three years, and [REDACTED] of her time in years 4 and 5. Other key personnel will include full-time Project Manager—to be hired—will be responsible for bringing the project from conceptualization to implementation. A full-time Project Lecturer—to be hired—will design, coordinate, and teach the Intensive Summer Institute and the Core Integrating Seminar, in collaboration with faculty and other key partners. A full time Partnerships Coordinator—to be hired—will be responsible for the recruitment and selection of residency schools, and will maintain communication and strong relationships with and across these schools. The project team will include the Director for the Office of Teacher Education (OTE), who will devote [REDACTED] time; the Associate Director for School-based Support Services who will allocate [REDACTED]; the Associate Director for Certification Compliance, devoting [REDACTED]. The Director of Accreditation and Assessment will allocate [REDACTED] of her time for the duration of the project to weave the project into the CAEP accreditation process for Teachers College; and Assistant Director of Accreditation and Assessment will have [REDACTED] of her time allocated for assistance. Additionally, OTE has also allocated secretarial support to the project. Staff are qualified and experienced as evidenced by the narrative and Resumes presented in the Appendix.

iii. The Program will require multiple structures designed to support continuous communication, mutual problem-solving and timely feedback for the purpose of program refinement and improvement. Structures will be built into the program. For example, the most important structure will be regular meetings in order to carve out defined and planned-for space for partnership members to come together. The project team will meet weekly to ensure the smooth functioning of all program components, address both instructional and administrative concerns, and make sure that team members are all on the same page in terms of issues, changes, policies, and finances. Second, a Steering Committee will assume responsibility for program policy and general oversight. This Committee will meet twice a year, will be representative of partnership members (school ,community-and university-based), and will include Project team staff.

Weaknesses:

No weaknesses noted.

Selection Criteria - Quality of the Project Evaluation

1. 1) The Secretary considers the quality of the evaluation to be conducted of the proposed project.

2) In determining the quality of the evaluation, the Secretary considers:

i) The extent to which the methods of evaluation provide valid and reliable performance data on relevant outcomes.

Note: In response to this selection factor, applicants are encouraged to include data on student learning.

ii) The extent to which the methods of evaluation are thorough, feasible, and appropriate to the goals, objectives, and outcomes of the proposed project.

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

Note: In addressing this criterion, applicants are encouraged to include a plan for how the project's evaluation will address the TQP Grant Program performance measures established by the Department under the Government Performance and Results Act of 1993 (GPRA), as well as the measures established in section 204(a) of the HEA. (The specific performance measures established for the overall TQP Grant Program are discussed under Performance Measures in section VI of this notice.) Further, applicants are encouraged to describe how the applicant's evaluation plan will be designed to collect both output data and outcome data, including benchmarks, to monitor progress. Finally, each applicant is encouraged to select an independent, objective evaluator who has experience in evaluating educational programs and who will play an active role in the design and implementation of the project's evaluation.

Strengths:

i. The applicant provides a mechanism that will ensure valid and reliable performance data on relevant outcome such as student learning. The descriptive analysis of program outcomes will be conducted according to the reporting requirements outlined in the RFA. Thus, the evaluation will generate descriptive data on both short-term and long-term outcomes. For example, this will include educational outcomes related to program persistence and completion/graduation rates; scores and pass rates on relevant state teacher certification exams; the percentage of participants who attain initial certification (within two years of beginning the program); and the percentage of teachers trained on integrating technology into classroom practice (page 31). Analysis will also be on employment outcomes, teacher practice outcomes.

ii. The Consortium for Policy Research in Education (CPRE) will conduct the evaluation of the program which will be both summative and formative. The summative evaluation will contain a descriptive analysis, an impact evaluation, and an analysis of changes in classroom practice over time. The formative analysis will inform the design and implementation of the program.

iii. Methods of evaluation will adequately provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes. The residency program has an individual tracking system in place to monitor the progress of program participants and comparison group members over time (both during the 18 months years spent at Teachers College, the first two years of the induction program during which participants are employed (and mentored) in schools, and one to two years beyond this). The tracking system will allow the applicant to ascertain the number of program completers and comparison group members who persist in the respective programs, graduate from their programs, and who are retained in teaching within the New York City Department of Education or other high-need LEA's one year, three years, and four years after initial employment (pages 36-38).

WEAKNESSES: ii. The applicant does not present a plan or describe how the evaluation for the project will encompass the TQP Grant Program performance measures established by the Department under the Government Performance and Results Act of 1993 (GPRA), or the measures established in section 204(a) of the HEA.

Weaknesses:

- ii. The applicant does not present a plan or describe how the evaluation for the project will encompass the TQP Grant Program performance measures established by the Department under the Government Performance and Results Act of 1993 (GPRA), or the measures established in section 204(a) of the HEA.

Reader's Score: 17

Priority Questions

Competitive Preference Priority 1 - Promoting STEM Education

1. Projects that are designed to address one or both of the following priority areas:

a) Increasing the opportunities for high-quality preparation of, or professional development for, teachers or other educators of STEM subjects.

b) Increasing the number of individuals from groups traditionally underrepresented in STEM, including minorities, individuals with disabilities, and women, who are teachers or educators of STEM subjects and have increased opportunities for high-quality preparation or professional development.

Note: Applicants that respond to Competitive Preference Priority 1 and Absolute Priority 1 are still required to implement the required reforms within the whole teacher preparation program, as reflected in sections (a) and (b) of Absolute Priority 1.

In responding to this competitive preference priority, applicants are encouraged to include the following elements in their proposed projects:

1) Institutional collaboration to ensure that students in a college of education who intend to teach STEM courses have access to courses that build appropriate content knowledge. Such students should have access to course sequencing that is equal to the course sequencing for other STEM majors outside the college of education.

2) Emphasis on hands-on and inquiry-based STEM experiences for prospective teachers, including dedicated research or laboratory experiences, STEM discipline-specific pedagogical instruction, and explicit instruction in the interdisciplinary connections between learning sciences and STEM instruction; and

3) Early and multiple field-based instructional experiences for prospective teachers that are structured to provide exposure to a variety of teaching and learning environments, and that are coordinated and aligned with the teacher preparation curriculum.

Strengths:

The applicant adequately meets CPP1 (pages 3-5). The project will rest on four instructional "pillars" to ensure that every Teaching Resident (TR) acquires a foundational set of knowledge and skills. Two of the four pillars directly address CPP1 and will guarantee the integration of high quality preparation and professional development in STEM subjects throughout the program. This will be accomplished through a partnership with the Science Education Program at Teachers College of Columbia University. The program brings extensive experience in the recruitment and preparation of high quality Science educators. Institutional collaborations that will give TRs and our school partners access to additional high quality and rigorous STEM courses, experiences and enrichment. A second aspect of CPP1 is the recruitment of individuals traditionally under-represented in STEM

WEAKNESSES: No weaknesses noted.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

Competitive Preference Priority 2 - Implementing Academic Standards

1. Projects that are designed to support the implementation of internationally benchmarked, college- and career-ready academic standards held in common by multiple States and to improve instruction and learning, including projects in the following priority areas:

a) The development or implementation of professional development or preparation programs aligned with those standards.

b) Strategies that translate the standards into classroom practice.

Strengths:

The project is adequately designed to support the implementation of internationally benchmarked, college- and career-ready academic standards. The four pillars undergirding the project ensure that teachers are prepared to help their students meet internationally bench-marked standards for college and career readiness. The focus on STEM Literacy and Enrichment will build TRs' content knowledge base in subjects that are critical gatekeepers for college entry and future success. An aspect of STEM literacy will be exposure to the Common Core standards in mathematics as well as Next Generation Science Standards (page 7).

Weaknesses:

No weaknesses noted.

Reader's Score: 2

Status: Submitted
Last Updated: 08/15/2014 02:59 PM

Status: Submitted

Last Updated: 08/15/2014 03:14 PM

Technical Review Coversheet

Applicant: Teachers College, Columbia University (U336S140014)

Reader #3: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	15
Quality of Project Design		
1. Project Design	45	45
Quality of the Management Plan		
1. Management Plan	20	18
Quality of the Project Evaluation		
1. Project Evaluation	20	18
Priority Questions		
Competitive Preference Priority 1		
Promoting STEM Education		
1. CPP 1	5	5
Competitive Preference Priority 2		
Implementing Academic Standards		
1. CPP 2	2	2
Total	107	103

Technical Review Form

Panel #9 - 2014 TQP Grant Review- 9: 84.336S

Reader #3: *****

Applicant: Teachers College, Columbia University (U336S140014)

Questions

Selection Criteria - Significance

1. 1) The Secretary considers the significance of the proposed project.
 - 2) In determining the significance of the proposed project, the Secretary considers the following factors:
 - i) The extent to which the proposed project is likely to build local capacity to provide, improve, or expand services that address the needs of the target population.
 - ii) The likelihood that the proposed project will result in system change or improvement.
 - iii) The extent to which the proposed project will prepare personnel for fields in which shortages have been demonstrated.

Strengths:

The proposal will build local capacity through the Teaching Residents at Teachers College2 (TR@TC2 while recruiting academically talented, diverse individuals of underrepresented targeted populations (1-2,8).

The proposed project will result in systemic improvement as it continues building upon the Teachers College first residency program (TR@TC) as they increase recruitment of high quality teachers in high-need schools and increase retention of high quality experienced teachers (45-46)

The proposal will prepare teachers for fields in which shortages have been demonstrated such as earth science, secondary inclusive education, and English language learners. (8, 15)

Weaknesses:

No weaknesses noted

Reader's Score: 15

Selection Criteria - Quality of Project Design

1. 1) The Secretary considers the quality of the design of the proposed project.
 - 2) In determining the quality of the design of the proposed project, the Secretary considers the extent to which the proposed project consists of a comprehensive plan that includes a description of:
 - i) The extent to which the proposed project is supported by strong theory (as defined in this notice).
 - ii) 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.

iii) The extent to which the proposed activities constitute a coherent, sustained program of training in the field.

iv) 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.

v) The extent to which the applicant demonstrates that it has the resources to operate the project beyond the length of the grant, including a multi-year financial and operating model and accompanying plan; the demonstrated commitment of any partners; evidence of broad support from stakeholders (e.g., State educational agencies, teachers unions) critical to the project's long-term success; or more than one of these types of evidence.

Note: In order to address this criterion, applicants are encouraged to develop logic models to demonstrate their project's theory of action. Applicants should connect available evidence of past history of successful outcomes to their logic models. Applicants may use resources such as the Pacific Education Laboratory's Education Logic Model Application (www.relpacific.mcrel.org/PERR.html) or the Northeast and Islands REL Skill Builder Workshops (www.relnei.org/events/skill-builder-archive.html) to help design their logic models. In addressing this criterion, applicants are also encouraged to connect the project design to the intended impact of the project, including an explanation of how the project will affect the preparation, placement, retention, induction, and professional development of teachers, and ultimately student achievement. Finally, applicants are encouraged to discuss the role and commitment of each partner and how the IHE and LEA(s) plan to sustain their partnership beyond the life of the grant.

Strengths:

The proposal includes strong research and a logic model which provides a conceptual map of the key components, strategies, activities, and outcomes of TR@TC (26, Appendix H).

The proposal will provide high quality training and professional development in STEM subjects throughout the program, such that participants and their mentor teachers (MenTs) will have multiple opportunities to enhance their STEM content knowledge and pedagogy during the 18-months of the program (5).

The proposal has a coherent, sustained program of training that begins with recruitment, includes the 18-month residency program, and extends beyond the life of the grant with strategies such as mentors, cohorts, and residency supervisors (25).

The proposal includes sustained partnerships with organizations, such as the Science Education Program, the Consortium for Policy Research in Education (CPRE), New York City Schools, and the American Museum of Natural History (AMNH). The collaboration maximizes the effectiveness of the proposed project using multiple facets of education including instructional technology, assistive technology, learning progressions and cultural education (5).

The proposal includes a comprehensive multi-year financial plan to fully support the project during the grant and beyond capitalizing on the strong collaboration with multiple partners (4)

Weaknesses:

No weaknesses noted

Reader's Score: 45

Selection Criteria - Quality of the Management Plan

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

2) In determining the quality of the management plan for the proposed project, the Secretary considers the following factors:

i) 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.

ii) The qualifications, including relevant training and experience, of key project personnel.

iii) The extent to which performance feedback and continuous improvement are integral to the design of the proposed project.

Note: In order to address this criterion, applicants are encouraged to include in the application narrative a clear, well thought-out implementation plan that includes annual timelines, key project milestones, and a schedule of activities with sufficient time for developing an adequate implementation plan, as well as a description and qualifications of the personnel who would be responsible for each activity and the level of effort each activity entails. Applicants may also describe how the partnering organizations will communicate and coordinate in order to achieve project goals.

Strengths:

The proposal contains a management plan with a detailed timeline, objectives, and goals that will allow the proposed project to achieve objectives on time and within a budget that is based on allowable, reasonable, and necessary costs to carry out the proposal. Furthermore, the proposal contains a detailed breakdown of list of activities aligned to a timeline with management and program feedback directly connected to each (Appendix H).

The proposal includes a detailed listing of key personnel and their responsibilities. The key personnel are appropriately and adequately qualified for their respective positions based upon the listed qualifications, including relevant training and experiences (39, 45).

The proposed program will systematically collect, disseminate, and evaluate data to provide feedback that will be used for program adjustments and improvements. The proposed program has feedback and continuous improvement as an integral design to the program as demonstrated within the Project Management Timeline that includes program feedback that is aligned to both focus groups and annual surveys as well as the periodic meetings such as the Teacher Education Policy Committee at TC that meets twice a month to assess the program progress (42, Appendix H).

Weaknesses:

While the proposed program states how the data will be systematically collected, disseminated and evaluated, the proposal does not have key people identified as to who will be reporting on the milestones (39, 41).

Reader's Score: 18

Selection Criteria - Quality of the Project Evaluation

1. 1) The Secretary considers the quality of the evaluation to be conducted of the proposed project.

2) In determining the quality of the evaluation, the Secretary considers:

i) The extent to which the methods of evaluation provide valid and reliable performance data on relevant outcomes.

Note: In response to this selection factor, applicants are encouraged to include data on student learning.

ii) The extent to which the methods of evaluation are thorough, feasible, and appropriate to the goals, objectives, and outcomes of the proposed project.

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

Note: In addressing this criterion, applicants are encouraged to include a plan for how the project's evaluation will address the TQP Grant Program performance measures established by the Department under the Government Performance and Results Act of 1993 (GPRA), as well as the measures established in section 204(a) of the HEA. (The specific performance measures established for the overall TQP Grant Program are discussed under Performance Measures in section VI of this notice.) Further, applicants are encouraged to describe how the applicant's evaluation plan will be designed to collect both output data and outcome data, including benchmarks, to monitor progress. Finally, each applicant is encouraged to select an independent, objective evaluator who has experience in evaluating educational programs and who will play an active role in the design and implementation of the project's evaluation.

Strengths:

The proposal is using quasi-experimental methods with propensity score matching techniques for the research design, which is valid and reliable (34).

The proposed research methods are thorough, feasible, and appropriate using both quantitative and qualitative data as well as formative and summative evaluations. In particular, the proposed research has defined both a treatment and a control group that will evaluate the formal impact of teachers within a traditional preparation program to teachers within the proposed TR@TC2 program (32).

The proposal uses performance feedback from periodic assessment to make changes and improvements towards achieving the intended outcomes. The project team, the steering committee, and the Teacher Education Policy Committee at TC share the responsibility of implementing change as needed based upon performance feedback (43).

Weaknesses:

The applicant did not talk about how performance measures (GPRA or HEA) would achieve intended outcomes.

Reader's Score: 18

Priority Questions

Competitive Preference Priority 1 - Promoting STEM Education

1. Projects that are designed to address one or both of the following priority areas:

a) Increasing the opportunities for high-quality preparation of, or professional development for, teachers or other educators of STEM subjects.

b) Increasing the number of individuals from groups traditionally underrepresented in STEM, including minorities, individuals with disabilities, and women, who are teachers or educators of STEM subjects and have increased opportunities for high-quality preparation or professional development.

Note: Applicants that respond to Competitive Preference Priority 1 and Absolute Priority 1 are still required to implement the required reforms within the whole teacher preparation program, as reflected in sections (a) and (b) of Absolute Priority 1.

In responding to this competitive preference priority, applicants are encouraged to include the following elements in their proposed projects:

1) Institutional collaboration to ensure that students in a college of education who intend to teach STEM courses have access to courses that build appropriate content knowledge. Such students should have access to course sequencing that is equal to the course sequencing for other STEM majors outside the

college of education.

2) Emphasis on hands-on and inquiry-based STEM experiences for prospective teachers, including dedicated research or laboratory experiences, STEM discipline-specific pedagogical instruction, and explicit instruction in the interdisciplinary connections between learning sciences and STEM instruction; and

3) Early and multiple field-based instructional experiences for prospective teachers that are structured to provide exposure to a variety of teaching and learning environments, and that are coordinated and aligned with the teacher preparation curriculum.

Strengths:

The proposal will increase opportunities for professional development and provide a sustained high-quality teaching residents program promoting STEM education with high-quality preparation and professional development. The proposal will result in an increase in the number of individuals who are traditionally underrepresented within STEM through the use of targeted recruitment (5)

Weaknesses:

No weaknesses noted

Reader's Score: 5

Competitive Preference Priority 2 - Implementing Academic Standards

1. Projects that are designed to support the implementation of internationally benchmarked, college- and career-ready academic standards held in common by multiple States and to improve instruction and learning, including projects in the following priority areas:

a) The development or implementation of professional development or preparation programs aligned with those standards.

b) Strategies that translate the standards into classroom practice.

Strengths:

The proposal is designed to support the internationally benchmarked, college- and career- ready standards by implementing the proposed preparation program that uses Common Core and NGSS to provide STEM literacy and exposure that will translate the standards into classroom practice (1).

Weaknesses:

No weaknesses noted

Reader's Score: 2

Status: Submitted
Last Updated: 08/15/2014 03:14 PM