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PROJECT NARRATIVE

1. Competitive Selection Priorities

This proposal addresses *Absolute Priority #2: Teaching Residency Programs.* It proposes a residency program, building on more than three decades of a partnership between Newark Public Schools (NPS) and Montclair State University (MSU) dedicated to preparing quality teachers for NPS and to the simultaneous renewal of teacher preparation and K-12 education. The proposal is also designed to meet *Competitive Preference Priority 1: Promoting Science, Technology, Engineering and Mathematics (STEM) Education*. The proposed Newark-Montclair State Urban Teacher Residency (NMUTR) program will: (a) increase opportunities for high-quality preparation of and professional development for teachers and other educators of STEM subjects and (b) increase the numbers of individuals from groups traditionally underrepresented in STEM, including minorities, individuals with disabilities, and women. In addition, NMUTR will address *Competitive Preference Priority 2: Implementing Internationally Benchmarked, College, and Career-Ready Elementary and Secondary Academic Standards*. The Residency will be founded on state and nationally recognized standards for teacher preparation and student achievement, ensuring that the new teachers prepared through this partnership and their students can achieve high standards, as established by learned societies and professional organizations.

2. Needs Assessment

MSU, in partnership with the NPS, is proposing to implement NMUTR in Newark, the largest city in New Jersey, which has a current population of 278,427. (U.S. Census, Newark NJ QuickFacts). Located approximately 15 miles from New York City, Newark is designated a "distressed city" and exemplifies the poverty and isolation characteristic of large American cities. Newark's per capita income is just 61% of the U.S. per capita income; 28% of families

live below the poverty line, nearly double the United States rate of 14.9%, and almost triple the New Jersey rate of 9.9%. 23.8% of the population receives food stamps/SNAP benefits, nearly quadruple the state rate of 6.8%. (U.S. Census, Selected Economic Characteristics, 2008-2012).

NPS, the largest school district in NJ, is a high-need LEA, as reflected in its 30.95% poverty rate, as calculated by the U.S. Department of Education (U.S. Census, 2009). Please see Table 1 in Appendix A for more detail. In spring 2014, NPS served a diverse population of 36,000 students in 70 schools. 92.3% of students are of racial/ethnic minority backgrounds – 51% are of African descent (African-American, Caribbean, and West African), 40% are Hispanic, and 8% are white (NPS, District Overview). In 2013-2014, 88% of NPS students were from families with incomes low enough to qualify them for federal free or reduced-price lunch, an 18% increase from 2007-08 (Advocates for the Children of NJ, 2014). Approximately 8% of students spoke a language other than English at home, (Nat'l Clearinghouse for Eng. Lang. Acquisition, 2009-2010) and 18.6% were classified as students with special needs (Advocates for the Children of NJ, 2014). Please see Table 3 in Appendix A for more detail.

NPS has faced challenges for many years, and in 1995, the state of New Jersey assumed control of the district because of poor academic performance by Newark children. Despite progress in some areas, the district remains under State operation today, nearly twenty years later. This continuous record of low academic achievement is a major challenge revealed by the comprehensive Needs Assessment MSU conducted in partnership with NPS. As part of this Needs Assessment, we compared test scores of NPS and NJ students in Grades 3, 4, 8 and 11; for all but one of these tests (11^{th} grade language arts), 30% or more of students in NPS failed to meet the criteria for proficiency. Please see Table 4 in Appendix A for a detailed comparison.

The schools that are the focus of this proposal – Benjamin Franklin School, Abington Avenue School, Peshine Avenue School, East Side HS and Arts HS – face particular challenges; as shown in Table 3 in Appendix A, an average of 87.4% students across the schools are eligible for free or reduced price lunch. In academic achievement, college/career readiness and student growth, the schools are among the lowest in NJ; in fact, Peshine scored in only the 4th percentile state-wide in langauge arts, and in the 5th for math (NJ School Report Cards, 2012-2013).

Preschool students need more support as well; in fact, Newark is in desperate need of preschool teachers. The Newark Preschool Council, a network of 35 preschools that received Head Start funding since 1965, has now been denied such funding, and NPS has submitted a new Head Start grant and anticipates that 1,500 additional preschool students may enter NPS in the fall. Thus NPS needs to hire an additional 100 new early childhood educators quickly, and ensure they can work with diverse students, especially those with special needs.

The qualifications of the NPS teaching force were also the focus of the needs assessment. In 2012-13, 20% of NPS teachers were rated "ineffective" or only "partially effective" (Office of the Newark Superintendent, 2014), compared to 0.3% of teachers state-wide (NJ DOE 2009-2010 Highly Qualified Teacher Survey Results). In addition, 15% of NPS teachers are working under non-standard certifications (provisional, emergency or temporary certifications). Please see Table 2 in Appendix A for more detail. While well-prepared teachers are needed in all areas, the need is especially acute in mathematics, science, and special education. Both science and mathematics have been determined to be teacher shortage areas in New Jersey and in NPS (U.S. DOE, 2014). Each year, despite aggressive hiring practices, NPS cannot find enough qualified science or math educators to fill its vacancies, especially at the high school level. Further, rarely are early childhood teachers prepared with math and science content and teaching skills to ensure

young children's early experiences in math and science set the foundation for success in these important subjects.

To meet these and other challenges, NPS has developed a strategic plan for district-wide improvement. Under Superintendent Cami Anderson, the district vision ensures that every child in Newark graduates ready for college and career. One key building block is to ensure an effective teacher in every classroom (See Appenidx H-8, NPS, Vision for Reform). This vision, along with the district's 2009 strategic plan, adapted over time, identifies the recruitment, preparation, support, and retention of well-prepared and transformational teachers as central priorities for the district; it also names strengthening professional development across the teacher development continuum as a primary focus. The plan encourages the nurturing of school cultures in which teachers at all stages in their careers learn with and from each other through professional development practices embedded in schools and classrooms. NPS has made it a priority to increase the number of teachers who have the knowledge, skills, and commitments not only to teach their students effectively, but to serve as instructional leaders. To achieve this transformation, NPS recognizes that it needs the collaboration and support of partners with expertise in teacher preparation, development and support.

Because of its history of collaboration with NPS to improve teacher preparation and professional development, MSU is a natural partner for the district. MSU is located in New Jersey, approximately 13 miles west of New York City and less than 10 miles from Newark. MSU enrolls more than 19,000 undergraduate and graduate students and offers almost 300 majors, minors, and certificates and five doctoral programs, including an Ed.D. program in Teacher Education and Teacher Development. The average pass rate of our graduates taking state teaching licensure exams is 98.55%. (See Appendix H-2 for detailed Praxis II scores.) MSU

was the first university in the nation to create a Center of Pedagogy, in which faculty and the public schools are equal partners in the ongoing work of teacher education. The Center of Pedagogy coordinates all aspects of teacher education, including the collaborative establishment of teacher education policies and practices. It has been cited by the U.S. DOE as a best practice.

MSU also established the MSU Network for Educational Renewal (MSUNER) as the vehicle for MSU's partnership with 30 NJ school districts and over 13,000 professional educators. As one of the foremost school-university partnerships in the nation, MSUNER partners MSU faculty and staff with teachers and administrators in member districts to deliver professional development and create opportunities for working collaboratively at school sites and at MSU, and to interact with national experts on school and teacher education reform. Over the past 10 years, the MSUNER has developed an extensive professional development program that is grounded in a research-based conception of the essential characteristics of professional development and focused on topics relevant to the partnering districts.

In addition, MSU's College of Education and Human Services is home to a wide variety of outstanding undergraduate and graduate programs leading to professional careers in public and private schools, government agencies, and non-profit organizations. The curriculum, pedagogy, and assessment of students in the MSU teacher education program are guided by a set of institutional standards (see Appendix H-4). Central to those standards are the theory and practice of culturally responsive teaching (Villegas, & Lucas, 2002)—essential preparation for teachers in urban settings such as Newark.

MSU's education programs - especially its teacher education program - are nationally recognized for quality, innovation and impact, as shown below:

- Best Practice in Support of Diversity, Am. Assn. of Colleges of Teacher Education, 2002

- Richard W. Clark Award for Exemplary Partner School Work, National Network for Educational Renewal, 2005, 2009
- Identified as one of the ten leading teacher education programs in the nation, George Lucas Educational Foundation, 2008
- Wisniewski Award for contributions to the theory and practice of teacher education, Society of Professors of Education, 2010
- Dr. Shirley S. Schwartz Urban Education Impact Award for the NPS – MSU Partnership, Council of Great City Colleges of Education, 2010
- Selected as one initial partner university to implement the Woodrow Wilson New Jersey Teacher Fellowship, Woodrow Wilson Foundation, 2010
- Received two Robert Noyce Teacher Scholarship grants to:
  - Implement a major in mathematics with elementary teacher certification, National Science Foundation, 2014;
  - Recruit and support 30 new science teachers, National Science Foundation, 2014
- Cited for exemplary clinical practice, school district partnerships, and impact of graduates on students, Academy for Ed Development's Nat'l. Institute for Work & Learning, 2011
- Elementary and secondary graduate teacher education programs ranked in top 20 in the U.S., *U.S. News and World Report* rankings of America's Best Graduate Schools, 2011, 2012
- Recognized for high quality of clinical experiences and collaboration with NPS, AACTE's Professional Education Data System, 2013
- NMUTR and MSU's teacher preparation program featured as exemplar of best practice, Teachers for a New Era (TNE) Learning Network publication, *Partnering to Prepare Tomorrow's Teachers*, 2013

- MSU's Portrait of a Teacher is cited for being jointly written by faculty from the university and its partner schools, TNE publication, *Partnering to Prepare Tomorrow's Teachers*, 2013
- MSU's education program named in the top 5 in the U.S. re: return on investment, *USA Today*, 2014

Much of the work cited in these awards and recognitions has been in partnership with NPS.

To determine how MSU can even further expand its efforts to support NPS, MSU teacher-educators examined the key features of MSU initiatives identified by research as supporting the preparation and development of excellent teachers in urban schools, as shown in Table 1.

Table 1. Key Features of Major MSU Initiatives to Prepare Teachers for Urban Schools

	Program Features						
Major MSU Initiatives	Cohorts	Induc-tion Support	Inquiry & Action Research	Prof Lrng Commun. in Schools	Collab. Across Institutions	Focus on Tchr Dev't Continuum	Theory to Practice Emphasis
PIE-Q[1]		X		X	X	X	
PTS	X	X					
TRUST	X						
UTA	X						

[1] PIE-Q = Partnership for Instructional Excellence for Quality Education; PTS = Prudential Teaching Scholars; TRUST = Teacher Recruitment for Urban Schools of Tomorrow; UTA = Urban Teaching Academy; CIP = Classroom Inquiry Project; THISTLE = Thinking Skills in Teaching and Learning. See descriptions of these initiatives in Appendix D.3.

Traders to Tchrs	X	X			X		
CIP			X			X	X
THISTLE			X			X	
NMUTR	X	X	X	X	X	X	X

Each of these program features has contributed to the high quality of teacher preparation, as confirmed by performance assessments used in MSU's teacher education program. The 2009-14 NMUTR, however, took these programs one step further by integrating all the key successful features of prior initiatives and enabling the partnership to more tightly couple rigorous research-based teacher preparation with the concrete needs and realities of NPS.

The continuation and refinement of the NMUTR in the next five years is a logical next step in the evolution of collaborative efforts of MSU and NPS to prepare highly effective teachers for the district. A teaching residency program that has proven effective over its initial five years drastically changes the typical trial-by-fire nature of the transition from pre-service to novice teacher. Because of the amount and quality of classroom experience and mentoring the teaching residents will receive, they will enter their first classroom as a teacher with a solid repertoire of pedagogical practices and a good understanding of how those practices can be successfully applied in NPS. They will bring contextualized knowledge of the district that comes from being immersed in NPS schools and working directly in a clinical apprenticeship with expert, experienced teachers. NPS has committed to hiring a minimum of 25 MSU graduates each year, and NMUTR will ensure that these novice teachers have a deep grounding in what it means to be a highly effective teacher in NPS. NMUTR will also serve as a model to guide the preparation of teachers for urban schools beyond Newark and across the nation.

Based on the needs assessments by NPS and MSU, NMUTR is designed to improve the achievement of NPS students through the following goals and objectives:

GOAL 1: To prepare high quality prospective teachers for NPS through a model teaching residency program for individuals without teaching experience but with strong academic backgrounds in Math or Science, or with strong academic backgrounds and interest in Early Childhood and Special Education.

Performance Measures: **1.1:** Recruit and select 80 teacher residents (15 early childhood residents in each of NMUTR's first four years, and 10 math science residents in Years 3 and 4) with strong academic backgrounds in math or science, or interest in early childhood and special education, as demonstrated by meeting threshold criteria related to GPA, GRE scores, Praxis scores, and advanced courses in the major areas, as measured by program documentation. **1.2:** Recruit and select teacher residents, 20% of whom are from traditionally underrepresented groups, including minorities, individuals with disabilities, and women, as measured by program documentation. **1.3:** 90% of enrolled residents meet or exceed program performance standards, as measured by passing grades in program courses, retention of residents in program, and an MSU master's degree and teacher certification, as measured by program documentation. **1.4:** 100% of resident graduates are hired as teachers of record in NPS when they graduate, as measured by program and district documentation.

GOAL 2: To improve the quality and retention of new teachers in NPS by involving them in an induction program, professional development, and networking.

Performance Measures **2.1:** 80% of new teachers (resident graduates) report receiving ongoing support from induction coaches, peers and school leadership, measured by focus groups and resident graduates surveys. **2.2:** 90% of NMUTR resident graduates report gains in teaching

efficacy as measured by annual focus groups and surveys of resident graduates. **2.3:** 100% of NMUTR resident graduates hired by NPS consistently meet or exceed performance standards for new teachers in years 02-05, as measured by NPS teacher effectiveness ratings.

GOAL 3: To improve the quality and retention of mentor teachers in the NPS by involving them in professional development and in becoming part of a network of mentor teachers, coaches, and teacher researchers who use data to improve instruction.

Performance Measures: **3.1:** Each year, recruit up to 25 NPS teachers with strong qualifications/interests in math and science or early childhood and special education, as measured by end-of-year teacher evaluations and principal recommendations, to serve as mentors to the teacher residents. **3.2:** 80% of mentor teachers participate in at least 75% of the total hours of offered NMUTR professional development activities on an annual basis, as measured by program documentation. **3.3:** 80% of mentors report an increased use of data for instruction, measured by annual surveys.

GOAL 4: To incorporate key elements of the residency model into the larger teacher education program.

Performance Measures: **4.1:** Develop a plan to progressively embed the MSU teacher education program in the field by Year 4, as measured by MSU data and interviews with program staff and MSU administrators. **4.2:** 40% of all MSU initial teacher candidates progress through the program in cohort groups by Year 4, as measured by regularly collected, relevant data in the MSU assessment system.[2] **4.3:** 75% of all MSU initial teacher candidates participate in

[2] Ultimately, we aspire to have the majority of candidates in our teacher preparation programs in cohorts but this is challenging for a variety of reasons—the complex course schedules of MSU students, especially those in secondary undergraduate programs; the need for a system to

community internships by Year 4 as measured by regularly collected, relevant data in the MSU assessment system. **4.4:** By Year 5, 80% of all MSU initial teacher candidates participate in sustained, high-quality pre-service clinical experiences beginning at program admission, as measured by regularly collected, relevant data in the MSU assessment system.

3. Significance

a. ***Project will build local capacity and result in system change****:* The components of the NMUTR are focused on building capacity and achieving systemic change in the NPS by improving teacher quality and retention; creating and sustaining a culture of inquiry and continuous improvement; developing professional learning communities; and establishing instructional rounds in NPS that enable administrators and teachers to understand excellent teaching and learning. In addition, as all NMUTR teachers and mentors become clinical faculty in the MSUNER, they will take on leadership roles and positively influence their peers.

The use of action research will also help teachers develop an inquiry orientation to their work that will continue throughout their careers, and, since action research is collaborative, be communicated to their peers. Over time, as action research becomes institutionalized in the NPS, it can fuel systemic change as instructors examine data to get real-time feedback on their strategies and lessons, and make on-going revisions that best meet the needs of their students.

b. The project will prepare personnel for fields in which shortages exist: The NMUTR is designed to address NPS shortage areas of early childhood education, special education, and mathematics and science education. All of these areas are designated as shortage areas across the

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accommodate the rolling admission system at MSU; and the size of our program (approximately 600 completers annually), which makes it difficult to identify enough schools willing to accommodate a sizeable number of candidates each semester.

state of New Jersey. In Newark, despite aggressive outreach, NPS cannot find enough qualified science or math educators to fill its vacancies. A disproportionate number of NPS teachers who are working under non-standard certifications are teaching math and science. In addition, NPS is struggling to provide high quality services to its projected infusion of 1,500 preschool students because of denied Head Start funding to the Newark Preschool Council. Finally, the district has a need for teachers with expertise in special education to ensure high quality instruction for the large number of students with disabilities in NPS schools.

NMUTR will help address these shortage areas by preparing 80 teaching residents (15 early childhood residents in each of NMUTR's first four years, and 10 math and science residents in each of Years 3 and 4). Thus the five years of the NMUTR will produce 60 dually-certified early childhood and special education teachers, and 20 secondary science and mathematics teachers, for a total of 80 highly qualified teachers in NPS shortage areas.

4. Project Design

a. Program Overview: Three overarching themes will guide the program design and implementation of NMUTR in its next five years - community, collaboration, and continuous improvement. These themes are threaded across all aspects of the program - the master's degree curriculum and teaching residency activities, the induction support for novice teachers, and the professional development for experienced teachers. Significant features of the program include:

b. Research: The design of the NMUTR is based on our five years of experience implementing NMUTR, as well as other teacher preparation initiatives implemented by MSU in partnership with school districts, including NPS, such as our current Woodrow Wilson New Jersey Teaching Fellows and NSF-sponsored Inclusive STEM project. The NMUTR will also be informed by research and models of successful teaching residencies across the county. Participants will be

given opportunities to conduct classroom observations, engage in guided practice, apply theories learned in courses, and investigate problems of practice. Our program design is influenced by the Boston Teacher Residency and the Urban Teacher Residency (Chicago), which implemented research-based models relating to the successful qualities of urban teachers, (Haberman, 1987, 1995, 1999; Stotko, Ingram, & Beaty-O'Ferrall, 2007; Villegas & Lucas, 2002) as well as literature on the professional development continuum for teachers, from pre-service through induction and into professional development (Feiman-Nemser, 2001) and research on teacher retention in high-poverty urban schools. In addition, we have worked collaboratively with the Seattle Teacher Residency and Teacher Residency at Teachers College to explore best practices. We are currently members of the Urban Teacher Education Consortium, which includes membership from these and other residencies across the country, and will be hosting their annual conference in 2015.

c. Program Components: The nine key components of the NMUTR are:

Structural components: Clinical apprenticeship; rigorous graduate coursework; cohort structure; and unique community-based summer experiences. Thematic Components: Connections between theory and practice; collaboration; focus on the entire teacher development continuum; continuous improvement; and partnership.

d. Teacher-Preparing School Clusters

The NMUTR will be primarily organized around two clusters of teacher-preparing schools: (a) an early childhood cluster and (b) a secondary cluster (which includes both middle school and high school). Both will focus on math and science education; early childhood will include dual certification in special education. The schools are as follows:

- *Early Childhood Cluster*: Benjamin Franklin School (hub school serving grades P-4), Peshine Avenue School (serving grades P-8), Abington Avenue School (serving grades P-8).
- *Secondary Cluster*: Eastside High School (hub school serving grades 9-12) and Arts High School (serving grades 7-12).

The hub schools will be the most deeply and broadly involved in NMUTR. Graduate courses for teaching residents will be held at the hub schools, instructional rounds (described below) will take place primarily at the hub schools, and a larger proportion of school faculty in the hubs will actively engage in the program. For their apprenticeships, teaching residents will be placed in both hub and a small number of other NPS "cluster" schools, to accommodate the best placements and mentorships. Based on their areas of expertise, school faculty members at these sites will participate in various NMUTR activities, including leading seminars.

The five NMUTR schools are all *teacher-preparing schools* that have worked in partnership with MSU for years, most recently in the 2009-2014 NMUTR, and as members of the PIE-Q Network, described below. The concept of *teacher-preparing schools* derives from the National Network for Educational Renewal (NNER), of which MSU is a member. Educators in teacher-preparing schools recognize that K-12 schools have a responsibility to be active partners with IHE teacher education programs in the preparation of teachers. Staff members at NPS and NMUTR schools have participated in the NNER-sponsored Leaders for Teacher-Preparing Schools Institute in Seattle and NNER Annual Conferences. Approximately 127 teachers in the NPS have been appointed as MSU Clinical Faculty; in academic year 2013-14, a total of 501 pre-service teachers in MSU's teacher education program spent time in NPS. In addition, prior to the 2009-2014 NMUTR, NPS and MSU were deeply engaged in teacher preparation as part of

the PIE-Q Network, which prepared, mentored, and retained new and continuing highly effective teachers for NPS.

NMUTR itself has been in place for the last 5 years, focusing on building a strong infrastructure to design and implement a powerful residency for early childhood/special education teachers with dual certification, and secondary math and science teachers, for NPS. Members of the first three cohorts have completed their NMUTR residencies, producing a total of 60 graduates who are now highly qualified teachers in the NPS and participating in our induction program. Including Cohort 4, 63 NMUTR participants have served in 24 high-risk NPS schools. In addition, nearly 120 experienced teachers have served as mentors, benefitting from intensive professional development and honing their skills as NPS leaders.

NMUTR led directly to the funding of the Woodrow Wilson New Jersey Teaching Fellowship (WWTF) Program at MSU, which will prepare an additional 36 middle and high school math and science teachers for NPS and the Orange Public Schools over the next three years. In June of 2014, MSU welcomed its first cohort of students in the WWTF program. This program is building on the strong relationship between MSU and NPS by placing fellows in new school sites throughout the city, thus engaging more principals and district teachers.

The MSU departments of Early Childhood, Elementary and Literacy Education (ECELE) and Secondary and Special Education (SASE) have worked diligently to institutionalize a range of teacher residency practices that have been developed over the last five years. As a result, ECELE has begun requiring master's degree candidates to complete e-portfolio exhibitions, while SASE has not only begun its first cohort of WWTF teaching fellows, but has redesigned its Master of Arts in Teaching (MAT) program to include best practices from the residency, and is piloting a school-based MAT in the fall that places cohorts of pre-service teachers in residence.

This iteration of the NMUTR will expand upon these accomplishments by: 1) Continuing to offer exemplary residency and induction programs that build on lessons learned, research, and best practices among residencies across the nation; 2) Introducing an early childhood/special education teacher preparation program, focusing on math and science education; 3) Preparing secondary mathematics and science teachers who have expertise working in middle school grades, an established need in NPS, where elementary certified teachers without math and science backgrounds are frequently hired to teach; 4) Identifying an array of recruitment activities and audiences from which to draw a large pool of highly qualified individuals of diverse backgrounds with expertise and experience in mathematics and science; 5) Integrating results of evaluation and feedback from residents, mentors, and colleagues in partnering institutions to strengthen program impact and achievement; 6) Implementing an assessment system to establish to what extent residents and graduates meet high standards of teaching; and 7) Continuing to institutionalize these program designs as part of the regular operations of MSU.

e. Program Cohorts: In the NMUTR, both pre-service teaching residents and new teachers hired after their residency will be organized into *cohorts* to facilitate professional collaboration and the establishment of professional learning communities. Pre-service teacher preparation programs implemented in cohort cycles tend to form natural learning communities due to the large number of classes that all students have together; in fact, cohorts are a common feature of exemplary education programs (Freedman & Appleman, 2009).

NPS has identified early childhood teachers and secondary math and science teachers as high-need areas. Thus in the 2014-19 NMUTR, we will enroll four cohorts of 15 teaching residents who will pursue early childhood and special education certification in a program that will emphasize preparation in mathematics and science. In Years 3 and 4, we will also recruit

and enroll 10 residents pursuing secondary math or science certification; we are not recruiting these residents earlier since MSU is already preparing math and science teachers for NPS through the WWTF Program in those years. It is our intent that future cohorts will be part of our institutionalized Residency that is part of the larger teacher education program (see Timeline by Cohorts, and by Year and Objectives in Appendices H-2 and H-3). We will create three learning communities comprised of: (a) early childhood/special education residents, (b) secondary residents; and (c) the collective group. No fewer than two residents will be placed in each school, and every effort will be made to place groups of 3-5 residents together. This cohort structure was successfully implemented in the 2009-14 NMUTR, and has proved effective.

f. Collaborative Inquiry: A central means for promoting the learning of pre-service teachers, new teachers, and mentor teachers in the NMUTR will be *collaborative inquiry* aimed at the continuous improvement of learning and teaching (Hyland & Noffke, 2005). Through collaborative inquiry, NMUTR participants systematically examine their educational practice using rigorous research techniques. Residents will take an action research course early in the program in which they will learn how to use technology to collect, manage and analyze data to improve teaching and learning. Throughout the clinical apprenticeship and induction years, time will be allotted for participants to engage in inquiry using data to foster student learning gains.

Building on a successful model of collaborative action research projects, program participants will conduct collaborative inquiry projects with their mentors, MSU faculty, and each other. Groups of residents and mentors will select a pedagogical concern such as teaching English language learners, study the literature and research on the issue, design and implement an action research study, use technology to collect and analyze data in their classrooms, engage in peer observations, and write a research report that includes plans for improving instruction.

These inquiry projects will engage groups of teachers at different stages in their careers in collaborative learning grounded in the literature and aimed at improving student achievement. Over time, as action research becomes institutionalized in the NPS, it can fuel systemic change through the use of data to improve teaching and student achievement.

g. Residency: The apprenticeship phase of the program is organized around three major interconnected activities. The primary activity will be *classroom immersion* - ongoing observation, collaboration, and teaching with an experienced, excellent teacher in a classroom. The classroom immersion will provide a variety of concrete situations and data to be used in inquiry and assignments for the MAT coursework and opportunities for integrating pedagogy, classroom practice, inquiry, and teacher mentoring.

The second major activity will be *instructional rounds* (Teitel, 2009), a process similar to medical rounds, that will be enacted in cluster and hub schools. During rounds, residents will meet with mentors and MSU faculty members to discuss an issue such as classroom management, define the issue, observe and collect data in classrooms and share what they observed. Research shows that instructional rounds increase teachers' focus on regular analysis and improvement in teaching and learning (Teitel, 2009).

The third apprenticeship activity will be regular *group seminars* attended by mentors, teaching residents, and MSU faculty members. A half-day each month will be set aside for structured seminars where residents share their growing knowledge and understanding of classroom life, teacher practice, and student learning; collaboratively solve problems of practice; and create a forum for mentors and professors to assess and respond to residents.

h. MAT Coursework: Teacher residents will engage in rigorous graduate coursework in pursuing one of three MAT degrees: (a) dual certification in Early Childhood Education and Teacher of

Students with Disabilities, (b) Mathematics Education, or (c) Science Education. The MAT curriculum supports pre-service teachers in developing the knowledge and skills articulated in the MSU Standards for Candidates in Initial Teacher Programs. These standards align with the NJ Professional Teaching Standards, the NJ Preschool Teaching and Learning Standards, NAEYC Standards for Early Childhood Professional Preparation, Internationally Benchmarked College and Career Readiness Academic Standards (IB Standards), Council for Exceptional Children Initial Level Special Educator Preparation Standards, the National Council of Teachers of Mathematics and National Science Teachers Associations Standards for teaching and learning, and the NCATE Standards (See Appendix H-4).

To satisfy the requirements for the MAT degree, residents in the dual-certification program will take courses in the partner schools over four semesters (summer, fall, spring, summer), and residents in the math or science certification program will take courses over three semesters (summer, fall, spring). Residents will take courses one full day each week, when they will not be in their classrooms, and after school one day a week. They will also satisfy certain course requirements through their work in schools with their mentors. All MAT coursework will be closely linked to classroom practice; the content and assignments will be situated in NPS and the larger Newark community. MSU courses will prepare the teachers to implement the IB Standards in math, literacy and science. District classrooms will serve as laboratories in which pre-service residents can observe, practice, and apply the ideas they learn in their coursework (Boatright et al., 2009). Residents will receive feedback from their mentor teacher and faculty in planning and implementing lessons aligned to the standards. MSU faculty members and part-time faculty members who are NPS teachers will teach these courses collaboratively. This model has been implemented successfully in the 2009-14 NMUTR and PIE-Q schools.

The curriculum for each MAT program reflects curriculum themes that will guide the clinically-embedded coursework in each program semester. To emphasize the focus on inquiry, these themes are framed as questions, and aligned with MSU Standards. A complete chart addressing the themes can be found in Appendix H-6; below is a summary:

Theme-Based Curriculum for NMUTR: Dual-Certification Program in Early Childhood Education and Special Education (15-Month Residency Program):

- **Summer Semester:** ***Curriculum Theme & MSU Standards:*** 1) *Theme 1*: What is learning? What is teaching? *Standards:* 2, 3, 4, 6, 10. 2) *Theme 2:* Who are the learners and how do they develop knowledge? *Standards:* 3,5, 6, 8, 9. ***Content:*** Child development; Foundations of teaching and learning; Inclusive early childhood education in a diverse society; Families of children with diverse learning needs; Special education for students with disabilities in EC classrooms; Newark schools and community; Culturally responsive teaching; Teaching EL learners; Promoting pro-social behaviors in inclusive EC settings**.** ***Assignments:*** Autobiographical explorations of learning; Community organization internship; Community study; Child development research project; Case study of a child; Electronic Portfolio.
- **Fall Semester:** ***Curriculum Theme & MSU Standards:*** *Theme 3:* How do teachers teach for learning and reflect on their teaching? *Standards*: 1, 3, 4, 5, 7. ***Content***: Methods of teaching and pedagogical content knowledge w/field-based coaching; Teaching ELLs; Using technology to collect and analyze data to inform instruction; In the inclusive EC classroom: Language-based teaching and learning, Instructional planning for students w/diverse learning needs, Assessment and evaluation, Multiple learning domains. **Assignments**: Adapting instruction for student with a disability; Lesson plans; Reflection and self-evaluation; Ethnographic study of inclusive EC class; Electronic Portfolio; Case study of a learner.

- **Spring Semester:** ***Curriculum Themes & MSU Standards***: *Theme 4*: Roles of a professional teacher and how does schooling affect these roles? *Standards*: 3, 4, 9, 12. ***Content***: Technology integration; Curriculum development; Integrating learning, teaching, instruction, curriculum, and assessment. ***Assignments***: Summative teaching assessment; Action research project; Electronic Portfolio; Adapting instruction for an English language learner; Project-based curriculum.
- **Summer Semester:** ***Curriculum Themes & MSU Standards****: Theme 5:* How do teachers support diverse learners and their families? *Standards:* 2, 7, 8, 10. Content: Understanding Theory and Practice for working with students with diverse learning needs; Methods and assessment of working with students with diverse learning needs; Promoting pro-social behaviors in inclusive EC settings Assignments: Electronic Portfolio, Presentation of effective teaching/learning strategies, Disability project, Year-long classroom planning.

Early childhood classrooms with well-integrated language arts, science and math, and social studies instruction provide an ideal setting for building the proficiencies called for in the new standards. For such practices to take hold in linguistically diverse and traditionally underserved urban communities, early childhood teachers must be prepared with true expertise in inclusive and linguistically responsive early literacy practices - which residents will develop. They will be prepared with a repertoire of teaching practices that address the standards within literacy- and content-rich classroom environments, universally designed to support active learning and academic language development across content areas. Candidates will develop best practice and on-going self-improvement in using classroom quality assessment instruments such as the Classroom Assessment Scoring System, Early Language and Literacy Classroom

Observation, and Classroom Assessment of Supports for Emergent Bilingual Acquisition. Through this process, NMUTR is addressing TQP Competitive Preference Priority 2.

A critical part of our NMUTR Early Childhood residency will be instruction in STEM teacher preparation provided by faculty members from the MSU School of Science and Mathematics and College of Education and Human Services. The Common Core State Standards and the Next Generation Science Standards provide the framework for systematic improvement in math and science education (ISTE, 2007; U.S. DOE, 2010). This program will address a well-documented gap in school readiness that shows that young children, particularly in urban areas, may not receive a robust STEM curriculum (Brooks et al., 2014). The NMUTR STEM program will be delivered as integrated, interconnected, and synergistic opportunities for teaching and learning, with an emphasis on higher order thinking (Hagiwara, 2014). Residents will gain a deeper understanding of standards, concepts, methods, and research-based teaching strategies for effective instruction in inclusive and special education settings. In addition, NMUTR will provide focused assistance on teaching STEM to students with disabilities who may become disenfranchised by STEM fields in schools and the workforce (Leddy, 2010; Mariono, 2010), a problem accentuated in urban areas where there are an unprecedented number of minorities labeled with disabilities. (Hawley et al., 2013). Because students with disabilities can be successful in STEM classes when teachers understand their needs and abilities, these and other inclusive practices will be practiced throughout the residency.

Theme-Based Curriculum for NMUTR: Certification Program in Mathematics Education or Science Education (12-Month Residency Program)

- **Summer Semester:** ***Curriculum Theme & MSU Standards:*** *Theme 1:* Who are the learners; how do they develop knowledge? *Standards:* 2, 3, 5, 6, 7, 10. ***Content***: Adolescent

development; Teaching, democracy, & schooling; Introduction to lesson planning & assessment; IB Standards; Introduction to inquiry teaching methods in the math and science classroom; Introduction to culturally responsive teaching; Community & schools of Newark. ***Assignments***: Autobiographical explorations of learning; Internship in community organization; Inquiry project; shadowing a learner; Community study.

- **Fall Semester**: ***Curriculum Theme & MSU Standards:*** *Theme 2:* How do teachers teach for learning and reflect on their teaching? *Standards:* 3, 7. ***Content:*** Sociocultural perspectives on teaching and learning; Culturally responsive teaching; Math/Science Pedagogical content; Assessment; Using technology to collect/analyze data to inform instruction. ***Assignments***: Case study of a learner; Adapting instruction for students with disabilities/EL learners.
- **Spring Semester:** ***Curriculum Theme & MSU Standards:*** *Theme 3:* How do teachers teach students with special needs? *Standards:* 1, 3, 4, 8, 9, 12. ***Content:*** Instructional planning for students with diverse needs in math/science classrooms; Teaching English language learners; Teaching students with disabilities; Literacy across the curriculum; Technology integration in the math/science classroom; Integrating learning, teaching, instruction, curriculum, & assessment; Inquiry and action research. Assignments: Instructional unit plan; Collaborative action research with mentor; Student teaching assessment; Action research project.

i. Summer: Each summer all NMUTR participants will engage in community-based experiences to learn about the history and context of Newark and the nature, purposes, and methods of qualitative educational research. Residents will learn about Newark in a unique way - engaged in residencies in community organizations that collaborate with NPS to provide educational services for children. NMUTR residents will be placed in one of four community organizations that have hosted residents in our previous round of NMUTR (see Appendix G for Letters of

Support): 1) *The All Stars Project of New Jersey*, where they will work with students in three innovative after-school programs: All Stars Talent Show Network (performance-based learning approach), Development School for Youth (leadership training and career education), and Youth Onstage! (youth theater group); 2) *La Casa de Don Pedro,* where they will help design, facilitate and implement camp activities; 3) *Newark Museum,* where they will help plan hands-on workshops and experiments in science, technology, engineering, arts; and 4) NPS's *Extended School Year Programs*, where they will work with students with a range of special needs.

In addition, during the second and final summers of the early childhood program, residents will engage in an intensive 6-week rotation at MSU's Ben Samuels Center, which provides a model of excellence in inclusive early care and education where children from birth through five years, with and without identified disabilities, learn, play and develop together (See Appendix G for Letter of Support). The rotation will include sessions taught by the highly experienced Center administrators and faculty. The MSU Center for Autism and Early Childhood Mental Health, which specializes in professional development, education, clinical services, and research in the areas of autism, infant and early childhood development and mental health, will provide instruction in teaching young children with developmental disabilities, and will identify high quality internships for residents during their final summer semester in the Residency (See Appendix G for Letter of Support.).

j. Assessment System: At the end of each semester during the MAT/residency phase of the program, residents will be assessed using performance assessments and rubrics, which are already designed for the existing MSU teacher education programs and aligned to national standards (See examples of these assessments in Appendix H-5). In addition, they will submit a completed action research project, which will represent the culmination of their collaborative

inquiry and action research throughout the residency, and a professional digital portfolio that provides evidence of their growth and development as professional educators.

k. Recruitment and Selection of Residents: To recruit recent college graduates, NMUTR will draw on strategies piloted and refined through the previous round of NMUTR and other teacher preparation programs. Newly designed marketing materials will be circulated throughout urban and other diverse communities, local media, postings in community service organizations, NGOs, social media and at public transportation sites. We will also publicize NMUTR in NPS schools and newsletters, teachers' union newsletters, and churches - successful strategies employed in a Race to the Top Initiative at Queens College. New strategies to engage mid-career professionals and recent mathematics and science graduates will continue to be developed.

To recruit students at MSU, flyers and announcements about the program will be posted across the campus and presented to students in culminating undergraduate science and mathematics classes, to their advisors, and to career services staff in the College of Science and Mathematics. Information sessions will be announced in flyers, email blasts, and postings on websites (MSU, CEHS, NJ DOE, AFT, NJ Education Association) and twice each semester. Information will also be shared through MSU alumni email blasts and Historically Black Colleges & Universities email blasts, and listings on Idealist.org and Craig's List.

The admissions criteria for the NMUTR will be highly selective, responsive to NPS hiring priorities, and consistent with the literature on the qualities of successful teachers in urban settings (Haberman, 1987, 1995, 1999; Stotko et al., 2007; Villegas & Lucas, 2002). All candidates will submit an application, essay, two letters of recommendation, and college transcripts; complete a survey measuring attitudes toward diversity; be interviewed; and write an impromptu essay. To be selected, a candidate must: 1) Demonstrate strong content

knowledge as determined by a degree in a relevant field with a minimum 3.0 GPA and letters of recommendation; 2) Possess strong verbal and written communication skills as determined by essays and an interview; 3) Pass appropriate Praxis I and II examinations; 4) As determined by all application materials, have the attributes of successful pre-service teachers for urban schools, including: a) Qualities of effective urban teachers (Haberman, 1995); b) Qualities of culturally responsive teachers (Villegas & Lucas, 2002); c) Reflectiveness and commitment to critical thinking (Schon, 1984); d) Flexibility (Stotko, et al., 2007); and e) Resiliency.

A selection committee made up of representatives of the NMUTR partners will review the applications and participate in interviews. The committee will use the MSU Admissions Evaluation Scale, which is part of the MSU Teacher Candidate Assessment System and was used, tested and validated for the 2009-14 NMUTR. An admissions priority will be to admit qualified candidates who reflect the partner schools in terms of race, ethnicity, and language.

Residents admitted to the program may apply to receive a living stipend during their apprenticeship year. The stipend will be [redacted] for math/science residents and [redacted] for dual certification residents. These amounts reflect the length of each residency experience, the cost of living in the Northern NJ area, and the need to compete with other programs that recruit prospective teacher candidates. As an additional incentive, residents will have a portion of their tuition waived by MSU. Each resident must agree to serve as a full-time teacher in a high-need school served by NPS in a high-need subject area for three years after completing the teaching residency. If a resident does not fulfill this requirement, s/he must repay the stipend and tuition.

Residents will be eligible for teacher certification if they successfully complete the MAT program; pass the examinations required by the State of NJ; show through performance assessments that they have met the standards established by the program (including performance

observations of their teaching), and submit a successful portfolio. All teachers who complete teacher education programs at MSU and are recommended for licensure to the State are considered Highly Qualified in their area of licensure. Teachers who successfully complete the residency program will become part of the teaching force in the NPS, filling the district's need for highly qualified dually certified early childhood and secondary math and science teachers.

l. Selection of Mentors: Selection criteria for mentors, all of whom will be highly qualified teachers in their subject areas, will also be rigorous. In the previous phase of NMUTR, MSU developed a Mentor Identification tool that principals of the partner schools will use to nominate potential mentors. The tool will help determine whether teachers are highly effective with regard to: subject area knowledge; planning and preparation, including pedagogy and assessment; ability to analyze and use student achievement data; instruction that engages students from different cultural backgrounds and with different learning styles; gains in student learning in their classrooms; collaboration with colleagues to improve instruction; qualities of culturally responsive teachers; reflectiveness and commitment to critical reflection and critical thinking; leadership potential; and professionalism. Mentors in math will also be required to have appropriate skills in math instructional strategies. A selection committee made up of the Project Director, Lead Faculty, and NPS liaisons will review the nominations, identify potential mentors, and conduct observations of potential mentors teaching a class. The committee will also consider whether there are residents for whom the potential mentor teachers would be appropriate.

m. Induction Activities: Under the direction of an Induction Program Coordinator, the formal induction program for new teachers will begin in fall 2016, when the first cohort of teaching residents will become teachers. They will be hired in high-need schools in NPS and will continue to work with mentors, who will now also serve as instructional coaches (Joyce & Showers, 1996;

Ross, 1992). The NPS Framework for Effective Teaching, which is currently used in the NPS, will provide the foundation and structure for conversations, observations, coaching, and improvement of teaching and learning. The components of the NPS Framework are aligned with IB Standards, INTASC, MSU and NJ professional teaching standards. Novice teachers and mentors/coaches will be given on-load time for the coaching and inquiry activities, and the novice teachers will spend time observing master teachers in their and other NPS schools.

Mentors will participate in whole-group meetings to discuss specific approaches to their work. Additionally, the Mentor Teacher Coach will provide one-on-one support to the mentors; novice teachers will also engage in activities that involve all new teachers in their schools and at other NMUTR partner schools. They will participate in MSUNER professional development workshops that address IB Standards and other topics selected by partnering districts. These activities will build embedded professional learning communities among novice teachers in each school and across the district and create a general culture of learning and professional growth in NPS. Novice teachers will participate in instructional rounds; weekly meetings where they will discuss teaching, learning, and classroom practice; MSUNER; Jumpstart professional development; and online networking.

As they did as residents, novice teachers will continue to engage in collaborative inquiry in action research groups. The work of these groups will focus on enhancing and supporting the new teachers' developing ability to collect, analyze, and use student data to improve their practice. Action research groups will help provide a seamless continuum of classroom inquiry aimed at the improvement of teaching and learning.

Coaches will support new teachers in using the strategies they have learned in their coursework to become more expert at designing curriculum that is responsive to all the students

in their classes; applying their beginning instructional repertoire and working to expand it, with special attention to differentiating instruction; creating an inclusive, nurturing and safe classroom learning community; continuing to work collaboratively; and engaging in inquiry about teaching and learning with colleagues. Future graduates will receive support in implementing literacy strategies in the mathematics and science classrooms to extend their understanding of how to implement IB standards for college and career readiness.

The inquiry focus of the NMUTR will build the capacity of NPS educators to use research to enhance student, school, and district performance. More specifically, it will help educators at different stages in their teaching careers develop an inquiry orientation to their work and acquire the knowledge and skills necessary to 1) use student achievement data to improve their practice; 2) understand, interpret and use research to improve teaching and learning; 3) assess needs and formulate questions for district, school, and classroom research and evaluation; and 4) design, conduct and use action research within professional learning communities to improve learning and teaching in their classrooms (Cochran-Smith & Lytle, 2009).

n. Professional Development for Experienced Teachers, Mentors, and Coaches*:* Those who are selected to be mentors and coaches will participate in intensive and carefully designed professional development to support the development of knowledge, skills, and attitudes for successful mentoring (Carver & Katz, 2004). Prior to becoming mentors, and during subsequent years, the selected teachers will participate in a Mentor Teacher Institute to prepare them for their roles and responsibilities as mentors. The mentor preparation program will include instruction on adult learning, coaching and mentoring strategies and skills, observation and analysis of teaching and learning, the phases and stages of teacher development, and Newark's

Framework for Effective Teaching. In addition, mentors/coaches will participate in monthly meetings with each other, developing a professional learning community.

MSU faculty in the College of Education and Human Services (CEHS) and the College of Science and Mathematics (CSAM) will engage in many of these professional development and inquiry-oriented activities with NPS teachers. Two MSU faculty members will serve as Lead Faculty to the two clusters (early childhood and secondary) to provide leadership and ensure coherence of the academic work of the residents and the professional development for novice and experienced teachers. Both Lead Faculty will be involved from the beginning of the program, with the Secondary Liaison dedicating additional time to the project in year three to prepare for the first secondary cohort. These faculty, as well as other MSU faculty from CEHS and CSAM, will observe teachers and provide coaching and feedback; engage in formal professional conversations and facilitate meetings focused on issues of concern; collaborate on inquiry and action research on questions about teaching and learning; and teach courses for pre-service teachers in the MAT program. In addition, the faculty will provide coaching in their area of expertise to strengthen residents' content knowledge and pedagogical content knowledge.

A rich array of professional development activities for experienced and novice teachers in the NPS will be offered through the MSU Network for Educational Renewal (MSUNER). These activities will include six-hour mini-courses, online courses, teacher study groups, full-day workshops on professional development days, classroom coaching, summer conferences, and Teachers as Scholars seminars. All of these programs already exist and are funded through the MSUNER budget and NPS member dues to MSUNER. Special attention will be given to preparing pre-service and new teachers to use research and data to improve instruction.

o. Networking Activities: Participants will also benefit from a variety of networking opportunities built into NMUTR (Lieberman & Golnick, 1996). An annual Mentor Teacher Institute will be held to support the experienced teachers who are serving as mentors and coaches. In addition, to build knowledge and skills for teaching in NPS, teacher residents, new teachers (after the first two years), experienced teacher mentors/coaches, MSU faculty, and school administrators will continue to participate in the annual MSUNER Summer conference. The conference gives participants opportunities to share their learning and accomplishments with each other, and to learn from those attending from other districts. Beginning residents will have the benefit of attending sessions led by recent Residency graduates, as well as sessions led by highly experienced teachers from among the 30 school districts that comprise the MSUNER. At the start of the program, in spring 2015, in partnership with Rutgers-Newark, MSU will host the annual conference of the Urban Teacher Education Consortium, which includes members from the Boston, Chicago, Seattle and other residencies throughout the country.

Online networking within NMUTR will also be built into the program through an online professional learning community using the social networking platform *ning.com,* which allows multiple formats for communication. Participants will use this community to form special interest groups within NMUTR (e.g., residents, new teachers, mentors, coaches, MSU faculty) through which they can collaborate on projects, work on shared documents and support one another through multiple means of communication (e-mail, discussion forums, live text chats).

p. Coordination of Strategies and Activities with Other Education Reform Activities: The NMUTR is embedded in a well-established, long-standing and multi-faceted MSU-NPS partnership that has cemented professional relationships among leaders and staff across institutions, ensuring the coordination of teacher preparation and professional development

programs with educational reforms initiated at all levels. The history of collaboration has and will ensure the alignment of standards, assessments, curriculum, and procedures across the district and MSU. These relationships and history have led to clear communications and the development of strategies to collaboratively recruit, prepare, and retain high quality teachers.

NMUTR research groups and teacher study groups, and on-site student teaching seminars taught by NPS clinical faculty and MSU faculty establish cross-institutional understandings and foster collaborations that support and encourage institutional innovations and reforms. For instance, NMUTR will establish a school norm that all new and veteran teachers in NMUTR schools will become clinical faculty in the MSUNER and take leadership roles in teacher study groups, action research teams, and grant projects and serve on the NMUTR Operations Committee on a rotating basis to become more acquainted with the program.

Coordination between NMUTR and existing ESEA and IDEA funded programs in NPS will be achieved through the ambitious NPS Strategic Plan, as updated. The district's vision and core values of excellence, equity and effectiveness encompass all of the existing federally funded programs in the district, as well as NMUTR and the mission and vision of MSU. Therefore, the activities of the proposed NMUTR for 2014-19 are completely consistent with NPS's education reform activities aimed at promoting teacher quality and student academic achievement.

All teachers who complete teacher education programs at MSU and are recommended for licensure are Highly Qualified in their area of licensure. Like all MSU teacher education programs, the curricula for the program will be grounded in the MSU Standards for Candidates in Initial Teacher Programs, which are fully aligned the NJ Professional Teaching Standards, the NJ Preschool Teaching and Learning Standards, NAEYC Standards for Early Childhood Professional Preparation, IB Standards, and the NCATE Standards which are complementary to

the standards embedded in the NPS vision, teacher evaluations, and student assessments. (See Appendix H-4 for the MSU Standards and their alignment with NJ and NCATE Standards).

5. Available Resources

The NMUTR will benefit from integration of funds from several sources, many of which are directly attributable to the strong partnership between NPS and MSU. NPS will contribute one third of residents' stipends and [redacted] of mentors' stipends. As an in-kind contribution, NPS will provide facilities, including maintenance and security costs, for NMUTR classes and other sessions. NPS will also assure that staff will be released to help teach sessions with the residents.

MSU is committing matching funds from its regular budget for the MSUNER, which provides professional development in member districts, including NPS. This includes carryover funds that came from the Geraldine R. Dodge Foundation for action research groups. MSU is also contributing portions of faculty and staff time, a portion of faculty fringe costs for the life of the grant, and fully funded graduate assistants working with the PI and faculty in residence. MSU will also waive 20% of tuition and a portion of fees in Years 3-5 of the project. MSU has also made a commitment to hire two clinical faculty members and a mathematics teacher educator to work in this project and ensure the institutionalization of the residency in the future.

MSU will also offer substantial technology resources to be integrated in the NMUTR. Our *ADP Center for Learning Technologies* functions as a hub of curriculum research, instructional planning, and educational technology for everyone associated with teacher education and human services at MSU, including students, university faculty members, and faculty in partner schools. Many of ADP's vast resources are available digitally, so teaching residents can access them from off-campus and can visit the ADP Center in the evenings when it is open for teachers in partner schools. During summer course work, residents will spend time in

the ADP Center Classrooms of the Future. The College of Education and Human Services Technology Department and Library resources will also be available to participants. Other resources available include professional development preparation provided by Jumpstart: Children First organization. Secondary math and science residents will benefit from our partnership with MSU's Professional Resources for Science and Math (PRISM).

In addition to matching funds, MSU and NPS are also making substantial commitments of time and expertise. These commitments will not end with the conclusion of this grant because of the strong and ongoing partnership between MSU and NPS. In fact, MSU has already begun institutionalizing innovations derived from the 2009-2014 NMUTR.

As it is the intent of this grant project to deeply embed the Residency model within the current structures at MSU, substantial attention and resources will be devoted to insuring that the Residency is sustained beyond the grant period. The Co-PIs and Lead Faculty will be responsible for working within their departments and across MSU to share the strengths of the residency program with other faculty and guide the renewal of existing programs. To do so, they will work with the MSU Teacher Education Policy Committee (TEPC), graduate program coordinators, and department chairs to identify ways to incorporate key components of the NMUTR in our teacher preparation programs, with the ultimate goal of intentionally linking coursework to field work and scaffolding support for teacher learning across semesters and clinical settings for all MSU initial teacher programs. TEPC, program coordinators, department chairs, and faculty will collaboratively develop and implement a four-year plan to embed teacher education activities in clinical settings by the end of the TPQ grant (See specific objectives, pp. 15-16, above.)

Given our prior experience in renewing existing programs and creating new ones, we intend to institutionalize both NMUTR programs and practices, ensuring the quality of our

teachers and maximizing student achievement. To achieve institutionalization, we will include an element in our evaluation that helps us identify the innovative programs that support the preparation and retention of highly qualified teachers. Over time, we will continue to institutionalize innovations derived from NMUTR into our larger teacher preparation programs.

6. Management Plan

a. ***Adequacy of the Management Plan to Achieve Responsibilities, Timelines and Milestones.***

See section 6(b) for responsibilities and Appendices H-2 and H-3 for Timelines and Milestones.

b. ***The Qualifications, including Relevant Training and Experience, of Key Project Personnel***

Co-Principal Investigator: Dr. Jennifer Robinson, Executive Director of the MSU Center of Pedagogy, will be one of two Co-Principal Investigators of the grant; her primary responsibility will be administrative oversight of the Residency. Having served as PI of the 2009-2014 TQP grant program that provided the original funding for the NMUTR, Dr. Robinson has significant experience overseeing the establishment of the residency, including 20 years experience in urban education and teacher preparation. She is the Teacher Certification Officer for MSU, and is responsible for all aspects of initial teacher education. As part of her oversight of the NMUTR, she will convene meetings of the NMUTR Advisory Committee, and meet regularly with the Project Director and with other project staff. She will also be the fiscal agent for the project.

Co-Principal Investigator and Early Childhood/Special Education Lead Teacher: Dr. Susan Wray is associate professor in MSU's Early Childhood, Elementary, and Literacy Education (ECELE) Department, and will serve as the NMUTR Co-Principal Investigator. Dr. Wray co-authored the curriculum for the MAT Dual-Certification Program in Early Childhood Education and Special Education, and was the lead faculty over the NMUTR early childhood/special needs residency cohorts in the 2009-14 NMUTR. As Co-PI, her primary responsibility will to oversee

the institutionalization of the Residency in the ECELE larger graduate teacher education programs, including the integration of candidate performance assessments that are part of the MSU initial teacher assessment system. Dr. Wray will continue to be the lead faculty, and she will serve as the liaison between the department and the Residency Director.

Project Director: Ms. Susan Taylor will be the NMUTR full-time project director, reporting to Dr. Robinson. Ms. Taylor is a former public school teacher and principal with 37 years of experience in the NPS, and was a key developer of the 2009-2014 NMUTR. As principal of Benjamin Franklin Elementary School, in NPS, she won several awards, including the Richard Clark Award for Outstanding School/University Partnership. She effectively managed the 2009 NMUTR through 4 years of maturity and development. Ms. Taylor will continue to oversee and implement all aspects of the project, including managing daily operations to ensure that the goals and activity plans of the project are followed, and l participate on the CoP Leadership Team.

Secondary Lead Teacher. Dr. Tanya Maloney is the WWTF Director. She works closely with the Woodrow Wilson National Fellowship Foundation to recruit, select, admit, prepare, place, and provide ongoing support to middle and secondary mathematics and science teaching fellows who will serve in Newark and other high-need school districts. During the first three years of the TQP grant, Dr. Maloney will continue her role as WWTF Director. In years 4 and 5 of the grant, she will be lead faculty for two cohorts of NMUTR secondary residents. She will also work with the SASE Department to institutionalize the Residency.

Induction Coordinator. Ms. Christine Rennie is the Induction Coordinator for the current NMUTR and will continue in that role in the 2014-19 NMUTR. She helped design the Residency Induction Program to support Residency graduates, mentors, and school administrators that has been implemented in the NPS since 2010.

Evaluator. MSU's Center for Research and Evaluation of Education and Human Services (CREEHS) will conduct a state-of-the-art evaluation of NMUTR to enhance program planning and teacher and student outcomes. Since its inception, CREEHS has provided evaluation and applied research services for school districts, government agencies, community-based organizations, and foundations to help them meet their accountability and program improvement needs. CREEHS has been the evaluator for the 2009-2014 NMUTR.

Advisory Council. The NMUTR Advisory Council will include the following members: the two co-PIs, the MSU NMUTR lead, the residency Project Director, the NPS Executive Director of Strategic Initiatives, the NPS Chief Talent Officer, the NPS Executive Director of Staffing and Recruitment, the principals of the hub schools, the Dean of the MSU College of Education and Human Services, the Dean of the MSU College of Science and Mathematics, the NPS teacher liaisons, and the Director of the MSUNER. The Council will meet once each semester to review process and outcomes, and provide input regarding program policy and practices. Specific responsibilities include: 1) Reviewing and recommending policies that advance the goals and objectives of the NMUTR; 2) Ensuring equitable representation among all project partners; 3) Facilitating communication among partners and the community-at-large; and 4) Reviewing results of performance assessments of NMUTR teaching residents and evaluation research findings, and making relevant recommendations for changes in the program.

NPS NMUTR Liaisons. One experienced teacher in each of the residency schools will serve as a mentor representative on the NMUTR Advisory Council, and will have time as part of their instructional load to attend meetings and report back to their colleagues about program activities.

CSAM, NPS, and CEHS Faculty and Staff members. *Dr. Erin Krupa* and *Dr. Steven Greenstein*, assistant professors of Mathematics, will serve as instructors regarding mathematics

content and pedagogical content knowledge. They have extensive experience with elementary and secondary math education and implementing teacher preparation aligned with IB Standards. *Dr. Jackie Willis,* Director of Project PRISM at MSU, is an accomplished researcher and an early innovator in the use of Internet STEM education programming. Dr. Willis will serve as science instructor, and help with professional development of mentor teachers. Other MSU staff who will participate: *Ms. Corinne Catalano,* Asst. Director for Consultation Services, Center for Autism and Early Childhood Mental Health (CAECMH); *Dr. Gerard Costa*, Director of CAECMH; *Ms. Tara Evenson*, Director and Principal of the Ben Samuels Children's Center; *Dr. Peggy Freedson,* Early Childhood, Elementary and Literacy Education; *Dr. Sumi Hagiwara,* Early Childhood, Elementary and Literacy Education*; Dr. Douglas Larkin,* Secondary and Special Education; *Dr. Fernando Naiditch*, Secondary and Special Education; *Dr. Victoria Puig,* Early Childhood, Elementary, and Literacy Education; *Dr. Minsun Shin,* Early Childhood, Elementary and Literacy Education; *Dr. Mayida Zaal*, Secondary and Special Education.

Other relevant personnel include: *Ms. Genevieve Murray* is Special Assistant in Literacy (K-5) in the NPS; *Mr. Nicholas Romagnolo*, Special Assistant in Mathematics in the NPS; *Dr. Rosemarie Truglio*, Senior Vice President of Curriculum and Content at Sesame Workshop.

Each school will also have a cadre of highly qualified and carefully selected faculty members who will serve as mentors for teaching residents and mentor-coaches for novice teachers in their first two years after the residency program. These mentors will be selected and assigned to residents/novice teachers through a rigorous process.

7. Evaluation

MSU will retain the Center for Research and Evaluation on Education and Human Services (CREEHS) to conduct the program evaluation of the NMUTR. CREEHS has consulted

on the design of this evaluation plan to ensure its inclusion of (i) valid and reliable performance data on relevant outcomes, (ii) thorough, feasible methods, aligned to the goals, objectives and outcomes of the projects; and (iii) periodic performance feedback to inform ongoing monitoring of progress toward project benchmarks. The evaluation will employ a mixed methods design, utilizing multiple qualitative and quantitative methods to collect data from a wide range of stakeholders and sources. The plan reports on the performance measures established by the Department of Education under the GPRA and the program performance measures under section 204(a) of the HEA. Four overarching questions, aligned to the project's goals, will guide the evaluation: 1) To what extent is the NMUTR model successful in preparing high quality teachers for NPS via the residency program? 2) To what extent is the NMUTR model successful in improving the quality and retention of new teachers in NPS via induction support? 3) To what extent is the NMUTR model successful in improving the quality of NPS Mentor Teachers via professional development and networking support? 4) To what extent are key elements of the residency model incorporated into MSU's larger teacher education program?

During Year 1 and periodically throughout the project period, CREEHS will collaborate with a variety of stakeholders (via NMUTR Advisory Council) to refine the proposed evaluation questions, data collection methods, analysis procedures and reporting processes. During Year 1, a logic model and conceptual framework also will be developed to articulate the program's theory of change, in order to describe relationships between participants, resources, activities, outcomes and resulting impacts. This logic model and conceptual framework will inform instrument development and refinement, analysis procedures and reporting structures.

a. Project Goals, Evaluation Questions and Objectives: Table 1, in Appendix H-7 provides an overview of the project's primary goals, the related evaluation questions, performance measures

established by the Department of Education under the GPRA, program performance measures under section 204(a) of the HEA, and data indicators. Below is a summary:

Project Goal 1. ***Evaluation Question 1:*** To what extent is the NMUTR model successful in preparing high quality teachers for NPS via the residency program? ***Project Objectives:*** **1.1**: Recruit and select 80 teacher residents with strong academic backgrounds in math or science, or interest in early childhood and special education, as demonstrated by meeting threshold criteria related to GPA, GRE scores, Praxis scores, and advanced courses in the major areas, as documented via the admission process. **1.2:** Recruit and select teacher residents, 20% of whom are from traditionally underrepresented groups, as measured by program documentation. **1.3:** 90% of enrolled residents meet or exceed program performance standards as measured by passing grades in program courses, retention of residents in the program, and an MSU Master's Degree in their certification areas, as measured by program documentation. **1.4:** 100% of resident graduates are hired as teachers of record in NPS when they graduate, as measured by program and district documentation. ***Performance Measures (GPRA, Program):*** *GPRA Performance Measure 1: Graduation.* The percentage of program completers who attain initial certification/licensure by passing all necessary certification/licensure assessments and attain a master's degree within two years of beginning the program. *GRPA Short-Term Performance Measure 1: Persistence.* The percentage of participants who were not scheduled to graduate in the previous reporting period and persisted in the postsecondary program in the current reporting period. *Program/Section 204(a) Objective (d)(1)* The percentage of highly qualified teachers hired by the high-need LEA participating in the eligible partnership. *Program/Section 204(a) Objective (d)(2)* The percentage of highly qualified teachers hired by the high-need LEA who are members of underrepresented groups. *Program/Section 204(a) Objective (d)(3)* The

percentage of highly qualified teachers hired by the high-need LEA who teach high-need academic subject areas. *Program/Section 204(a) Objective (d)(4)* The percentage of highly qualified teachers hired by the high-need LEA who teach in high-need areas. *Program/Section 204(a) Objective (d)(5)* The percentage of highly qualified teachers hired by the high-need LEA who teach in high-need schools, disaggregated by the elementary and secondary school levels. *Program/Section 204(a) Objective (d)(6)* The percentage of early childhood education program classes in the geographic area served by the eligible partnership taught by highly competent early childhood educators. ***Data Indicators:*** *1)* Number of prospective applicants, accepted, and enrolled candidates in each strand; 2) Demographic and academic background of applicants and enrollees; 3) Number of graduate credits offered and completed by residents in each strand; 4) Number of clinical hours spent in residency (including specifics on placements – schools, grade levels, subject areas, setting) in each strand; 5) Number of program completers (graduates) in each strand; 6) Number of program completers (graduates) hired as teachers of record in NPS (including specifics on placements – schools, grade levels, subject areas, setting).

Project Goal 2: *Evaluation Question 2:* To what extent is the NMUTR model successful in improving the quality and retention of new teachers in NPS via induction support? ***Project Objectives:*** **2.1:** 80% of new teachers (resident graduates) report receiving ongoing support from induction coaches, peers, and school leadership, as measured by annual focus groups with and surveys of resident graduates. **2.2:** 90% of NMUTR resident graduates report gains in teaching efficacy as measured by annual focus groups with and surveys of resident graduates. **2.3:** 100% of NMUTR resident graduates hired by NPS consistently meet or exceed performance standards for new teachers in Years 02-05, as measured by NPS teacher effectiveness ratings. ***Performance Measures (GPRA, Program).*** *GPRA Performance Measure*

2: Employment Retention. The percentage of beginning teachers who are retained in teaching in the partner high-need LEA or high-need ECE program three years after being hired by the high-need LEA or high-need ECE program. *GPRA Performance Measure 4: Student Learning.* The percentage of grantees that report improved aggregate learning outcomes of students taught by new teachers. *GPRA Efficiency Measure: Employment Retention.* The cost of a successful outcome where success is defined as retention of the teacher in the partner high-need LEA or high-need ECE program three years after the teacher is hired. *GRPA Short-Term Performance Measure 2: Employment Retention.* The percentage of beginning teachers who are retained in teaching in the partner high-need LEA or high-need ECE program one year after being hired. *Program/Section 204(a) Objective (i)* Achievement for all prospective and new teachers, as measured by the eligible partnership. *Program 204(a) Objective (ii)* Teacher retention in the first three years of a teacher's career. *Program 204(a) Objective (d)(7i)* The percentage of teachers trained to integrate technology effectively into curricula and instruction, including technology consistent with the principles of universal design for learning; *Program 204(a) Objective (d)(7ii)* The percentage of teachers trained to use technology effectively to collect, manage, and analyze data to improve teaching and learning. ***Data Indicators:*** **1)** Number of program completers retained as teachers of record in NPS by year of teaching (cohort). 2) Number and type of professional development hours offered to graduates through induction. 3) Number and type of professional development hours offered around integrating technology and using technology to collect and analyze data for teaching and learning. 4) Graduate perceptions of support provided through induction. 5) Graduate perceptions of teacher efficacy. 6) Graduate report of use of technology for teaching and learning and for collecting and analyzing data for teaching and learning**.** 7) P-12 student learning outcomes. 8) NPS new teacher performance

criteria and aggregate reports on program graduates. 9) Program costs by program completer.

Project Goal 3: ***Evaluation Question 3:*** To what extent is the NMUTR model successful in improving the quality of NPS Mentor Teachers via professional development and networking support? ***Project Objectives 3.1:*** Each year, recruit up to 25 NPS teachers with strong qualifications in math, science, early childhood, and special education, as measured by end-of-year teacher evaluations and principal recommendations, to serve as mentors to the teacher residents. **3.2:** 80% of mentor teachers participate in at least 75% of the total hours of offered NMUTR professional development activities on an annual basis, as measured by program documentation. **3.3:** 80% of mentor teachers report an increased use of data for instruction as measured by annual end-of-year surveys. ***Performance Measures (GPRA, Program):*** Not Applicable. ***Data Indictors:*** 1) Number of Mentor teachers selected for each strand and phase. 2) Demographic and professional background of Mentor teachers. 3) Number and type of professional development hours offered to Mentor teachers. 4) Number and type of professional development hours offered around integrating technology and using technology to collect and analyze data for teaching and learning. 5) Number of hours of participation in provided professional development by Mentor teacher. 6) Mentor teachers' perceptions of support provided through professional development**. 7)** Mentor teachers' report of use of technology for teaching and learning and for collecting and analyzing data for teaching and learning.

Project Goal 4: ***Evaluation Question:*** To what extent are key elements of the residency model incorporated into the larger teacher education program at MSU? ***Project Objectives:*** **4.1:** Develop a plan to progressively embed the MSU teacher education program in the field by Year 4, as measured by MSU administrative data and interviews with program staff and MSU administrators. **4.2:** 40% of all MSU initial teacher candidates progress through the program in

cohort groups by Year 4, as measured by MSU administrative data. **4.3:** 75% of all MSU initial teacher candidates participate in community internships by Year 4 as measured by MSU administrative data. **4.4:** By Year 5, 80% of all MSU initial teacher candidates have high-quality pre-service clinical experiences beginning at program admission, as measured by MSU administrative data and reports from teacher candidates on the Professional Semester Inventory.

Performance Measures (GPRA, Program): Not Applicable**. *Data Indictors:*** 1) Administrative timeline to embed MSU teacher education program in the field. 2) Number and percent of MSU teacher candidates enrolled in a teacher preparation program with a cohort structure. 3) Number and percent of MSU teacher candidates participating in community internships. 4) Number and percent of MSU initial teacher candidates reporting high-quality clinical experiences

b. Data Collection Methods: All instruments, protocols, and templates will be designed to collect data that respond to the evaluation questions, performance measures and indicators noted above. These will include both quantitative and qualitative data, which will be triangulated to increase the reliability and validity of findings. Data will inform findings about program implementation and processes, program outcomes and impacts, lessons learned (e.g., successes and challenges), and recommendations for program improvement that emerge from the information collected and synthesized. All instruments will be developed by CREEHS in collaboration with senior NMUTR staff.

Proposed instruments include the following: 1) **Web-based surveys** of NMUTR Residents, Graduates, and Mentors will assess participants' experiences in the program and their perceptions of impacts on themselves and others. 2) **Focus Groups** will be conducted with NMUTR Residents, graduates, mentors and coaches to provide context about participants' experiences in the program and request input on lessons learned, project success, challenges and

recommendations. 3) **Interviews** will be conducted with NMUTR faculty, program staff, NPS district and school administrators, and MSU administrators to provide qualitative data about project implementation, successes and challenges, planned changes and additional context. 4) **Observations** will be conducted of activities within the NMUTR to provide added understanding to the evaluation team about program implementation. Target meetings and activities for observation will be sampled to represent a range of stands and cohorts. **5) Extant data** will be collected on program, district, school and university processes and outcomes (e.g., applications; courses completed; graduation; achievement scores on state licensure exams; employment status; teacher preparation operations, recruitment, admission and enrollment; professional development; student learning outcomes; teacher effectiveness). CREEHS will provide templates for data collection.

The evaluation will build upon existing data collection methods and protocols, including those developed for the current TQP-funded NMUTR (2009-2014) and other published instruments (e.g., *Teachers' Sense of Efficacy Scale)* (Tschannen-Moran & Woolfork Hoy 2001). The evaluation also will use existing data collection systems at state, district, and school levels to obtain information related to program goals, objectives, and performance measures. Additional data collection processes and data management systems will be developed in partnership with MSU and NPS to establish mechanisms for building the NMUTR's capacity for ongoing data collection to assess impact and provide formative feedback to enhance the program. Please see Table 2 in Appendix H-7 for alignment of data methods with project goals.

c. Evaluation Timeline: In Year 1, evaluation deliverables will include the following products: finalized evaluation plan, timeline of data collection activities, logic model and conceptual framework, data collection instruments and templates, required recruitment text and consent

forms, MSU institutional review board (IRB) application and approval, formative report(s) and ongoing updates on evaluation, annual local evaluation report and assistance on the Annual Performance Report (APR) due to the Department of Education each year. In later years, the instruments, recruitment text, consent forms, and logic model will be reviewed and refined as necessary. The team also will need to submit continuing applications to the IRB.

Data will be collected in each year of the grant, aligned to the progression of the residency. Surveys, focus groups, and interviews will be conducted annually in the spring and summer each year. Observation and extant data will be collected throughout each project year. Table 3 in Appendix H-6 provides a data collection timeline by data source and project year.

d. Analysis Methods: Qualitative data collected from all interviews, focus groups, observations and surveys will be summarized and content analyzed for common themes and trends. Quantitative data from surveys and extant data will be analyzed using appropriate analytic methods -- descriptive (e.g., frequencies, cross tabulations) and/or correlational analyses as well as any inferential techniques (e.g., analysis of variance, analysis of covariance, multilevel modeling) appropriate to the data collected and/or objectives to be addressed.

e. Reporting Methods: Results from the evaluation will be used to monitor the project's progress toward meeting its objectives and will prompt recommendations for program improvement. Evaluation findings will be communicated to project staff on a consistent basis at bi-weekly in-person meetings and through ongoing telephone and email communications. Evaluation results will be formally summarized and presented in annual performance reports and local evaluation reports, which will be completed at the end of each program year. In these reports, the evaluator will present quantifiable, descriptive and analytic findings, as well as a narrative explanation of the data and interpretation of findings. Each report will include a set of

actionable recommendations for program improvement. CREEHS will disseminate evaluation findings to senior program staff through formative verbal and written reports and to NMUTR stakeholders through written reports, in-person and virtual presentations.

f. Background on CREEHS*:* CREEHS is an independent research and evaluation center situated within MSU's College of Education and Human Services. The Center provides evaluation and applied research services for school districts, government agencies, community-based organizations, University faculty and staff, and foundations to help them meet their program planning, accountability and program improvement needs. The Center is revenue-generating and stands independent from any academic department in the College or University. CREEHS senior staff includes researchers and evaluators with more than three decades of collective experience in applied research and evaluation of programs related to education and children. Resumes for two of CREEHS' senior staff are included in Appendix F.

Commitment to Participating in a National Evaluation Study

The Partnership is committed to participating in a national evaluation study and will fully participate in whatever way is required.

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