HIGH POINT UNIVERSITY

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2018 Teacher Quality Partnership Grant Program

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PROJECT NARRATIVE

PREPARE: **P**iedmont-Triad **R**esidency **E**ducator **P**rogram **A**nd **R**ecruitment **E**fforts is an innovative, effective teaching residency program that prepares highly-qualified, diverse teachers for success in STEM areas at high-need schools in the Piedmont-Triad region of North Carolina. Through an eligible partnership that combines the strengths of High Point University (HPU), North Carolina Agricultural and Technical State University (NC A&T), and Guilford County Schools (GCS), PREPARE addresses Absolute Priority (AP) 2 and Competitive Priorities 1, 2, and 3. Over the grant period, 100 teacher residents will have the opportunity to earn either a MAT in Elementary Education or Secondary Math with a concentration in STEM. These two tracks were selected to meet school district hiring needs and provide for focused, tightly connected teacher resident cohorts that facilitate peer networking and professional collaboration.

Competitive Preference Priority 1: Promoting STEM Education

Through high-quality *recruitment* strategies, PREPARE will increase the number of educators adequately prepared to deliver rigorous instruction in STEM fields, including computer science. Like school districts nationwide, our needs assessment (*Appendix C*) revealed GCS is severely lacking educators prepared to teach in STEM areas, especially in high-need schools: (1) across school levels districtwide, 4-14% of teachers have an emergency, provisional, or temporary certification or licensure; (2) an average of nearly 30% of teachers in our target schools do not have full licensure with some schools as high as 44%; (3) only 10% of GCS teachers are "Distinguished" using Standards 1 (teacher leadership) and 4 (facilitating student learning) in the NC Evaluator Education (EVAAS) data; and (4) on the 40th day of instruction, GCS still had vacancies, especially in core areas of math and science: 33 vacancies in K-5, 3 vacancies in 6-8, and 10 vacancies in 9-12. Recruitment strategies to help fill this gap will focus on recent graduates of a four-year IHE with a STEM major or mid-career professional outside the field of education with strong STEM content knowledge [*AP 2 (b.1.i)*] and includes: (1) Attractive Financial

Incentive: To recruit applicants, we will offer a 12-month living stipend at ████ to pursue a MAT degree in Elementary Education or Secondary Math with a concentration in STEM. (2) Links to Colleges with STEM Majors: Through information sessions, follow-up sessions, and registration, undergraduate students in STEM majors will be identified during their junior year by offering them the opportunity to register for up to four courses in their senior year that are approved for graduate level equivalency credit in the approved MAT program. HPU has a source of potential participants from Hayworth College of Arts and Sciences (mathematics), School of Engineering (computer science), and a partner institution, Piedmont International University, to recruit potential participants. A key eligible partner is NC A&T which is the largest public Historically Black College and University in the nation and is a top producer of engineers, mathematicians, and scientists of color. NC A&T also brings potential participants from the College of Engineering (computer science) and College of Science and Technology (chemistry, mathematics, computer systems). See MOU in *Appendix I*. (3) <u>Professional Learning Incentives and Opportunities</u>: We have several program components that will serve as an attractive recruitment option for potential participants with STEM backgrounds which include: (a) Since 2012 through a dynamic partnership with *LEGO Education*, teacher residents will have the opportunity to earn course credit while engaged in hands-on experiences with the practical applications of leadership, technology, and STEM content knowledge. Faculty and teacher residents participate in research for the development of new educational products, field-test these in partner schools, and train teachers on how these products can be used in the classroom to engage students in math and science. To encourage peer networking and collaboration, teacher residents from both cohorts (HPU and NC A&T) as well as new teachers will have opportunities to practice developing skills in STEM classroom applications such as: Come Build with Us, Community Showcase Event, Robotics Challenge, and STEM Summer Enrichment Camp. See *Quality of Project Services* for specific details. (b) Based on teacher resident and mentor teacher interest and need, *STEM Saturdays* (four

sessions a year) provide professional learning in how to teach inquiry-based science, technology, engineering, and math in an integrative manner. (c) The *Engineering is Elementary Curriculum* supports teacher residents to engage in project-based learning principles and designing lessons that encourage students to apply what they know about science and math as they learn about engineering. (d) In addition to hands-on activities, teacher residents will have the opportunity to take *advanced coursework in STEM* (e.g., computer science, robotics) which will be supported by mentor and master teachers during the residency and two-year new teacher induction.

Competitive Preference Priority 2: Promoting Effective Instruction in Schools

PREPARE is designed to support the recruitment and retention of effective and diverse educators by offering an innovative approach to improving the quality of teacher preparation to proactively counter problematic teacher turnover in high-need schools. Our project employs recruitment and retention strategies found to be effective in successful teacher residency programs (Papay, West, Fullerton, & Kane, 2012; Guha, Hyler, & Darling-Hammond, 2016; Carver-Thomas, 2018): (1) Recruiting Diverse Teachers for High-Need Schools: GCS serves over 71,000 students across 126 schools and is among the most culturally diverse, large, urban school districts in the nation with students who speak 112 different languages and dialects. However, despite a 67% minority student population, only 37% of teachers identify as a minority group (*Appendix C*). To combat this discrepancy, GCS has a strategic goal focused on hiring for diversity so that their faculty and student body demographics mirror each other. Research suggests that residencies bring greater gender and racial diversity into the teaching workforce (Guha, et al., 2016) and that teachers of color provide substantial benefits to all students, especially to students of color, such as improved reading and mathematics test scores, improved graduation rates, and lower rates of chronic absenteeism and suspension (Carver-Thomas, 2018). Yet, teachers of color are more likely to enter teaching through alternative certification pathways (which often omit student teaching) and more likely to leave the teaching profession, exacerbating teacher shortages (Carver-Thomas, 2018).

Increasing the pool of effective, diverse teachers begins with increasing the number of diverse college students enrolling in and completing teacher preparation programs. Thus, HPU will partner with NC A&T and GCS to develop a strategic plan for recruiting teacher candidates from underrepresented groups using strategies such as: (a) recruiting side-by-side at career fairs in a coordinated way to direct potential teachers to teacher preparation pathways; (b) reaching out and educating GCS high school students, paraprofessionals, or other community members about the teaching profession and supporting them financially as they complete our preparation programs in exchange for returning to teach at GCS; (c) hosting information sessions to educate STEM majors and alumni about pursuing teaching professions; (d) collaborating with our respective colleges of arts and sciences and other partner institutions (e.g., Winston-Salem State University, Piedmont International University) on allowing dual enrollment and lateral entry opportunities for students starting in their senior year; (e) using local media outlets (e.g., radio, television) that cater to diverse audiences; and (f) integrating social media to reach a greater number of quality teaching candidates. Candidates will also be recruited from the following groups: recent college graduates, lateral entry teachers, teaching assistants with baccalaureate degrees, and mid-career changers who possess a wealth of content knowledge and career-related experience, strong oral and written communication skills, and other attributes linked to effective teaching. NC A&T's HBCU standing will help us recruit and hire for racial diversity, and as a top producer of engineers, mathematicians, and scientists of color, they will assist in recruiting females into STEM and males into elementary to aid in greater gender diversity which is a hiring need for GCS. Studies show that teachers who attended minority-serving institutions produce more teacher candidates of color and can serve as models for other institutions on how to recruit diverse teacher candidates (Carver-Thomas, 2018). NC A&T graduates the nation's largest number of African American engineers at the undergraduate, master's, and doctoral levels; is home to the largest agricultural school among historically black colleges; and is the nation's second largest producer of minority agricultural

graduates. The university utilizes a robust recruitment strategy that provides services and resources to prepare students for the achievement of successful personal and professional career development to meet the needs of a global society. Recruiting activities include but are not limited to: on-campus interviews, resume referrals, career fairs, presentations, campus information tables, and opportunities advertised on university bulletin boards or via university online services. (2) Strong Clinical Preparation: Approximately 20–30% of new teachers leave the profession within the first five years and attrition is even higher (50% or more) in high-poverty schools and high-need subject areas where teaching in contexts with a wide range of languages, cultures, or needs often requires a diverse set of skills and competencies beyond those required in more affluent and better-supported contexts (Guha, et al., 2016). Thus, HPU and NC A&T will collaborate with GCS to create our admissions goals, priorities, and teaching residency curriculum and provide candidates with opportunities to teach in the field. PREPARE will be aligned with GCS's hiring objectives, instructional initiatives, curriculum, and assessments, in exchange for a commitment by GCS to hire qualified, diverse graduates from the program whose demographics mirror our community [*AP 2(6 i. ii)*]. Collectively, we will collaborate to provide teacher residents social and professional learning opportunities while delivering challenging coursework, supplemental STEM experiences, and research supports for the district, schools, and teachers. Teacher residents' competencies will be evaluated through a comprehensive residency evaluation by HPU, NC A&T, and GCS; nationally validated edTPA assessment licensure exams; and outcomes of the Beginning Teacher Support Program at GCS. HPU, NC A&T, and GCS will all provide formative and summative assessments of residents that are developed collaboratively by the three partners as residents move through the program. (3) Early Career Mentoring: Planned time to collaborate with a mentor in the same subject area in residency programs is vital to developing teachers' competence and reducing attrition (Guha, et al., 2016). PREPARE will apply recruitment and selection strategies for teacher residents and mentor teachers, employing a tightly integrated

curriculum for clinical placement in classrooms that model strong practice and providing supports such as co-teaching and ongoing feedback during their first three years of teaching. (4) <u>Financial Incentives</u>: Prospective minority teachers often encounter barriers to entering the profession and continuing to teach over time (arver-Thomas, 2018). Lower enrollment for minority students in teacher preparation programs could be due to the high opportunity cost of teaching, rising tuition, and high cost of student loans (Carver-Thomas, 2018). To combat these barriers, PREPARE will combine high-quality preparation with financial support (stipends and tuition reduction) in return for a commitment to teach for at least three years which is a strategy effective at reversing high-attrition and retaining effective and diverse educators (Guha, et al., 2016).

Competitive Preference Priority 3: Novice Applicant

High Point University will serve as the lead fiscal agent and has never received a grant or subgrant under the TQP program, been a member of a group application in an eligible TQP partnership and had an active discretionary federal grant in the five years before the deadline date.

A. QUALITY OF PROJECT SERVICES

PREPARE will provide the following core project services [*AP2 (1. a, b, c)*]: (1) preparation of teacher residents, who are recent graduates of a four-year IHE or a mid-career professional outside the field of education with strong content knowledge [*AP 2(b)*], to deliver rigorous instruction in high-need subjects identified by GCS with two tracks—elementary education or secondary math education; (2) targeting 100 participants with four cohorts of 25 each (15 from HPU and 10 from NC A&T) that facilitates professional collaboration during and after the teaching residency; (3) effective, concurrent rigorous graduate-level coursework leading to full licensure and a master's degree in 18 months; (4) clinical experience and interaction for one full academic year that includes a teacher mentorship with IHE faculty, university supervisor, teacher mentor, and teacher resident collaboration in classrooms of 20 high-need elementary, middle, and high schools; and (5) induction support through site-based mentors, induction coaches, and retired master teachers for

the first two years of teaching at a high-need school. Project services have been designed to ensure equal access and treatment of teacher residents who have been traditionally underrepresented in educator preparation programs and high-need LEAs. As described in *CPP 2* above, a variety of strategies will be implemented to reduce barriers to participation and support the recruitment and retention of educators who are effective while increasing racial and ethnic diversity. A potential barrier to entering a teaching residency program is the cost. To overcome this barrier, we will provide a 12-month stipend of ▮▮▮▮. Another potential barrier is new teachers choosing to leave the profession due to lack of support. Nationwide around 30% of new teachers leave within the first five years with attrition even higher in high-poverty schools like ours (50% or more) and in high-need subject areas (Guha, et al., 2016). To overcome this barrier, we developed a high-quality induction program that supports new teachers for two years through mentors and coaches, professional collaboration, and professional learning.

(i) Collaboration of partners for maximizing effectiveness of project services

Located in the Piedmont-Triad region in NC, PREPARE brings together high-quality partners to provide effective services which include two high-performing teacher preparation programs (HPU and NC A&T) and a high-need LEA (Guilford County Schools) with 20 high-need elementary and secondary schools. All PREPARE schools have greater than 55% of students eligible for FRPSL, with 90% of the selected schools having greater than 90% eligible (***Eligibility Component C2***) (*Appendix C, Appendix D*). Our team designed PREPARE services based on a 2018 needs assessment which studied the preparation, ongoing training, professional learning, and retention of general and special education teachers in our region with results in *Appendix C*. Our assessment revealed key challenges faced by many high-need districts nationwide: teacher shortages especially in STEM subjects; recruitment of teachers of color who are reflective of the student population; inadequate teacher preparation when teachers enter through alternative routes; and teacher retention especially in the first five years and in high-need subject areas. Our assessment

also revealed that each eligible partner brings unique, innovative strengths that will maximize the effect of our integrated project services to prepare future teachers to have a significant impact on student achievement: (1) <u>High Point University (HPU)</u>: HPU brings expertise and opportunities in strong a MAT Elementary Education track, STEM professional learning, recruitment, and successful experiences in induction. As the fiscal agent, HPU is a four-year liberal arts institution that has been named number one both in America's Best Colleges in 2017 and the Most Innovative Regional College in the South. The *Stout School of Education's* conceptual framework, "leaders for learners in a global world," provides the template for all teacher preparation programs and emphasizes inquiry-based teaching methodologies fused with extensive clinical experience to connect theory, practice, and reflection. The school has been nationally accredited since 1992 and was one of the first private universities in the state to be reviewed under the new, more rigorous Educator Preparation Program standards by the Council for the Accreditation of Educator Preparation receiving full accreditation status in October 2016. The school was instrumental in receiving SACS approval to move HPU from a Level-III to Level-V degree granting institution with the university's first doctoral program in Educational Leadership in 2012. In 2016-17, NC Department of Public Instruction licensure testing results from HPU's graduating class found that 83% of students passed all applicable NC qualification assessments for new teachers, which included each prospective teacher's subject matter knowledge in the content area in which they intend to teach. In 2016 and 2017 the National Council on Teacher Quality ranked the elementary and secondary programs in the top 10% based on a review of 875 undergraduate programs across the country. (2) <u>NC A&T</u>: This partner brings strengths in a variety of undergraduate STEM major pathways, a strong MAT Secondary Math Education track, and recruitment of diverse teachers. NC A&T is a land-grant doctoral granting historically black university in the southeast and is the largest public HBCU in the nation serving as a top producer of engineers, mathematicians, and scientists of color. Nationally accredited since 1976, the mission

of the *College of Education* is "to prepare exemplary educators and human service professionals to lead and engage in the local community and on the global stage." The National Council on Teacher Quality ranked the teacher preparation programs at NC A&T among the top in the state with the graduate secondary program ranking third. The National Center for Education Statistics ranks NC A&T in its top 10 HBCUs that produce teachers. The NC A&T MAT program has been named one of the "Top 50" online master's degree programs in the US by Best Education Degrees which includes a variety of STEM fields. Candidate performance data reveals licensure exam pass rates at 100% in 2016-17 and student evaluations with a large majority earning the highest level of "Accomplished." (3) <u>Guilford County Schools (GCS)</u>: With similar challenges that schools experience across the nation, GCS brings a robust teacher preparation setting to support an effective residency program along with existing high-quality, trained teacher mentors and a Beginning Teachers Support Program that will complement our partner IHE services. As the third-largest district in North Carolina, GCS serves over 71,000 students and 10,000 educators across 126 schools in urban, suburban, and rural areas, and ranking 47th in size nationally. Comprised of students and families who are racially diverse (67% minority) and speak 112 different languages and dialects, GCS is among the most culturally diverse, large, urban school districts in the nation. GCS has experienced many successes with nearly 84% of schools meeting or exceeding growth and a new record high graduation rate of 90%. However, with successes, challenges remain—African American and Latino students trail Caucasian and Asian students on just about every academic measure and are underrepresented in gifted programs and honors and college-level courses with over-representation in special education and disciplinary referrals making GCS an ideal setting reflective of districts across the nation. GCS serves 23.67% of children that are living in poverty (*Eligibility Component A1*), amounting to 20,490 children (*Eligibility Component A2*), ages 5-17, who are living in poverty (US Census Bureau, 2016).

(ii) Services reflect up-to-date knowledge from research and effective practice

Project services are based upon research which demonstrates that strong preparation for teaching boosts teacher self-efficacy and effectiveness and improves the prospect that teachers will stay in the profession (Darling-Hammond, Chung, & Frelow, 2002; Ingersoll, Merrill, & May, 2014). The framework for our project services is built on the following research and effective practices:

► ▭▭▭▭▭▭▭▭▭▭▭▭▭ Practice-based approaches enable teacher residents to amalgamate both content and pedagogy attained through coursework into instruction so that skills learned in coursework are then practiced (Ericsson, 2014). From preservice to inservice, teacher residents will have a seamless experience that is calculated in which skills and knowledge are both progressively advanced and internalized as well as the use of metacognitive strategies to reflect upon experiences and mature through practice (Benedict, Holdheide, Brownell, & Foley, 2016). Practice-based approaches will be embedded into campus-based coursework, coursework delivered onsite in the school setting, and during the clinical service and interaction and induction period. Implementation of practice-based approaches for teacher residents will be supported by the following educators: (1) <u>Mentor Teacher</u>: This highly qualified, experienced teacher from GCS supports the teacher resident in the classroom during clinical experience and interaction for one full academic year as well as during the induction period if the resident is hired at the same school. (2) <u>University Supervisor</u>: This IHE faculty member supports the teacher resident during the clinical experience and interaction period with guidance and coaching as well as collaborates with professors and mentor teachers to deliver tailored services. (3) <u>Mentor Teacher and Induction Coach</u>: These highly qualified, experienced teachers from GCS support the new teacher in the classroom during the two-year induction period after becoming a teacher of record at a high-need school. (4) <u>Master Teacher</u>: Retired teachers connected to our partner IHE's will provide support during the induction period. Project services will integrate high-quality, practice-based approaches grounded in research which include the following (Benedict, et al., 2016): (1)

<u>Modeling</u>: This opportunity enables educators to explicitly demonstrate examples of what skilled performance looks like in practice while making apparent the underlying knowledge base. (2) <u>Spaced Learning</u>: Shown to increase overall effectiveness, this opportunity enables teacher residents to practice the skills and knowledge gained in coursework over time which are sustained, repeated, and scaffolded for deeper learning and application (Cepeda, Vul, Rohrer, Wixted, & Pashler, 2008). (3) <u>Varied Learning</u>: Allowing practice of two or more strategies at once, this opportunity enables teacher residents to practice skills and knowledge gained through coursework among a variety of contexts and conditions with a diverse range of learners and different levels of support (Tyalor & Rohrer, 2010). (4) <u>Coaching and Feedback</u>: The emphasis of this opportunity is to improve teacher resident practice and expertise through explicit coaching and constructive feedback and when provided over time, promotes increased independence (Kellogg & Whiteford, 2009). (5) <u>Analyzing and Reflecting</u>: Using tools such as guided video analysis, this opportunity enables teacher residents to analyze and reflect on their practice before, during, and after instruction while using metacognitive skills to improve their practice and identify needed supports (Nagro, deBettencourt, Rosenberg, Carran, & Weiss, 2016). (6) <u>Scaffolding</u>: This opportunity applies skills through teaching experiences that progressively raise in complexity over time as support from educators lessens for meaningful learning of content, improved implementation, and a shift to increased responsibility and independence (Kamman, McCray, & Brownell, 2014).

► We will use the effective practices from our current cohort model to further expand our success to include an 18-month residency and two-year induction component for teacher residents. Over the last several years, we have implemented an educational delivery cohort model with local districts to "grow their own teacher leaders and school administrators" in program areas such as school administration, special education, elementary literacy, STEM, and gifted. Comparative research has been conducted on the efficacy of this cohort model and found that participants consistently rate the quality of these partnerships higher than traditional undergraduate

and graduate programs. In ranking the variables perceived to be of greatest impact, participants tended to rate factors such as cost and convenience as highly significant at the start of the program but consistently rated peer networking and continued support from the IHE as most highly impactful at the end of the program. The evidence supports the enormous success of this expanded partnership program in as many as seven different districts with an overall participant retention rate of 89% from 2009-18. The power of the cohort relationship resulted in a strengthening of the partnerships among IHEs and surrounding districts, thus improving the quality of the clinical preparation of future teachers. Using a developmental framework, learning experiences in this model have been structured to ensure that theoretical understanding of content and pedagogy as well as initial reflections of these understandings must precede application and subsequent impact with P-12 learners. Our model uses a development of progressive experiences giving teacher residents the opportunity to demonstrate growth in knowledge, dispositions, and reflect on one's need for improvement. Data reveals that participants grow in their capacity to reflect and develop professional dispositions as they move from entry to completion. This "growth" model has allowed our TQP partnership to generate norms for future teacher residents at varying points in the program and use these as means of determining when interventions or adjustments are necessary.

(iii) Professional development services are of sufficient quality, intensity, and duration

PREPARE will implement a variety of high-quality professional development services to ensure teacher residents are adequately prepared to serve as highly qualified teachers in a high-need school and have a significant impact on student achievement.

► _____ (1) Progression: During one full academic year, teacher residents will engage in a teacher mentorship at a high-need school which will be concurrent with rigorous graduate-level coursework [*AP 2(a2)*]. This mentorship will enable teacher residents to integrate pedagogy, coursework, and classroom practice using practice-based approaches [*AP 2(a1)*] (Benedict, et al., 2016). Teacher residents' mentorship begins with a full

week in August to experience the start of the school year followed by one day each week for the fall semester. In December, teacher residents complete another full week and have a mid-year evaluation. Starting in January, teacher residents begin assuming fulltime teaching responsibilities teaching every day until the end of April. Teacher residents who are not performing at proficiency develop a professional development growth plan that outlines areas for improvement and receive additional support. Teacher residents are evaluated again at the end of April and use the last full week of their placement to rotate between classes to learn about different subjects and types of learners. Four core graduate-level classes will be taught onsite to link coursework with real-time learning and practice and provide collaboration among teacher residents and mentor teachers. (2) Mentor Teacher Roles: Teacher residents will be assigned a trained and experienced mentor teacher [*AP 2(a3)*] as well as a university supervisor to ensure a tailored experience with classroom clinical practice tightly aligned to coursework [*AP 2(a3i)*]. Mentor teachers will have extra responsibilities as a leader to support our residency by creating a learning community along with other teacher mentors to progressively develop teacher resident capacity [*AP 2(a3ii)*]. Key roles include: (a) ongoing, regular opportunities for teacher residents and mentors to observe each other in practice in classroom settings during the day; (b) development in the high-need subject area where the teacher resident is focused with a mentor from that same field; (c) promotion of empirically based practice and scientifically valid research linked to coursework on teaching and learning, student assessments, use of instructional and behavioral interventions, and progression in the capacity to advance student learning; and (d) regularly scheduled collaboration through common planning and joint professional learning opportunities. To support these additional roles, mentor teachers will be relieved from teaching duties, as appropriate, using substitute teachers and other resources provided by GCS and IHE partners [*AP 2(a3iii)*]. (3) Selection of Mentor Teachers [*AP 2(4)*]: In 2014, HPU's School of Education created a subcommittee of its Teacher Education Council to study mentor teacher quality. This partnership supports the collaboration of school

partners in the co-selection of mentor teachers and formalizes these requirements. The review includes the discussion of the policies and processes used by surrounding districts as well as legislative mandates concerning mentor teacher requirements through the 2017 General Assembly of NC Senate Bill 599 which states that mentor teachers be professionally licensed, have a minimum of three years of experience in a teaching role, and have been rated, through the most recent formal evaluations, at least at the "proficient" level as part of the NC Teacher Evaluation System. The principal at each high-need school will identify which mentor candidate is likely a good match with the teacher resident with priority consideration for those teachers rated "distinguished" and "accomplished." If a mentor candidate is deemed eligible by GCS, principals are then asked to complete the *Principal Evaluation of the Clinical Educator Survey* prior to finalizing the placement. This survey includes principal ratings of the mentor candidate in areas such as ability to provide constructive feedback, content knowledge, student engagement, capacity for innovation, classroom management skills, and capacity to support a teacher resident. Once minimum qualifications have been met, Table 1 provides key criteria for the final selection of mentor teachers which are based on measures of teacher effectiveness and observations.

Table 1. Selection Criteria for Mentor Teachers
✓ Proficient or higher rating on each standard on the North Carolina Teacher Evaluation Rubric;
✓ Demonstrates knowledge of content, pedagogy, and formative and diagnostic assessments; including essential components of mathematics instructional strategies, as appropriate;
✓ Engages students with different learning styles using tailored instruction;
✓ Collaborates with professional colleagues to advance instruction;
✓ Characteristics: provides constructive, criticism openly and honestly; exhibits professional attitude toward teaching; supports others in finding instructional resources; gives praise and moral support; helps others resolve problems; uses an effective, consistent behavior

management plan; encourages others to seek advice and help; encourages critical and independent thinking; fosters the use of innovative, creative activities

To assess the quality of the mentor teacher, the university supervisor and teacher resident will provide an evaluation of their experiences with the mentor teacher at the end of each semester using *University Supervisor Evaluation of Clinical Educator* and *Teacher Candidate Evaluation Clinical Educator Surveys.* These surveys evaluate the performance of the mentor teacher, to determine the positive impact on the development of the teacher resident, with the goal of retaining quality mentor teachers in our residency program. These surveys were developed based on the selection criteria in Table 1 as well as research on the indices of effective teacher mentoring which include: advanced planning, sharing of resources, constructive and specific feedback, multi-modal feedback including written feedback, mentor teacher modeling of effective practices, and practices demonstrating trust and confidence (Sayeski & Paulsen, 2012). (5) <u>Training of Mentor Teachers</u>: Mentor teachers will participate in an orientation training prior to teacher resident placement in the summer before the academic year begins. This four-hour session will allow mentor teachers to learn from former mentor teachers and university supervisors. Training will include topics such as an overview of policies, procedures, and expectations; strategies for maximizing the success of teacher residents; and instructional strategies for literacy instruction and classroom management using approaches that improve schoolwide climate for learning. Professional development will equip mentor teachers with high-quality strategies and effective practices identified as being an effective mentor such as (Sayeski & Paulsen, 2012): (a) scheduling dedicated time for one-on-one mentoring discussion; (b) using approaches that offer a variety of concrete feedback (e.g., observation tools); (c) modeling and thinking aloud best practices (e.g., collaborating with parents); (d) enabling teacher residents to explore and experiment with new teaching strategies; (e) techniques to foster teacher resident growth through access and encouragement; and (f)

enabling teacher residents to participate in activities outside the classroom (e.g., meetings, training, extracurricular). In addition to the orientation, mentor teachers will participate in professional development twice a year such as two-hour seminars based on identified needs and opportunities for collaboration with other mentor teachers through face-to-face meetings to share best practices and challenges. An online forum will be created to support collaboration and enable mentor teachers to share best practices and challenges in real time.

►**STEM-Focused Training.** Teacher residents will have a variety of hands-on learning opportunities to compliment rigorous coursework through our partnership with *LEGO Education*. LEGO Education is an experiential outreach program based on a constructivist model of teaching and learning. The program is tied to content standards in math, science, technology, literacy, and engineering design. It integrates physics and math with literacy through engineering design in a creative way that teachers are unable to do in their own classrooms. LEGO Education and our STEM initiatives will allow teacher residents to earn course credit using hands-on experiences as they gain confidence with the practical applications of leadership, technology, and content knowledge in STEM. Faculty and residents engage in research for the development of new educational products, field-test these in partner schools, and train teachers how these products can be used to engage students in math and science. Both cohorts from HPU and NC A&T, including teacher residents and new teacher graduates, will collaborate jointly to practice developing skills with a variety of learners: (1) Come Build with Us: The opportunity (once a month, three hours) serves as an educational outreach for schools to come to campus and gain content instruction in STEM based on standards they are learning in their classroom. Teacher residents will teach the content to practice with varying age groups and types of students (e.g., students with disabilities, limited English proficient), such as: math concepts, force and motion through inquiry-based LEGO engineering design activities, and coding through robotics. (2) Community Showcase Event: Held in April and October each year, this event serves as a community outreach to encourage families

to explore engineering concepts such as: coding, 3-D modeling, and design engineering with the brick kits, solving real world problems with robotics, and free build designs regarding current real-world issues that affect environment, physics, biology, and human life. (3) <u>Robotics Challenge Course</u>: This initiative serves middle school students by setting up robotics challenges for them to compete with one another four times during the spring semester. (4) <u>Engineering is Elementary</u>: This curriculum is used with teacher residents to encourage the use of project-based learning principles in designing lessons that encourage students to apply knowledge of science and math as they learn about engineering. (5) <u>STEM Summer Enrichment Camps</u>: This camp serves elementary students for two-weeks each summer with a daily theme such as robotics, forensics, biology, physics, and rocketry. Teacher residents earn course credit for this practicum as they develop and implement STEM lessons. In addition to LEGO Education, teacher residents will also have the opportunity to support at least one STEM summer enrichment camp (five-days at 40 hours per week) at the NC A&T campus. Providing the opportunity to work with diverse learners, these camps (e.g., robotics, cyber, math) are linked to the College of Engineering and College of Science and Technology focused mostly on children of color in high-poverty. (6) <u>STEM Saturday Teacher Academies</u>: Based on teacher resident and mentor teacher interest and need, this academy provides professional learning, four times a year for eight hours, in how to use LEGO to teach inquiry-based science, technology, math, and engineering in an integrative manner.

►**Collaborative Opportunities.** Our experience with the cohort model has shown that high-quality cohorts that collaborate and network through customized activities result in the most effective outcomes. In addition to the STEM-focused professional development, teacher residents and new teachers will have access to a variety of opportunities to support collaboration among the specific university cohort (HPU - 15 and NC A&T - 10) and both cohorts jointly: (1) an eight-hour initial *orientation* at the start of the residency with topics such as code of ethical behaviors, understanding the edTPA process, and breakout sessions to get to know other residents. (2) three,

four-hour *seminars* through the academic year tailored to the needs identified by teacher residents, teacher mentors, and university supervisors; (3) a two-day (eight-hours per day) *summer institute* with topics such as professional dispositions and expectations, updated with most recent technology integration in the classroom, STEM content, and classroom management; (4) opportunities to attend *professional conferences* with other teacher residents through volunteering at the conference or making presentations to support professionalism in the field such as NC Council of Teachers of Mathematics and NC Association of Elementary Educators; and (5) weekly participation in an online, interactive platform specifically designed for teacher residents and new teachers to share best practices and concerns and facilitate peer networks.

►**Induction Program for New Teachers [*AP 2(7)*].** Once teacher residents are hired as teachers of record at a high-need school a variety of supports will be provided for at least the first two years of teaching through induction, professional development, and networking. These supports are designed to promote effective teaching skills and advance retention and include key components such as: (a) structured time with faculty and mentors who model the amalgamation of research and effective practice in the classroom including technology; (b) preparation in the learning process and assessment of learning through interdisciplinary collaboration among exemplary teachers; (c) use of student achievement and other data and applying data to classroom instruction; (d) periodic, structured observations and evaluation of new teachers through multiple evaluators; and (e) skill development in behavioral and instructional interventions and practices using empirically based practice and scientifically valid research. These high-quality supports include the following: (1) GCS Beginning Teacher Support Program: This initiative emphasizes building the capacity of beginning teachers with a primary goal to assist teachers in learning new strategies to move their practices forward as defined by the NC Professional Teaching Standards. To ensure effectiveness, multiple data sources are used: evaluation of the orientation; NC Teacher Working Conditions Survey; beginning-, mid-, and year-end surveys; New Teacher Focus Groups; student achievement

data; and teacher evaluation data. A major component is the individualized support given to new teachers during their first two years of teaching and includes the following: (a) <u>Orientation</u>: *Right Start* is a three-day orientation held prior to the start of school and includes topics such as: instructional technology support to connect teachers to best practices, instructional strategies, lesson plans, and resources; overview of the NC State Board of Education's mission and goals; overview of GCS goals, policies, and procedures; training in NC Teacher Evaluation Process, Professional Teaching Standards, and Standard Course of Study and curriculum guides; and professional learning in equity and character development. During Right Start, time is built in for teachers to visit their schools and communicate with school leaders regarding expectations such as student records, mentor teachers, and Individualized Education Plans. (b) <u>Site-Based Mentors</u>: Mentors will support new teachers during the induction period directly for 90 minutes each week above regular duties and are school-based teachers on the same grade level and in the same subject area. The NC Department of Public Instruction has established criteria for the selection of mentors which includes: meeting expectations for student growth through the state approved growth model; licensure in the field in which the mentor is assigned; demonstrated record of success on the NC Educator Effectiveness System as defined by an accomplished rating; and support of school leadership and peers. Mentors must become qualified through the NC Department of Public Instruction 21st Century Mentoring Certification which is a 24-hour training course for six hours over four days. (c) <u>Layered Supports</u>: In addition to the mentor teacher, each principal appoints a *lead mentor* for the school. The role of the lead mentor is to facilitate the mentoring process, plan monthly seminars with new teachers, and offer support to mentors. *Induction support coaches* meet monthly with teacher residents during their first two years and serve in the following roles: provide observational feedback and mentoring to 1st and 2nd year teachers; guide teachers in lesson planning and presentation, time management, organization skills, and classroom management strategies; offer resources, demonstration lessons, observations and constructive feedback; arrange

for peer observations of master teachers; and help new teachers facilitate communication with mentors, curriculum facilitators, and administrators. (d) <u>Ongoing Professional Learning</u>: New teachers will have the support of GCS training at the individual, school, and district levels through coaches, professional learning communities, site-based initiatives, district-wide initiatives, curriculum specialists, e-learning and blended learning platforms, and external consultants. (2) <u>HPU Mentor Teacher Program</u>: Providing an additional layer of induction support for both HPU and NC A&T, the School of Education's *Mentor Teacher Program* uses master teachers who are retired teachers that volunteer their time to work with graduates who are currently in their 1st or 2nd year of teaching. Generally used with teacher residents who are struggling in specific areas or who need an added layer of support, mentor teachers provide face-to-face and online coaching and professional development for new teachers that focus on topics such as classroom management, student engagement, technology, or instructional planning. Current trends validate the positive impact of the initiative with performance evaluations of our own graduates consistently exceeding the state average in terms of teacher leadership, content knowledge, and facilitating student learning. Since 2013, 89% of graduates remained in the teaching profession beyond their first three years of teaching. The initiative was so successful that principals in the nearby districts asked if they could send new teachers even if they were not graduates of HPU.

B. QUALITY OF THE PROJECT DESIGN

(i) Proposed project demonstrates a rationale

Our logic model (*Appendix G*) links inputs to activities and outputs and indicates expected short- and long-term outcomes tied to our overarching vision. The following highlights *examples* of how each logic model activity/component is informed by research that suggests PREPARE is likely to improve relevant outcomes: (1) <u>Rigorous Coursework Linked to Guided Teaching Apprenticeship</u>: Through PREPARE, teacher residents will participate in year-long clinical experiences and interaction aligned to graduate-level coursework leading to a master's degree. This experience

includes clinical learning in the classroom, closely supervised interactions among teacher residents and IHE and school faculty, high-quality teacher mentoring and coaching, and integration of pedagogy and classroom practice. Research shows that when teacher residents can practice knowledge and skills developed through coursework in authentic settings it: (a) deepens knowledge for teaching and improving classroom practices and (b) increases ability to implement evidence-based practices with fidelity when practices learned in coursework are applied with students in the classroom (Benedict, et al., 2016; Maheady, Jabot, Rey, & Michielli-Pendi, 2007).

(2) <u>High-Quality Recruitment Strategies for STEM Fields</u>: Our project employs recruitment and retention strategies found to be effective in successful teacher residency programs including diverse teachers for high-need schools, strong clinical preparation, and early career mentoring (Papay, et al., 2012; Guha, et al., 2016; Carver-Thomas, 2018). (3) <u>Increase Teacher Racial and Ethnic Diversity</u>: To help meet the hiring objectives of GCS, through PREPARE, we will implement high-quality strategies to recruit and retain effective teachers that improves diversity so that faculty and student body mirror each other. Studies have found that teachers of color improve the academic achievement scores of students of color in math and reading, graduation rates, and aspirations to go to college (Clotfelter, Ladd, & Vigdor, 2007; Egalite, Kisida, & Winters, 2015; Gershenson, Hart, Lindsay, & Papageorge, 2017; Goldhaber & Hansen, 2010). (4) <u>Teacher Resident Cohort and Collaboration</u>: Comparative research has been conducted on the efficacy of our cohort model and found that participants consistently rate the quality of these partnerships higher than traditional undergraduate and graduate programs. In ranking the variables perceived to be of greatest impact, participants tended to rate factors such as cost and convenience as highly significant at the start of the program but rated peer networking and continued support from the IHE as most highly impactful at the end. The evidence supports the enormous success of this partnership program in as many as seven different districts with a participant retention rate of 89% from 2009-18. (5) <u>Professional Development</u>: Research finds that professional learning and

coaching during clinical experiences positively effects the employment of effective instruction (Cornelius & Nagro, 2014; Kretlow & Bartholomew, 2010; Solomon, Klein, & Politylo, 2012).

<div style="text-align: center">**(ii) Goals, objectives, and outcomes are clearly specified and measurable**</div>

Table 2. Goals and Objectives
Goal 1: *Increase the recruitment, retention, and training of master's level residency students from recent graduates of STEM majors or mid-career professionals with STEM content knowledge (CPP1) who attain initial state certification/licensure within one year of program completion.* **Goal 2:** *Improving the racial and ethnic diversity (CPP2) of GCS.* **Goal 3:** *Growing the retention and training of teacher residents through a two-year induction program supported by the district and IHE partners that includes mentors, coaching, professional development, differentiating instruction, and using data to inform teaching practice.*
GPRA 1. The percentage of program graduates who have attained initial state certification/ licensure by passing all necessary licensure/certification assessments within one year of program completion. **Measure:** NC licensure/certification documentation.
GPRA 2. The percentage of math program graduates that attain initial certification/ licensure by passing all necessary licensure/certification assessments within one year of program completion. **Measure:** NC licensure/certification documentation**.**
GPRA 3. The percentage of program participants who were enrolled in the postsecondary program in the previous grant reporting period, did not graduate, and persisted in the postsecondary program in the current grant reporting period. **Measure:** IHE enrollment records.
GPRA 4. The percentage of program completers who were employed for the first time as teachers of record in the preceding year by the partner high-need LEA and were retained for the current school year. **Measure:** GCS school staff rosters.
GPRA 5. The percentage of program completers who were employed by the partner high-need

LEA for 3 consecutive years after initial employment. **Measure:** GCS school staff rosters.
GPRA 6. The percentage of grantees that report improved aggregate learning outcomes of students taught by new teachers. These data can be calculated using student growth, a teacher evaluation measure, or both. **Measure:** Evaluator Value-Added Assessment System PREPARE teacher rating compared to other new hires in similar tested subjects. **Baseline:** 84% met growth.
Program (PGM) 1. At least 75% of PREPARE teachers *score proficient* on at least 6 of 12 ratings from standards 3 and 4, increasing by 10% each year in the classroom or until 95% score proficient or higher. **Measure:** NC EVAAS (standards 3 and 4) ratings (developing, proficient, accomplished, distinguished) compared to other new hires. **Baseline:** 73% proficient.
PGM2. By the end of three teaching years, *retain* at least 85% of PREPARE teachers. **Measure:** GCS school staff rosters. **Baseline:** 80% retention of 1st – 3rd year teachers.
PGM3. Each year, at least 85% of PREPARE teachers *pass initial State certification or licensure* on their first attempt. **Measure:** NC licensure/certification documentation.
PGM4. Each year, at least 95% of PREPARE teachers meet the applicable state certification and licensure requirements and were hired by the high-need LEA. **Measure:** NC licensure/certification documentation and GCS hiring records.
PGM5. Each year, at least 50% of PREPARE teachers are members of *underrepresented groups* who meet state certification and licensure and were hired by the high-need LEA. **Measure:** NC licensure/certification documentation and GCS hiring records.
PGM6. Each year, at least 95% of PREPARE teachers meet state certification and licensure and were hired by the high-need LEA to *teach high-need academic subject areas* (elementary or math). **Measure:** NC licensure/ certification documentation and GCS hiring records by subject. **Baseline:** GCS five-year average hiring trend in elementary and math overall was 23%.
PGM7. Each year, at least 95% of PREPARE teachers meet state certification and licensure

requirements and were hired by the high-need LEA to teach *high-need schools,* disaggregated by elementary and secondary levels. **Measure:** NC licensure/ certification documentation and GCS hiring records by school level and high-need status.

PGM8a. Each year, at least 85% of PREPARE teachers earn an A or B in coursework to integrate technology effectively into curricula and instruction. **Measure:** Final grade in Advanced Instructional Technology for 21st Century Classrooms.

PGM8b. Each year, at least 85% of PREPARE teachers use technology effectively to collect, manage, and analyze data to improve teaching and learning for the purpose of improving student academic achievement. **Measure:** Mentor teacher and induction teacher technology-use ratings.

Project 1. Each year decrease by 10% below baseline the number of teachers without state licensure. **Measure:** GCS school staff rosters. **Baseline:** 2017-18, 28% in PREPARE schools.

Project 2. Fidelity: By the end of Year 1, PREPARE schools will implement key program components with 75% fidelity or more, and 80% or more in each of Years 2-5. **Measure:** Annual fidelity index.

(iii) Project designed to build capacity and yield results beyond Federal assistance

PREPARE is designed to build the capacity of our eligible partners to ensure that teachers are prepared to have a significant impact on student achievement in high-poverty schools. Our project will yield 100 highly qualified, diverse teachers adequately prepared for teaching success in STEM areas at high-need schools. Our design brings together the strengths of two superior educator preparation programs and a high-need LEA to study a comprehensive, integrated approach that leads to an effective teaching residency program. As these strategies are field tested, we will continuously refine our model to build capacity and ensure future impact beyond Federal assistance. Our model is based on successful teaching residencies that will prepare teachers for success at high-need schools and builds capacity in the following core areas [*AP2 (2.a 1, 2, 3, 5,*

7] (Guha, et al., 2016): (1) amalgamation of teacher mentoring, classroom practice, and pedagogy; (2) rigorous graduate-level coursework that leads to a master's degree concurrent with a guided teaching apprenticeship; (3) high-quality mentorship experience with a trained and experienced mentor teacher; and (4) induction support for teaching residents hired as teachers of record during the first two years of teaching.

(iv) Project represents an exceptional approach to the priority

PREPARE is an innovative, effective teaching residency program that prepares highly qualified, diverse teachers for success in STEM areas at high-need schools. Our exceptional approach to the priorities is highlighted in the following project design components:

►**Cohort Structure.** We will create four cohorts of 25 each (100 total) from both HPU and NC A&T with a new cohort beginning each May for four years. This structure will allow for the clustering of teacher residents in specially designed teacher resident courses at both the university setting and at school sites to establish a strong support network and foster collaboration among new and experienced teachers (Papay, et al., 2012). This ideal cohort size provides multiple advantages including: (1) opportunity to offer courses on campus, at high-need schools, or other locations for special assignments, seminars, or experiences; (2) flexible scheduling in which the program sequence can function independently from university schedules allowing for better pacing of coursework and collaboration among teacher residents, faculty, mentors, and schools; (3) ability to customize course delivery methods (e.g., online, face-to-face, weekends), course content, assignments, and discussions around the goals and strategic plan of the district; and (4) facilitation of collaboration during and after the teaching residency as teacher residents progress through the program together. Professional collaboration opportunities include [*AP2 (1.b; 2.5)*]: joint training and seminars; virtual and face-to-face teacher support groups meeting monthly with one full day per semester; specialized social networking and online forums in which posts are required; connecting through social networks outside of school and campus settings; and networking

opportunities through student memberships to professional organizations such as the Student NC Association of Elementary Educators and NC Teachers of Mathematics.

►**Selection of Teacher Residents [*AP 2(b)*].** To be eligible to be a teacher resident, candidates will apply for a MAT degree with concentration in either Elementary Education through HPU or Secondary Math Education through NC A&T. Candidates will document that they are a recent graduate of a four-year IHE or a mid-career professional from outside the field of education possessing strong content knowledge. Selection of teacher residents will give priority to specific hiring objectives of GCS [*AP 2(6i)*] which include: reducing teacher shortages in STEM fields particularly in math and computer science; improving diversity so that faculty and the student body mirror each other; and increasing gender diversity through more female teachers in STEM and more male teachers in elementary. Our selection process will ensure teacher residents demonstrate attributes linked to effective teaching, exhibit strong verbal and written communication skills, and possess strong content knowledge in the subject area to be taught. Each application is reviewed to ensure that the candidate meets the criteria of the HPU or NC A&T graduate schools. Table 3 provides a summary of the general selection criteria.

Table 3. Teacher Resident Selection Criteria		
Component	**Measure**	**Criteria**
Basic Knowledge/Skills	Undergrad GPA	Minimum 3.0 (HPU) and 2.8 (NC A&T)
Knowledge/Skills	Curriculum Vitae	Bachelor's degree and content experience
Dispositions	Recommendation	Positive recommendation from IHE faculty
Dispositions	Background Check	Clear criminal background check
Knowledge/Dispositions Written Skills	Application Essay	Assessed on scale of 1-3 for writing mechanics, relevance/focus, depth/rigor

If selected, candidates must review and agree to (see MOU in *Appendix I*): the teacher resident

application process for stipends, one-year living stipend, agreements to serve [*AP 2(c)*], and repayments if necessary [*AP 2(d)*]. Additional requirements for each track include the following: (1) <u>MAT in Elementary Education (HPU)</u>: The comprehensive assessment system for MAT is organized into two phases with Phase I leading to initial licensure and Phase II leading to a master's degree. Candidate assessment data is collected at four critical gateways during Phase I and includes: (a) admission to Phase I; (b) exit from MAT methods; (c) exit from teacher resident apprenticeship; and (d) 36-hour review. At admission to Phase II, candidates must have a Phase I GPA of 3.0 or higher and passing scores on required specialty exams. As teacher residents progress through Phase II, they are expected to pass the comprehensive examination for the content area, reveal satisfactory levels of performance on a capstone product, and make a positive impact on student learning. (2) <u>MAT in Secondary Math Education (NC A&T)</u>: To move in to the second phase of the clinical practice, teacher residents must meet three key benchmarks: (a) obtain a minimum 3.00 cumulative GPA; (b) pass Content Area Knowledge Praxis II Exam (Math 5161); and (c) pass Principles of Learning and Teaching Praxis II (Test Code 5624).

►**Rigorous Graduate-Level Coursework Linked to Clinical Practice [*AP 2(a.2)*].** Mentor teachers serving as extension faculty will collaborate with IHE faculty to co-deliver MAT coursework in a manner that is integrated with clinical practice (Guha, et al., 2016). Theory, teaching methodologies, hallmark projects, and other significant coursework components will be aligned to the curriculum goals, objectives, and learning outcomes identified through the collaborative efforts of the district and IHEs. To prepare general education teachers to work with students with disabilities and limited English proficient students, at least three core courses in both tracks incorporate best practices for working with diverse learners. Both MAT options will require the use the edTPA portfolio. Developed by Stanford University, edTPA is a performance-based, subject specific assessment to measure and support the knowledge and skills that teachers need to know in which teachers prepare of portfolio of materials during the clinical practice (Pearson

Education, 2018). Teachers exhibit readiness to teach through lesson plans, engage students in ambitious learning, analyze student learning, and adjust instruction to be effective. Scored by a highly trained educator, video recordings of teacher residents in the classroom are also a part of the portfolio. Teacher residents will be paired with a mentor teacher to serve as the IHE extension faculty adjunct for the duration of the residency experience. The specifics of each degree track are as follows: (1) <u>MAT in Elementary Education (HPU)</u>: The MAT will be an accelerated teacher licensure program that is a 45-hour program of study that includes a 36-hour sequence of courses in 21st century teaching and learning, technology, and methodology with a year-long clinical experience and interaction. During Phase I of the residency, post-baccalaureate courses allow teacher residents to complete the requirements for an initial NC teaching license, including the required full LEA academic year clinical internship and submission of the edTPA portfolio. At the completion of Phase I and passing scores on the required specialization exams, the teacher resident is eligible for the "A" (initial) NC teaching license and then applies for graduate candidacy to enter Phase II of the program. The teacher resident enrolls in an additional nine-hours of graduate coursework to complete the remaining requirements for the MAT degree and be eligible for the "M" level NC license. The sequence of coursework which includes Core Block (18 hours), Instructional Block (21 hours), and Clinical Internship (6 hours) is provided in detail in *Appendix J*. Instructional courses will be specialized coursework in special education, formative and summative assessment, STEM, literacy, mathematics, and methodology and content-based courses. Hallmark projects are completed in instructional courses and require minimum proficiency on State Department approved rubrics for required evidences leading to licensure eligibility. The clinical internship will include the completion of the required edTPA measures, and teacher residents will be invited to register for edTPA online modules which are designed to guide portfolio development in the areas of planning, instruction, and assessment. (2) <u>MAT in Secondary Math Education (NC A&T)</u>: The MAT will be an accelerated teacher licensure program

that is a 30-hour program of study that includes a sequence of courses in 21st century teaching and learning, technology, and methodology with a year-long clinical experience and interaction. Post-baccalaureate courses allow teacher residents to complete the requirements for a NC teaching license, including the required full LEA academic year clinical internship and submission of the edTPA portfolio. The sequence of coursework which includes the Learner, Planning, and Assessment Block (21 hours) and the Application of Knowledge and Skills Block (9 hours) with the clinical internship is provided in detail in *Appendix J*.

►**Integration of Pedagogy, Classroom Practice, and Teacher Mentoring [*AP 2(a.1)*].** Learning and clinical experiences are carefully sequenced to provide progressive opportunities for the development of content and pedagogical knowledge. Teacher residents are supported to move from early understanding of basic content and pedagogy to being able to use and apply this knowledge to engage learners with meaningful instruction and develop the professional skills and dispositions needed to collaborate with all stakeholders. Using a developmental framework, learning experiences are structured to ensure that theoretical understanding of content and pedagogy as well as initial reflections of these understandings must precede application and subsequent impact with P-12 learners. Progressive experiences afford teacher residents with the opportunity to demonstrate growth in knowledge, professional dispositions, and the ability to reflect on one's need for improvement. For the last three years, we have tracked the alumni Facebook social networking posts of our recent graduates and coded these "real-time" sentiments to gain a better understanding of the kinds of challenges that first and second year teachers experience. Sentiments by graduates were coded daily for the type of post (positive, negative, neutral) and the category of the post (parents, instruction, resources, evaluation, time management, discipline, etc.) to determine what types of support are most needed and at what time of the academic year these challenges were most significant. These data have been used to customize the clinical experience and interaction period to the needs of our graduates who are beginning teachers

as well as inform the design of our teaching residency. A series of *hallmark projects* have been aligned to our conceptual framework, NC Professional Teaching Standards, and InTASC Model Core Teaching Standards (CAEP) which are linked to various courses. Teacher residents completing these projects are assessed using rubrics. The Depth and Application Project is designed to provide evidence of the teacher resident's content knowledge in the discipline. College of Arts and Sciences faculty participate in the grading of this project to ensure reliability in the assessment of content knowledge. Additional evidence-based projects include a Literacy-Infused Curriculum Project, Leadership and Collaboration Project, and Using Data to Make Instructional Improvement Project which occurs during the clinical internship and requires teacher residents to use their own teaching data to inform instructional decisions thereby allowing faculty and teacher mentors to assess readiness for exiting the program. In addition to the mentorship described in detail in the *Quality of Project Services*, the clinical experience will provide opportunities beyond traditional teacher mentoring in the assigned classroom to include "clinical instructional rounds" to ensure teacher residents are well-rounded by (Learning Policy Institute, 2016): visiting classrooms at other schools to learn expert instructional practices and provide exposure to diverse learners such as students with disabilities or limited English proficient students; observing other grade levels to have a working instructional knowledge of where students are coming from and where they are going; becoming familiar with the superintendent and other functions of the main office including the school board; and visiting low-income communities where students and families live (Guha, et al., 2016). Perhaps the most significant evidence supporting teacher resident proficiency in teacher preparation is the data gathered during the clinical internship. This collection of key projects and assessments during the first part of the clinical internship includes a curriculum unit, the teacher resident's reflections of two unit lessons taught, formal supervisor observation and evaluations, and the creation of a professional development plan which serves as the baseline for the final part of internship which continues in the spring semester. This second phase of the

clinical internship begins with discussions about the goals identified by the teacher resident in their professional development plan generated at the end of the fall semester. The internship evaluation completed at the end of the fall semester is repeated at the midterm of the spring semester to assess progress toward the goals outlined in the professional development plan. All teacher residents will eventually complete the required edTPA portfolio to further demonstrate the capacity for teaching effectiveness. The School of Education developed a new online set of modules for guiding teacher residents through the edTPA portfolio process in planning, instruction, and assessment.

C. QUALITY OF THE MANAGEMENT PLAN

(i) Adequacy of management plan to achieve objectives of the proposed project

► **Project Personnel.** High Point University, serving as the lead applicant and fiscal agent, has a strong track record in grants management and has designed a staffing and management plan based on prior successful programs. Detailed job descriptions and resumes are provided in *Appendix H* for all key personnel. (1) Leadership Team: Contributing 0.05 FTE (in-kind) each, this team will meet monthly, deliver implementation oversight, and share progress updates to ensure that all partners and stakeholders can provide input. The team will set policies for the program, review evaluation reports, make recommendations for improvements, and develop plans to sustain the program after funding ends. Team members include: the PREPARE program manager; co-project director; Dr. Mariann Tillery (Dean and PREPARE Project Director, HPU School of Education); Dr. Shirley Disseler (HPU Elementary and Middle Grades Education Chair, LEGO Education Trainer, and STEM Education Program Coordinator); Dr. Adam Graham-Squire (Assistant Professor, HPU Department of Mathematics); Crystal Vandiver (GCS Director of Beginning Teacher Support); Dr. Tiffany Perkins (GCS Executive Director of Professional Learning and Leadership); and Dr. Shea Burns (Associate Professor in Math, NC A&T College of Science and Technology). (2) Program Manager: Ms. Debbie Albert, HPU's Director of our Student Teaching Placements (Department of Elementary and Middle Grades), will contribute 0.20 FTE of her time

to serve as the PREPARE program manager. Mrs. Albert joined the faculty at HPU in 2011. She earned both her Bachelor of Arts in Elementary Education and her master's in Elementary Education with a literacy concentration from HPU. She has been an educator for 32 years and is been a member and regional advisory board member of the North Carolina Association of Elementary Educators (NCAEE). During her years in the elementary classroom, she was named Teacher of the Year in 2003-04 and 2008-09; served as grade level chair, School Improvement Team chair, and member of the School Staff Development Team; mentored new teachers; and served as a cooperating teacher for university interns. She currently teaches elementary education courses in children's literature, process writing, classroom behavior management, and 21st Century classroom instruction. Mrs. Albert also coordinates student internships and HPU's New Teacher Support Program. (3) Co-Project Director: Dr. Loury Floyd, Associate Dean of the College of Education, will serve as the co-project director from NC A&T, contributing 0.05 FTE towards shared TQP responsibilities with the project director at each of our respective institutions. Dr. Floyd earned her Ph.D. in Education Policy, Planning, and Leadership from the College of William and Mary, a master's in Education from the University of Wisconsin-La Crosse, and a bachelor's in Special Education from NC A&T. Her expertise and research interests surround evidence-based strategies and their impact on K-12 performance, particularly students with special needs and also explores the experiences of marginalized groups within the field of special education, and leadership in educator preparation. While the project director will maintain fiscal and administrative responsibility for the grant, collectively with the program manager and co-project director, will manage day-to-day operations and responsibilities which include reviewing timelines and milestones, monitoring the program budget, supervising program staff, coordinating efforts across the TQP partnership, and monitoring and modifying program activities based on feedback. The project director and co-project director will meet weekly to coordinate program components and ensure seamless TQP program delivery. (4) Program Coordinator: A program

coordinator will be hired at NC A&T to provide administrative support for the teacher residency program, provide direct oversight of the budget, and process paperwork for all grant-related activities. The program coordinator will also arrange travel for program participants and coordinate logistics and materials for the joint orientations, seminars, and summer institutes. (5) <u>MAT Faculty</u>: HPU and NC A&T faculty in our existing MAT degree programs will collaborate with GCS mentor teachers to co-deliver MAT coursework in a manner that is tightly integrated with clinical practice. Theory, teaching methodologies, hallmark projects, and other coursework components will be aligned to the curriculum goals, objectives, and learning outcomes identified through the collaborative efforts of GCS, HPU and NC A&T. (6) <u>University Supervisors</u>: HPU and NC A&T faculty (1 per 6-10 students) will be assigned as university supervisors tasked with collaborating with MAT faculty and mentor teachers to ensure a tailored experience for teacher residents with classroom clinical practice tightly aligned to coursework. Responsibilities include: supporting clinical residency internships, visiting teacher residents at placement schools, providing feedback using state-required assessment instruments and formative/summative evaluations developed by HPU and NC A&T to specifically address the outcomes of the residency program, performing mid-semester evaluations, reviewing and monitoring teacher residents' professional growth plan (follow up each spring to assess progress), creating action plans developed with struggling teacher residents, and ensuring teacher residents are on track for edTPA portfolio completion. University supervisors conduct a minimum of five visits during the year and two evaluation visits totaling at least 45 contact hours. They will provide supervisory oversight and mentoring support to first and second year teachers by guiding beginning teachers in lesson planning and presentation, time management, organization skills, and classroom management strategies; providing resources, demonstration lessons, observations and constructive feedback to teachers; and arranging for peer observations from master teachers. They will also meet with mentors regularly to review mentor logs and work with beginning teachers to facilitate

communication with mentors, curriculum facilitators, and administrators. A university supervisor must have earned a master's degree at a regionally accredited institution and either be employed full-time in the Stout School of Education, NC A&T College of Education, or have adjunct faculty status. All supervisors are expected to hold a current NC teaching license in the area of supervision. (7) <u>GCS Administration</u>: Crystal Vandiver, GCS Director of Beginning Teacher Support will contribute another 0.10 FTE (in-kind) above her Leadership Team duties towards the selection and supervision of GCS induction coaches and mentor teachers; conducting *Right Start* orientation activities as a part of GCS' Beginning Teacher Support Program; performing a minimum of four observations of beginning teachers annually; and facilitating new mentor training. Ms. Vandiver has 10 years of teaching and leadership experience serving the third and fourth largest school districts in NC, and currently oversees GCS' induction and retention activities for beginning teachers and supports the recruitment and training of mentor teachers. She has a Master of Education from Colorado State University, and bachelor's degree in English from the University of North Carolina-Greensboro. Dr. Tiffany Perkins, GCS Executive Director of Professional Learning and Leadership, will contribute 0.05 FTE (in-kind) above her Leadership Team duties towards the facilitation of ongoing networking and professional and leadership development activities for teacher residents and mentor teachers during the residency and induction programs, including planning and coordinating access to workshops and professional memberships, professional learning communities, local networking events, and state and local conferences. Dr. Perkins has more than 22 years of education and curriculum experience providing professional development, developing community partnerships, and delivering culturally responsive curriculum for more than 115 LEAs, 158 charter schools, and 1.5 million students. She earned bachelor's and master's degrees in Education and School Administration at the University of North Carolina-Greensboro. (8) <u>Master Teachers</u>: Retired GCS teachers (25 per cohort) will volunteer their time to work with MAT graduates who are currently in their first or second year of teaching.

The services provided will include ongoing face-to-face or online coaching and professional development opportunities for new teachers that focus on topics such as classroom management, student engagement, technology, or instructional planning. Graduates who are experiencing greater struggles may opt to have more formalized classroom visits. Master teachers must have a minimum of 10 years of teaching experience at the level in which they are providing assistance. (9) Induction Coaches: Six coaches will contribute 0.05 FTE (in-kind) and provide supervisory oversight and mentoring support to first and second year teachers by guiding beginning teachers in lesson planning and presentation, time management, organization skills, and classroom management strategies; providing resources, demonstration lessons, observations and constructive feedback to teachers; and arranging for peer observations from master teachers. (10) Mentor Teachers: Mentor teachers (25 per cohort) will be assigned during the clinical residency and induction programs to support teacher residents and beginning teachers. During the residency programs, we will use current classroom teachers identified by GCS who will support teacher residents in the university classrooms during their teaching residencies as "Extension Faculty" in Fall I and Spring I. As an "extension faculty" adjunct, the mentor teacher will co-teach designated MAT coursework, provide feedback and joint evaluation of learning outcomes to candidates, collaborate with IHE faculty, mentor the candidate, assist in the completion of the required edTPA portfolio, and provide a final evaluation of performance in the clinical internship. During the induction program, beginning teachers will each be assigned site-based mentor teachers (25 per cohort) in the same grade level or same subject area to engage in mentoring for 90 minutes each week. To support these additional roles, mentor teachers will be relieved from teaching duties as appropriate using substitute teachers and other resources provided by the school and IHE partners. All master and mentor teacher candidates will require current state teaching licensure (or previous licensure if retired), a demonstrated record of success on NC EVAAS as defined by a "Distinguished" or "Accomplished" rating, and at least 10 hours of mentor training. Mentors will

be trained on the NC 21st Century Mentoring curriculum module provided by the NC Department of Public Instruction. (11) <u>External Evaluators</u>: We will contract with an independent, external evaluator to review formative evaluation data with the Leadership Team on a quarterly basis to track implementation success and determine appropriate program modifications. Two evaluators will provide services for PREPARE. (a) Dr. Melissa Page leads a cross-functional team of evaluators and serves as lead evaluator on several evaluation projects. With over 20 years of experience, she specializes in teacher professional development, engaging youth in STEM activities, NSF, and partnerships of teachers and graduate students in K-12 classrooms. Dr. Page graduated Summa Cum Laude from the University of Arizona with a Master of Public Health and earned a Ph.D. from the University of Arizona in Family Studies and Human Development with an applied program planning and evaluation minor. (b) Dr. Kathy Dowell has over 20 years of experience designing, conducting, and managing partner-focused, participatory evaluations in education and human services. Dr. Dowell's evaluation experiences include educational evaluations with a focus on STEM, socio-emotional strategies, youth career development, and college attainment. She earned a Ph.D. in Policy Sciences with a concentration on Program Evaluation from the University of Maryland, a master's in Clinical Psychology from Loyola College, and a bachelor's in Psychology from University of Maryland. Additional information about our evaluation is provided in *Section D: Quality of Project Evaluation*. (12) <u>Administrative Support</u>: Partners will collaborate with our respective offices for administrative support including clerical duties, distributing project information to participants, maintaining files, corresponding, tracking expenditures, planning events, and preparing materials. Graduate assistants will assist in various capacities, professional learning and networking activities and collecting project data. A technology consultant will assist with setting up an online professional forum for teacher residents.

►**Management Plan.** Our Management Plan is designed to achieve the objectives of PREPARE on-time and within budget, outlining milestones, timelines, and persons responsible for each task.

Table 4. PREPARE Management Plan		
Milestones	**Timeline**	**Responsibility**
Planning Activities and Ongoing Implementation Tasks		
Convene Leadership Team (LT) to plan, hire staff, monitor for continuous improvement	10/18, Monthly	LT
Coordinate project components and ensure seamless program delivery across TQP partnership	11/18, Weekly	PD, Co-PD
Modify residency program with emphasis on STEM	10/18 – 12/18	LT, faculty
Support data collection, assessment, and reporting	Quarterly	Evaluator (EV)
Recruit, enroll and retain teacher residents (TR)	10/18, Ongoing	PD, Co-PD
Conduct 10-hour mentor training for new mentors	04/19, Annual	GCS
Year 1 (October 1, 2018 – September 30, 2019)		
Launch diversity-focused recruitment via career fairs, community outreach, and media outlets	Begin 10/18, Annual	PD, Co-PD
Receive applications for prospective TR	By 12/18, Annual	TR
Review prospective TR applications; Select and notify TR candidates (25 per Cohort)	By 01/19, Annual	LT
Confirm MAT residency commitments with TR candidates; Place candidates within cohort	By 02/19, Annual	PD, Co-PD
Begin Cohort 1 residency program	05/19	TR, Faculty
Begin collaboration between mentor teachers (MT) and MAT faculty to support Cohort 1 TR during residency	06/19, Ongoing	Faculty, MT
Provide TR tours of prospective GCS schools	07/19	MT, TR

Provide Cohort 1 professional learning opportunities on teaching diverse populations	07/19	GCS, MT, TR
Provide professional development for TR and MT	07/19, Ongoing	GCS, MT, TR
Offer supplemental STEM education opportunities through LEGO Education and College of Arts and Sciences, and College of Science and Technology	07/19, Ongoing	Univ. Super. (US), LEGO
Begin Cohort 1 edTPA portfolios development	Begin 09/19	TR
Begin Cohort 1 clinical internship (six hours); Support provided by US and MT	09/19 – 05/20	TR, US, MT
Provide Cohort 1 networking and professional learning opportunities	09/19, Ongoing	TR, US, MT
Year 2 (October 1, 2019 – September 30, 2020)		
Conduct recruitment via STEM Information Sessions at HPU, GCS, NC A&T, and Piedmont International University (fall and spring)	10/19, Annual	PD, Co-PD
Host Community Showcase Events twice per year	10/19, Bi-annual	LEGO ED
Host robotics challenge w/ College of Arts and Sciences	05/20, four annual	US
Complete Cohort 1 edTPA portfolio requirements	05/20	TR
Begin Cohort 2 residency and induction programs including MAT degree program and edTPA portfolio; professional learning and networking; tours of prospective placement schools; mentoring and induction support; and placement and teaching in GCS	05/20 – 08/23	TR supported by Project Staff
Coordinate STEM Summer Enrichment Camp with College of Arts and Sciences	06/20, Annually	US

Complete NC teaching licensure requirements for Cohort 1	07/20	TR
Hire and place Cohort 1 in high-need GCS schools	07/20	GCS
Complete Cohort 1 MAT degree program for Phase II	07/20	TR
Kick-off Cohort 1 induction activities in GCS Beginning Teacher Support Program; Mentoring and coaching provided by university supervisors, induction coaches, mentor teachers, and master teachers (MaT)	08/20 – 08/22	GCS, US, MT, MaT
Provide supervision and program support to teacher residents, mentor and master teachers	08/20, Ongoing	US
Conduct *Right Start* orientation activities for Cohort 1 participants over three-day period	08/20	GCS, US
Offer networking activities outside of school/campus	09/20, Ongoing	GCS, US, MT
Year 3 (October 1, 2020 – September 30, 2021)		
Begin Cohort 3 residency and induction programs	05/21 – 08/24	TR, Project Staff
Year 4 (October 1, 2021 – September 30, 2022)		
Begin Cohort 4 residency and induction programs	05/22 – 08/25	TR, Project Staff
Year 5 (October 1, 2022 – September 30, 2023)		
Develop plans to sustain the program after funding ends	Begin 03/23	LT
Disseminate lessons learned and promising practices	Begin 06/23	LT
Grant close-out and wrap-up of final reporting	Begin 09/23	PD, Co-PD, EV

Our project is designed to capitalize on the strengths of existing high-quality educator preparation activities at HPU and NC A&T leading to increased capacity and a comprehensive, integrated approach to teaching preparation that can be sustained for years to come. HPU has implemented an educational delivery cohort model in seven different districts to help grow their own teacher leaders and school administrators in program areas such as school administration, special education, elementary literacy, STEM, and gifted. Participants benefiting from these activities have rated the quality of these partnerships higher than traditional undergraduate and graduate programs of study, as demonstrated by 89% of graduates remaining in the teaching profession beyond their first three years of teaching. Our grant partner, NC A&T, is an ideal partner to serve as a model for HPU in how to continue recruiting, retaining, and supporting effective, diverse teachers beyond the completion of the grant. NC A&T is the largest public HBCU in the nation and a top producer of engineers, mathematicians, and scientists of color. The NC A&T MAT program has been named one of the "Top 50" online master's degree programs in the US by Best Education Degrees. Candidate performance data reveals licensure exam pass rates at 100% and student evaluations with a large majority earning the highest level of "Accomplished." Our combined teacher preparation efforts will allow for the seamless integration of PREPARE purposes, activities, and benefits into our existing institutional infrastructures upon the conclusion of the TQP program, as evidenced by signed commitments from authorized representatives from our respective departments to support the successful implementation of our project as described in this application (*Appendix I*). The developed partnerships among our institutions and GCS will contribute to the overall quality of the clinical preparation of future teachers by addressing the common barriers to completing their preparation, encouraging more diverse candidates to pursue teaching and do so through high-retention pathways that better prepare them for successful, long-term teaching careers. PREPARE offers a sustainable approach for continuing project activities by

keeping cohort sizes small; delivering courses and professional learning in a variety of formats (on campus, online, at high-need schools, or other locations); and allowing for flexibility in program sequence so that courses can function independently from university schedules allowing for better pacing of coursework and collaboration among teacher residents, faculty, mentors, and schools. As these project strategies are field tested through implementation of PREPARE, we will continue refine our model to build capacity and ensure future impact beyond Federal assistance.

(iii) Adequacy of support from the lead applicant

High Point University is committed to supplementing our TQP program with a myriad of resources, including a total of $2,225,826 in matching funds, to enhance implementation including: (1) <u>Facilities</u>: Project staff will be housed at two university and one district campus, allocated by HPU, NC A&T, and GCS. These office spaces will provide access to each TQP partner's telephone system, Internet, intranet, postal services, and databases, which will allow access for timely information on the progress of key performance indicators and assist with informing implementation. All partners will provide classroom space plus access to campus structures such as labs, common areas, and a dedicated space for PREPARE staff (including Leadership Team, university supervisors, master teachers, induction coaches, and mentor teachers) to meet regularly with teacher residents to review progress and determine individual support services, as needed. We will ensure all offices and buildings where activities take place are fully accessible to individuals with disabilities to avoid hindering participation in the program. (2) <u>Furniture and Equipment</u>: All partners will each supply furniture and equipment in-kind for our staff including, but not limited to, desks, office chairs, bookshelves, filing cabinets with the capability for record storage and security, and access to a printer and copy machine. (3) <u>Travel</u>: In addition, HPU will cover the costs of transportation for university supervisors to travel from our campus to GCS schools where teacher residents are housed for program activities, valued at ███ towards HPU's matching contribution. (4) <u>Supplies</u>: Provided as an in-kind contribution, each eligible

partner will supply their respective staff with general office supplies as well as a laptop computer, smart phone, and data package. (5) <u>Time and Effort of Personnel</u>: HPU administration will play a significant role in the implementation of our program and provide guidance over the five-year period of performance. TQP will be placed in our university's School of Education under the supervision of the Dean, Dr. Mariann Tillery. Dr. Tillery is a licensed school psychologist with a background in assessment and research methodology. Dr. Tillery will contribute 0.05 FTE of her time in-kind providing supervision of our program manager and chairing the TQP Leadership Team. She will also contribute two hours in-kind per week towards program evaluation components, data collection, and supervision/monitoring of resident assessments. Other HPU staff serving on our Leadership Team will devote 0.05 FTE of their time in-kind to our project. In addition, HPU will cover the salary and fringe benefits of the program manager, as well as salaries and benefits for MAT faculty participating in Phase I and II of the MAT program (each cohort will be run as a separate entity and teacher residents will not be placed in classes with other current MAT students to protect the integrity of the program and its design). Faculty teaching in the cohort will receive overload salaries ███████ per graduate course which will be paid by university funds. The total value of matching contributions from HPU towards personnel and benefits are estimated at $358,289. (6) <u>Other Resources</u>: HPU will cover the costs for the facilitation of supplemental STEM activities including STEM Saturdays, a total match contribution (facilities, staff, curriculum, supplies) valued at ███████. We will coordinate retired master teachers to support beginning teachers during the teacher induction period (contribution of ███████ based on the value of a certified teacher of ███, including fringe benefits, and 25 teachers per cohort) We will also provide as a match discounted tuition costs totaling $1,062,900 and waive a total $3,000 in graduate application fees. (7) <u>Additional Partner Supports</u>: In addition to the resources described above and as detailed in *Quality of Project Services*, we have secured written commitments from our eligible partners (*Appendix I*) to support and enhance our TQP program by: (a) contributing

0.05 FTE of their time in-kind toward Leadership Team responsibilities (GCS match of █████████);
(b) supporting teacher residents with mentor teachers for 90 minutes weekly during the residency
program and induction period (GCS match of ████████); (c) providing 21st Century mentoring
certification, a 24 hour training course at six hours over four days (GCS match of ████████); (d)
capitalizing on the support of other NC A&T and GCS personnel including services from induction
coaches, and co-project director support from NC A&T's Associate Dean of the College of
Education, and GCS' Director of Beginning Teacher Support and Executive Director of
Professional Learning and Leadership (NC A&T match of ███████ GCS match of ████████); and
(e) integrating various funding streams including professional learning, curriculum resources and
supplies, technology, distance- and blended-learning platforms, and extended learning time.

D. QUALITY OF THE PROJECT EVALUATION

(i) Methods of evaluation will provide valid and reliable performance data on outcomes

The Evaluation Group (TEG), our external evaluator selected via a procurement process, will use
a mixed-methods, utilization-focused evaluation approach that combines multiple quantitative and
qualitative data sources (Table 2) from multiple reporters for triangulation, thereby significantly
enhancing the validity and reliability of the evaluation (Creswell, 2014; Patton, 2012). The
research questions guiding the evaluation include: (1) To what extent was PREPARE implemented
with fidelity; and (2) What is the retention rate of resident teachers compared to other licensed
teachers entering the field at the same time? Our *evaluation study* will utilize a quasi-experimental
design (QED) to assess the impact of PREPARE on students' math and ELA achievement through
the following confirmatory research question: What is the impact of PREPARE on academic
achievement for students taught by PREPARE teachers compared to non-PREPARE teachers hired
at the same time by GCS after four-years of implementation? The impact study meets What Works
Clearinghouse (WWC) evidence standards with reservations to provide a moderate level of

evidence assessing the effectiveness of the residency teacher model.

►**Impact Study**: A longitudinal, four-cohort, quasi-experimental design (QED) will assess the impact of PREPARE teachers on students' math and ELA achievement compared to other newly hired teachers from comparison schools within the district. We will compare *gateway outcomes for the residents* as compared to those who progressed through our traditional programs of study. The study uses established outcome assessments with strong reliability and validity, including Grades 3-8 NC EOG assessments in math and ELA, and EOC Math I and English II. An a priori power analysis (*Appendix J*) indicates our study has enough statistical power to accurately test for program effects on math and ELA (MDES = 0.177, α = .05). **Quantitative data** include: certification/ licensures; master's degrees conferred; GCS hiring and retention records; NCEES and EVAAS data; Grades 3-8 NC EOG math and ELA; and EOC Math I and English II; Gateway outcomes; PD attendance and hours obtained; coaching logs; teacher efficacy and math/science confidence scales; IHE exit surveys and mentor, teacher, and principal surveys (see Table 6). EOG/EOC standardized scores are valid (content and concurrent validity established 2001) and reliable (Cronbach's α .89 for reading and .91 for math in 2014), thereby meeting the WWC design standards. Reliability of survey scales will be calculated using Cronbach's α. Reliability and validity will be established for all surveys and reported in the annual report. The impact model will be analyzed using a two-level hierarchical linear model (HLM) with students nested in schools. Prior to running the HLM, propensity score matching at both school and student level will test for and assess baseline equivalence on key outcome variables, such as academic achievement in math and English. **Qualitative data** include open-ended survey items on the mentor, principal, and teacher survey about the residency program, mentoring, and induction components, as well as principal, teacher, and mentor focus groups, and external evaluator teacher observations. Qualitative data analysis will be guided by code development (Saldana, 2016), informed by scholarly literature, stakeholder panels (Frierson, Hood, Hughes, & Thomas, 2010), and member

checking (Creswell & Miller, 2000) and will provide a rich context in which to interpret our quantitative data. The constant comparative method (Glaser & Strauss, 1967) will be used to increase the trustworthiness of results, and each qualitative data collection process will stop when saturation is reached. The following questions will guide the **qualitative study**: (1) What impact did the collaboration of IHE and LEA partners in PREPARE have on teacher preparation for residency teachers; (2) What components of the induction program contributed to changes in teaching pedagogy and teacher self-efficacy; and (3) What elements of PREPARE implementation are most often cited by teachers, mentors, principals, and district leaders and partners as impacting student achievement?

►**Logic Model**: Our logic model in *Appendix G* provides a sound theoretical foundation to guide the program design, evaluation, and interpretation of evaluation findings (Kellogg, 2004). The model articulates **key components** (graduate-level coursework, cohort model, , induction support, and STEM professional development), **mediators** (intermediate outcomes—improved mentoring and induction support, pedagogical practices, use of data for instructional practices, and decreased emergency teacher hires), and **long-term outcomes** (increased teacher retention, educators' effectiveness, and student academic achievement). In concert with interim performance monitoring based on the measurable thresholds specified in Table 2, scheduled quarterly reviews of the logic model will allow us to gauge early impact, suggest needed program changes, identify unintended outcomes, and ensure results are useful for continuous quality improvement. Formative data includes our fidelity of implementation (Nelson, Cordray, Hulleman, Darrow, & Sommer, 2012), the outputs in our logic model, as well as progress towards our short- and long-term outcomes. TEG collaborates with staff on a bimonthly or monthly basis to check-in on program activities and progress. A variety of reporting formats will ensure communication about project implementation and outcomes is maximized for all levels of stakeholders. Results will be reported in aggregate and disaggregated by relevant subgroupings to promote utilization at the all levels

and sites. Combining qualitative and quantitative methods will increase the depth of the information and provide formative feedback that will enable the project team to make critical mid-course corrections and project adjustments in a timely manner. Evaluation findings will be regularly communicated to PREPARE via quarterly reports, mid-year reports, and end-of-year or final summative reports. In addition, survey briefs and snapshots will present findings related to specific program components. A **summative** evaluation report includes final outcomes across all cohorts answering the questions of how well our collaborative program impacted our long-term outcomes and the impact of the model for students, teachers, principals, and the schools.

►**Evaluator Expertise.** TEG's capacity to conduct a rigorous, objective evaluation make them highly qualified to serve as our evaluator with qualifications and experience including: over 30 years of experience with a multidisciplinary team of PhD professionals who have expertise in research design, measurement, benchmarking, test and survey construction, data analysis and reporting, and creating and using project-specific, quantitative instruments and qualitative data collection techniques. TEG's experience includes evaluating K-12 education programs, such as Teacher Quality Partnership, Teacher and School Leader Incentive, GEAR UP, and i3/EIR.

(ii) Methods of evaluation are thorough, feasible, and appropriate.

►**Impact Study.** The 1:2 propensity score matching (PSM) school model will include key variables, such as baseline test scores, school enrollment, percent female, and percent minority to help control for school-level differences that might influence outcomes. A 1:2 nearest neighbor student-level PSM without replacement will be run to assist in testing and establishing **baseline equivalence** on key student-level variables, such as baseline test scores, gender, minority status, and free/reduced lunch. An a priori **power analysis** (Dong & Maynard, 2013) indicates our study has enough power to test for statistically significant program effects (MDES = 0.177, α = .05) as designed below.

Table 5. Summary of Design Parameters for Confirmatory Study	
Parameters	**Study Design: Longitudinal QED**
School Level	Elementary – High (Grades K - 12)
Unit of Analysis	Student (level-1) nested in school (level-2)
Sample Size	*School level*: 20 Treatment Schools, 40 Comparison Schools *Student level*: 8,000 Treatment Students, 16,000 Comparison Students
Confirmatory Outcome(s)	NC EOG math and ELA and EOC Math I and English II
Propensity Score Matching Variables	*School model*: Baseline math/ELA scores, school enrollment, gender, minority status. *Student model*: Baseline math/ELA scores, gender (% female), minority status (% who are minorities), FRL (% receiving free or reduced lunch)
Statistical Analysis	Two-level HLM model with students (L-1) nested in schools (L-2)
MDES[*]	0.177 at alpha level .05, power .80; see *Appendix J*
Impact Model	$$Y_{ij} = \beta_0 + \beta_1 Treatment_j + \beta_2 BaselineScore_{ij}$$ $$+ \beta_3 FreeReducedLunch_{ij} + \beta_4 Gender_{ij}$$ $$+ \beta_5 MinorityStatus_{ij} + \beta_6 Cohort_j$$ $$+ \beta_7 Cohort_j Treatment_j + \mu_j^{Schools} + \epsilon_{ij}$$

►**Data Collection:** Table 6 outlines data collection schedule, analysis method, and desired outcomes.

Table 6. Data Collection and Analysis and Linkage to Outcomes				
Source(s)	**Time Period**	**Analysis Method**	**Responsible**	**Measure**
What impact did the collaboration of IHE and LEA partners in PREPARE have on preparation for residency teachers to meet the needs of high needs schools in a high need LEA, and high need areas and subjects including STEM preparation?				
Certification or licensure	Annually each summer	Calculate percent of cohort obtaining licensure within one year of completion; percent licensed in math or elementary	PD, Co-PD	GPRA 1, 2; PGM 3, 4; CPP 1
Residency persistence	Ongoing	Track graduate resident students through 15 months of graduate program		GPRA 3
NCEES standards 3 and 4	Annually each spring	% of 12 items earning a score of proficient or higher (developing, proficient, accomplished, distinguished)	PD, Co-PD, principals	PGM 1
Teacher demographics	Annually each fall	#, % diversity and underrepresented by gender, ethnicity, males in K-5, females in STEM; placement in high-need academic subjects (elementary or math), and grade level (elementary or secondary)		PGM 5, 6, 7
Participant surveys, teacher confidence, efficacy, and	Annually each spring	Analysis of closed and open-ended survey questions about the residency training, mentoring, induction, and STEM PD; Qualitative analysis, coding of themes from focus groups for training, induction, and STEM PD; Teachers Sense of Efficacy (Tschannen-	Teachers, mentor teachers, principals	CPP 1; GPRA 2; PGM 5, 6, 7

science beliefs		Moran & Hoy, 2001); T-STEM-Mathematics (Friday-Institute, 2012); and Science teaching efficacy beliefs (elementary only) (Riggs & Enoch, 1990)		
What is the retention rate of residency teachers?				
GCS school rosters	Annually each spring	Teacher placement and retention for 1-3 years; decrease in emergency hires or non-licensed teachers	PD, Co-PD, principals	GPRA 4, 5; PGM 2, 4; Project 1
What components of the induction program contributed to changes in teaching pedagogy and teacher self-efficacy?				
Coaching observations	Ongoing	Mentor teachers, IHE supervisors, and induction mentors complete an observation tool and provide feedback to resident teacher in a post-observation collaborative discussion	Mentors, supervisors, coaches	GPRA 6
STEM PD post-evaluations	Ongoing after PD	Survey responses provide formative feedback to revise and improve PD and STEM content knowledge and pedagogy	TEG	CPP 1; GPRA 2
Technology training and use for instruction	Ongoing; surveys each spring	SWIVL-recorded lesson, observation by two mentors and TEG, and self-reflection rating on surveys to document use of technology and data collection by teacher resident (TR) to improve teaching and achievement	TR, mentors, TEG	PGM 8a, 8b

What element(s) is most often cited by teachers, mentors, principals, district leaders and partners as impacting student achievement?				
EVAAS	Annually each summer	Teacher effectiveness based on student growth data (did not meet, met, exceeded)	GCS, TEG	GPRA 6
NC EOG or EOC		T-test comparison of students in PREPARE classrooms to students in other new teacher classrooms to assess differences in Grades 3-8 math, ELA, and Math I and English II		
Focus groups	Annually each spring	Qualitative analysis and coding for themes impacting student achievement	Teachers, mentors, TEG, principals	GPRA 6
What is the extent of fidelity implementation?				
Fidelity index	Ongoing	Track implementation of all components as delivered to components as planned	TEG	All components Project 2