

Mercer University’s Tift College of Education

**GENERATE: Georgia Educators Networking to Revolutionize and Transform Education  
in collaboration with Dalton State College a Hispanic Serving Institution and partnering  
Local Educational Agencies**

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## Mercer University's Tift College of Education SEED Application

### Introduction

Mercer University's Tift College of Education (MU) is pleased to apply for the Supporting Effective Educator Development (SEED) Program, under **Absolute Priority 1: Supporting Effective Teachers** with a focus on **Activity (1) Providing teachers from nontraditional preparation and certification routes or pathways to serve in traditionally underserved Local Educational Agencies (LEAs)**, **Activity (2) Providing teachers with Evidence-Based professional enhancement activities, which may include activities leading to an advanced credential.**

**Competitive Preference Priority 1: Increasing Educator Diversity, Competitive Preference Priority 2: Promoting Equity in Student Access to Educational Resources and Opportunities, and Competitive Preference Priority 3: Meeting Student Social, Emotional, and Academic Needs.**

### **ABSOLUTE PRIORITY 1 (AP1): Supporting Effective Teachers.**

MU, in partnership with Dalton State College (DSC) (Hispanic Serving Institution (HSI)), and a consortium of rural and urban LEAs propose **GENERATE: Georgia Educators Networking to Revolutionize and Transform Education**, a Supporting Effective Educator Development (SEED) grant to strengthen the ability of high needs rural and urban LEAs to increase and diversify the number of highly-qualified educators who: 1) have a firm knowledge and are prepared to apply critical concepts and principles of learner development (InTASC Standard 1), learning differences (InTASC Standard 2), and create safe and supportive learning environments (InTASC Standard 3) to work effectively with diverse P-12 students and their families; 2)

understand their content area (InTASC Standard 4) and can apply the content in developing equitable and inclusive learning experiences (InTASC Standard 5) for diverse P-12 students; 3) can assess (InTASC Standard 6), plan for instruction (InTASC Standard 7), and utilize a variety of instructional strategies (InTASC Standard 8) to provide equitable and inclusive learning experiences for diverse P-12 students; and 4) engage in professional learning, act ethically (InTASC Standard 9), take responsibility for student learning, and collaborate with others (InTASC Standard 10) to work effectively with diverse P-12 students and their families (Council of Chief State School Officers, 2013).

**GENERATE** will actively recruit career changers to the field of education. We are defining a career changer as a person that has worked in another career field and desires a change or a college student that has majored in another field besides education. **GENERATE** will work with career changers who are from nontraditional preparation and certification routes or pathways by providing them with mentors, computer science (CS) and cybersecurity (CBS) training, professional development (PD) in holistic development, linguistic justice, and equitable discourse, a Master of Art in Teaching (MAT), that will lead to initial teaching certification to serve in traditionally underserved LEAs, and three years of induction supports (AP1 Act. 1). In Georgia (GA), successfully completing certification requirements with an MAT degree automatically advances the completer's credentials on their state licensure certificate. (AP1 Act. 2). **GENERATE** aims to prepare educators poised to contribute to P-12 student learning growth, support holistic development effectively, and apply in P-12 classrooms the professional knowledge, skills, and dispositions needed to establish an environment where each student can thrive. Through residencies, mentoring, and induction supports, **GENERATE** will implement a

research-based, innovative program to ensure participants meet the state requirements to become certified teachers in GA and are prepared to teach in high needs content areas within high needs LEAs in addition to obtaining CS licensure (AP1 Act. 1 and 2). In 2015, the GA Professional Standards Commission (GaPSC) reported 44% of the state's teachers leave education within the first five years of employment. According to survey results shared by the GaPSC, at that time, the most prominent reason for the attrition rate was the number and emphasis of mandated tests. Since the time of the initial report, because of the pandemic, many systems are seeing even higher percentages of teachers exiting the classroom early. The Governor's Office of Student Achievement (GOSA) reported only 49 of GA's 180 LEAs had teacher retention rates at or above 90%. Research from GOSA further revealed during the 2019-2020 school year, 1,455 teachers in GA's public schools were identified as holding provisional or "other" certificates revealing many classrooms were being taught by persons who were not certified based on state requirements. According to GOSA, the largest percent (40%) of non-certified teachers were in the Atlanta-Metro region, including Clayton County, where a very high percentages of minority student enrollment can be found. The second largest percentage (21%) was in the northwest area representing counties, like Whitfield, that serve a high population of students from Hispanic and migrant families as well as other districts such as Dublin City, Twiggs, and Bibb.

**GENERATE** will establish a residency program designed to identify, recruit, mentor, and support Residents and mentor teachers in high needs, shortage content areas in underserved schools. **GENERATE** will pay Residents a living wage stipend of [REDACTED] while they pursue teacher certification, participate in a year-long residency, and obtain a Master's degree. Residents will participate in a PD series focused on a) CS and CBS training and testing certifications, b)

holistic development, c) translating linguistic justice concepts into culturally and linguistically sustaining instruction for diverse GA communities, and d) equitable discourse. PD will be offered to 170 career changers (Residents), minimally 400 mentors, and 120 Exploring Teaching as a Career (ETAC) participants. SEED funding will position GENERATE to have a profound impact on addressing the state's teacher shortage.

Year	Number of Residents	Mentors	Number of ETAC Candidates
Year 1	50	140	40 (MU 20/DSC 20)
Year 2	65	170	40 (MU 20/DSC 20)
Year 3	55	150	40 (MU 20/DSC 20)

GENERATE is designed to accomplish the following goals and objectives:

**Goal 1: Increase and diversify the number of highly-qualified educators in high-needs content areas within high-needs LEAs.**

**Objective 1a:** Recruit students from HSIs, Historically Black Colleges and Universities (HBCUs), and other minority-serving institutions (MSIs) to become Residents.

**Objective 1b:** Provide a Residency program to support the career changers in meeting state requirements to become certified teachers while obtaining a Master's degree.

**Objective 1c:** Strengthen the teacher pipeline by recruiting and supporting potential education students through an Exploring Teaching as a Career (ETAC) Academy.

**Goal 2: Establish a mentoring and induction program that effectively empowers educators and leaders to contribute to P-12 student-learning growth.**

Objective 2a: Support Residents through a mentoring program that requires the Aspiring Leader (AL) Mentors to work with Residents to identify needs and to plan, revise, and monitor instruction; ensuring effective delivery of required curriculum, differentiated instruction, and accessibility for all students (GaDOE, 2014).

Objective 2b: Support Residents through a mentoring program that requires AL Mentors to work with Residents to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessment to provide timely and accurate feedback and to inform future instructional practice (GaDOE, 2014).

Objective 2c: Implement a three-year comprehensive and sustainable mentoring and induction program to enhance the Residents' effectiveness in the classroom.

Objective 2d: Support ETAC candidates through a mentoring program that requires the mentors to work with Candidate mentors to identify needs and to plan, revise, and monitor instruction; ensuring effective delivery of required curriculum, differentiated instruction, and accessibility for all students (GaDOE, 2014).

Objective 2e: Support ETAC candidates through a mentoring program. The mentors work with Candidate mentors to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessments to provide timely and accurate feedback and to inform future instructional practice (GaDOE, 2014).

**Goal 3: Develop Professional Learning Community (PLC) focusing on inquiring, sharing, and discussing situations, problems, and/or opportunities related to their teaching with a specific focus on holistic development, culturally responsive pedagogy (CRP), equitable discourse, and linguistic justice.**

Objective 3a: Provide PLC's for Residents and mentor teachers focusing on holistic development, CRP, equitable discourse, and linguistic justice.

Objective 3b: Provide a cultural exchange initiative (CEI) for ETAC candidates to prepare them to work with peers, families, students, and administrators of diverse backgrounds between two or more diverse institutions.

**Goal 4: Implement a professional development series that aligns with the GACE (Georgia Assessments for the Certification of Educators) Computer Science Assessment (Ga. Comp.R. & Regs. R. 505-3-.41, 2017) and prepare Residents to teach Introduction to Cybersecurity (GaDOE, 2021).**

Objective 4a: Provide training for Residents so they will be prepared to meet the eight [Computer Science Standards](#).

Objective 4b: Provide training for Residents in cybersecurity, so they are aware of and able to provide instruction around cyber security to faculty, staff, parents, and students.

## Competitive Preference Priority 1 (CPP1): Increasing Educator Diversity

GENERATE seeks to increase educator diversity through the career changers residency program with a focus on minority candidates and ETAC. Teachers of color represent lower percentages of the teaching population; 20% as compared to the student populations 49% (Carver-Thomas, 2018). GENERATE plans to recruit career changers from MSIs and traditional candidates from a LEA that serves Hispanic students in large numbers.

**Career Changers Residency:** DSC is the only HSI in the state of GA and does not offer a MAT, MU will work directly with DSC's School of Arts and Sciences (SAS) to recruit career changers to pursue a degree in education. DSC's SAS students will be offered priority admission status with a non-fee, streamlined application process. An MSI Recruiter will be hired to coordinate all aspects of the GENERATE MSI Recruitment Initiative. The Recruiter will connect MSI graduates with GENERATE partner LEAs, helping to recruit and enroll the graduates in the Residency program. The MSI Recruiter will strategically partner with HSIs, HBCUs, and other MSIs to promote teaching as a viable and noble profession that provides a competitive salary, benefits, and sought-after retirement plan. **ETAC:** DSC's School of Education (SOE) has a Hispanic enrollment of 20% compared to the institution's enrollment of 40.3%. The SOE faculty have been exploring ways to recruit more students, especially students of color, into the field of teaching. ETAC is a collaborative summer enrichment program with Whitfield County (WC) High Schools to recruit and encourage students from WC to become teachers. ETAC will offer students a two-week summer camp to explore aspects of teaching to excite them about the profession. They will get hands-on experiences working with elementary children in science and/or literacy camps and virtual experiences "teaching" through simulation

labs delivered through the Mursion platform. Participants from ETAC who enroll at DSC are placed in a PLC with a candidate mentor (candidates who are further along in the program) and receive academic and non-academic support to impact retention from freshman year to program entrance and beyond. ETAC candidates from DSC will have domestic cultural exchange opportunities with MU teacher candidates. Residents and ETAC Candidates will have PLC work on linguistic justice, equitable discourse, and CRP, preparing them to produce an equitable classroom for their future students.

### **Competitive Preference Priority 2 (CPP2): Promoting Equity in Student Access to Educational Resources and Opportunities**

CS and CBS are amongst the highest priorities for the state of GA and the United States (US). P-12 students will have equitable access to resources and opportunities as MU and DSC develop highly qualified, diverse educators who are skilled in CS and CBS. ETAC participants, Residents, mentors, and teachers in partnering LEAs will have access to the CS/CBS modules preparing them to obtain the CS endorsement addressing the significant need for additional P-12 CS educators in the state. There are over 1000 high schools and over 1300 middle schools in GA and only 615 credentialed instructors in the system (Helm, 2021). In 2019, the state of GA passed Senate Bill 108 (SB 108), requiring all middle and high schools to offer CS by 2024. In January 2022, the National Security Memorandum was signed into law, aimed at improving CBS as well as statements to the US about improving cyber defenses and mandating new measures for the Federal Government (The White House, 2022a; The White House, 2022b).

## Competitive Preference Priority 3 (CPP3): Meeting Student Social, Emotional, and Academic Needs

**GENERATE** will prepare teachers to address students' holistic development. Holistic education is a comprehensive approach to teaching where educators seek to address students' emotional, social, ethical, and academic needs in an integrated learning format. Childhood traumatic experiences affect our school children at an alarming rate. Across the US, 46% of youth under age 18 have experienced one or more traumatic events that may impact development throughout the lifespan (Bethell et al., 2017; Sacks & Murphey, 2018). Commonly referred to as adverse childhood experiences (ACEs), potentially traumatic events include violence, mental illness, and/or substance abuse in the home; psychological, physical, or sexual abuse; and neglect (Anda et al., 2006; Dube et al., 2001; Felitti et al., 1998; Moore & Ramirez, 2016). More than ever, a holistic approach needs to be taken to support P-12 students. [REDACTED] stated, "children are more than a brain on a stick." He understood the importance of addressing more than the intellectual development of students. In **GENERATE**, the following components will be embedded in the design to ensure educators can address the holistic needs of students. 1) Residents will develop lessons focusing on the six developmental pathways. 2) Residents will have a space to discuss classroom challenges they have faced with Residency peers in an environment that models holistic development principles.

### What Works Clearinghouse (WWC)

Through an in-depth needs assessment, extensive review of teacher quality research, and analysis of the impact of evidence-based practices, **GENERATE** was developed and shows effectiveness

that meets the rigorous standards of the WWC. The Evidence of Effectiveness form confirms practices are based on at least Moderate Evidence of Support (Note - our findings show Strong Evidence of Support per WWC standards). GENERATE is based on evidence of preparing and retaining highly qualified diverse secondary teachers. Rochelle et al. (2010) and Myers et al. (2015) showed strong evidence that targeted professional development positively influenced secondary students' performance on math assessments. Myers et al. (2015) also found promising results in the teachers' abilities to address targeted concepts in their classroom lessons and environment. Nosaka and Novak (2014) found promising results that PLCs positively impact student retention/persistence.

### **A1. Training or Professional Development Services**

GENERATE's training and PD services are of sufficient quality, intensity, and duration to lead to improvements in practice. MU is highly regarded across the state for its quality, rigorous teacher education program. The Project Team (PT) developed the GENERATE Career Changers Residency to address the needs of the partnering LEAs. The components of the Residency Model include:

**One-Stop-Shop Admission and Advising Model:** Once the MSI Recruiter identifies and recruit candidates for the Residency Program, Co-PI Wofford will work with Enrollment Management to streamline the application and advising process. She will centralize the resources students need to make a seamless transition into the university and the Residency program.

**Residency Program:** Career changers admitted to the GENERATE Residency will progress through a five semester (18 month) rigorous, research-based, and fully accredited master's

program. They will receive a [REDACTED] living wage stipend while engaging in a yearlong residency in a high needs school and content area.

**Rigorous Coursework:** The program of study consists of 31 credit hours that develop knowledge, skills, and dispositions necessary for teacher candidates to develop the content and pedagogy necessary to support the diverse learning needs of the students in the districts where they will complete their residencies, and ultimately work as teachers of record. The curriculum will be delivered in a co-teaching model with a special focus on holistic development, linguistic justice, and equitable discourse in addition to the content and pedagogy courses.

**Computer Science and Cybersecurity Modules:** A distinct feature of the Residency program is the two stackable PD series that will prepare GENERATE Residents (and be available to all partnering LEAs educators) to pass the GACE CS Assessment and gain credentials to teach Introduction to Cybersecurity. **Mentors:** MU will select mentor teachers to support Residents based on strong content knowledge, effective teaching methods, ability to use data and provide feedback, and demonstrated student achievement gains. Residents will have three mentors, School-based Mentor, University Supervisors, and AL Mentors in addition to course instructors and upon completion a virtual induction coach.

**PLC :** The Teacher Residency cohort structure enables residents to learn through collaboration ([REDACTED], 2003) and co-teaching ([REDACTED], 2012; [REDACTED], 2012) with highly qualified, experienced mentor teachers. These PLCs provide a nurturing and supportive professional environment in which residents and mentors work together to reflect on their own practice, their students' work, and their beliefs

about teaching and learning as a mechanism to develop professionally. Residents will participate in a PD series focused on a) CS and CBS training and testing certifications, b) holistic development, c) translating linguistic justice concepts into culturally and linguistically sustaining instruction for diverse GA communities, and d) equitable discourse.

**GENERATE Summit:** The GENERATE Summit is an opportunity for Residents and ETAC Candidates to present what they have learned through their research experiences to a larger audience. It is also a space for students, faculty, and the community to discuss cutting-edge research.

**Induction Support:** For three years, Virtual Instruction/Induction Coaches (VIC) will provide classroom-based/virtual instructional mentoring to GENERATE completers (See A2 Yield).

**ETAC:** A grow your own program to support the teacher pipeline through purposeful recruitment and support strategies, including CEI. (See CPP1)

## **A.2. Build Capacity and Yield Results**

GENERATE is designed to build capacity and yield results extending beyond the period of Federal financial assistance. **Building Capacity:** We have designed several elements to contribute to capacity building, including targeted placements of teacher residencies with a focused effort on recruiting career changers and paraprofessionals already employed in the partnering LEA and providing all Residents with PD (Goals 1-4). Recruiting candidates through a pool of classified staff already employed within the district will provide a steady and robust pool of candidates who may be eligible for the Residency. All Residents, paraprofessionals, and career changers are asked to complete a service obligation of three years within the district. **Yield:** The need for well-

coordinated and systematically implemented induction is well-documented in the professional literature (Holdcheide & Lachlan-Hache, 2019). As GENERATE Residents enter the classrooms as teachers, they will receive continuous support from the VICs. There continues to be a common and frequent need expressed by candidates, graduates, and faculty for a more comprehensive and intentional induction plan, which can offer meaningful, generative, and context-/need-specific support for teachers; GENERATE's induction plan will support Residents for three years beyond graduation (Goal 2; Obj 2c). VICs will provide supports, and completers will be invited to participate in the GENERATE Summit and other PD offered. Formalized induction processes will include monthly virtual gatherings, addressing topics such as selecting and implementing evidence-based practices, working with diverse student populations, collaborating with colleagues effectively, and developing sustainable resources for student achievement. To sustain the induction program, VICs who facilitate this process will partner with Aspiring Leaders and veteran educators who work with the school districts to support induction. They will work with local school administrators to identify veteran teachers who can support the Residents as they enter their first three years of teaching. The induction plan includes creating a sustainable structure beyond GENERATE. Establishing this robust network of veteran teachers and aspiring leaders will support the Residents in developing professional capital (Hargreaves & Fullan, 2013). Residents will develop skills making them successful within the state's new tiered certification system in which teacher leadership is an essential skill to matriculate towards more advanced certification levels. The high-quality mentoring and induction initiatives within GENERATE include features and components consistent with research, such as problem-solving, implementing literacy programs, and incorporating essential components of science and reading instruction. These skills and initiatives yield positive effects

on the retention of new teachers based on the standards of WWC (American Institutes for Research, 2019b).

### **A.3. Conceptual Framework and Relevant Literature**

Guiding this project is a conceptual framework that extends the work of ██████████, Maurice Falk Professor in the Yale Child Study Center School of Medicine. This framework highlights the healthy development of students along six critical developmental pathways: cognitive, social, language, ethical, physical, ethical, and psychological (see Figure 1) (Comer, Joyner, and Ben-Avie, 2004). The model placed the students' developmental needs at the center of the school's agenda and established shared responsibility to ensure students developed along each continuum. His vision was to engage the key adults involved in the education and upbringing of children—from the principal and teachers to parents and caregivers—in a collaborative effort to foster the pathways. He understood these facets of youngsters' development were intertwined, interdependent, and mutually reinforcing, and if they progressed appropriately along these pathways, they were likelier to succeed in school and life (Darling-Hammond, et al., 2018).

Figure 1: Developmental Pathways

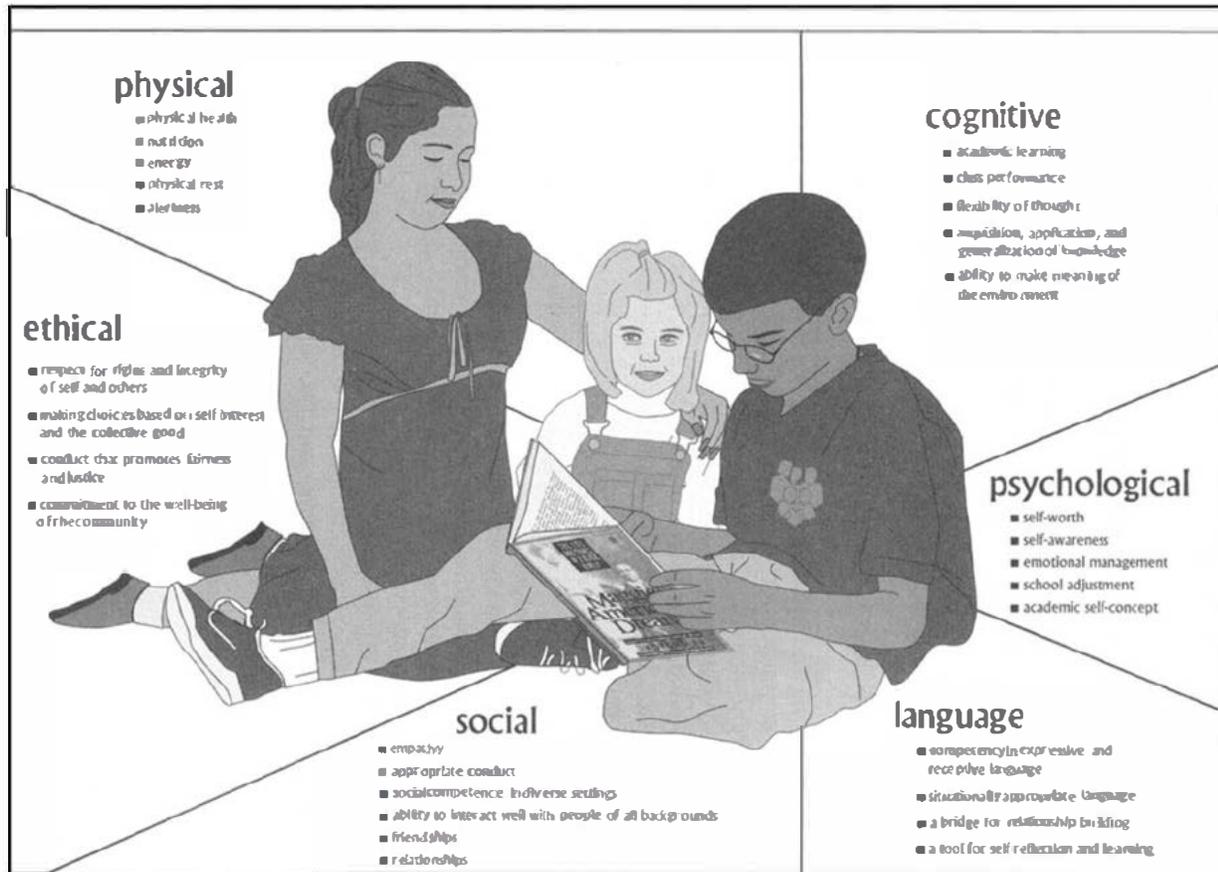


Figure 1. Model of the School Development Program Process. Reprinted from Dynamic Instructional Leadership to Support Student Learning and Development: The Field Guide to Comer Schools in Action, by Edward T. Joyner, Michael Ben-Avie, and James P. Comer. Copyright 2004 by The Yale School Development Program, Yale Child Study Center. Reprinted with permission.

A holistic approach to education is premised on the fact that children's learning depends on the combination of instructional, relational, and environmental factors the child experiences, along with the cognitive, social, and emotional processes that influence one another as they shape the child's growth and development. Although our society and our schools often compartmentalize these processes and treat them as distinct from one another and treat the child as distinct from

the many contexts she or he experiences the science of learning and development demonstrates how tightly interrelated they are and how they jointly produce the outcomes for which educators are responsible. According to the Association for Supervision and Curriculum Development (ASCD), a whole-child approach means each student a) enters school healthy and learns about and practices a healthy lifestyle; b) learns in an environment physically and emotionally safe for students and adults; c) is actively engaged in learning and is connected to the school and broader community; d) has access to personalized learning and is supported by qualified, caring adults; and e) is challenged academically and prepared for success in college or further study and employment and participation in a global environment. Educators must understand how developmental processes interact and unfold over time if they are to design supportive environments for development and learning. GENERATE developers recognize that if educators are to address these pathways, they must have a firm understanding of the pathways. These pathways are central to the PD of educators aspiring to address the holistic needs of students. Table 1 shows how the elements of GENERATE map onto the framework components.

Unique to our work is embedding CS and CBS as a new teaching and certification area for the Residents. This unique feature demands a distinctive focus on developing Residents' CS and CBS content and pedagogical content knowledge for teaching CS courses and/or integrating CS and CBS content into other middle and high school teaching areas. Program participants will also have a firm understanding of CRP, linguistic justice, and equitable discourse.

Table 1. GENERATE elements are mapped onto the framework components

Framework Component	Aspects	GENERATE Program Elements
Cognitive	think critically and creatively, retain and mentally manipulate information, and work towards accomplishing desired goals.	CS and CBS digital badges: Residents obtain content knowledge of computer science and cybersecurity. Graduate education content and pedagogical coursework. Content and Pedagogy Instruction: Residents obtain MAT degree and teacher licensure Computer Science endorsement added to teacher certification.
Physical	make good decisions that will promote healthy development and healthy and safe environments	Residents and Mentors will engage in discourse around CRP, equity, justice, and inclusivity in the classroom, which builds an emotionally and physically safe, connected, and engaging classroom environment where all students are expected to reach their fullest potential.
Ethical	increase their capacity for behaving with justice and fairness toward others and enhance ability to make decisions that promote well-being and the collective good.	Equitable Discourse: Residents and mentors will analyze individualized feedback to allow teachers to recognize racialized, gendered, or socio-economic participation patterns. Create a PLC to support a CEI between two or more diverse institutions.
Language	to increase their capacity for receptive and expressive language in a variety of contexts	Residents and Mentors will engage in virtual synchronous and asynchronous professional learning modules related to linguistic justice, including (a) the history and present-day linguistic diversity of Georgia, (b) how to be a critical listener, (c) the role of language in teaching and assessment, and (d) curricularizing linguistic justice for the elementary, middle, secondary, and P12 classroom using authentic examples and models of Georgia's linguistic diversity to prepare teacher candidates to teach in diverse urban and rural GA contexts.
Psychological	to develop a strong, positive sense of self,	Mentoring and Induction: The strong mentoring and induction support further develop Residents' self-efficacy to address students' diverse, holistic needs. Cultural Exchange Initiative: Through strong mentoring supports, it further develops ETAC students' self-efficacy to address students' diverse, holistic needs.
Social	increase their capacity to build and maintain healthy relationships across the range of human diversity.	PLC: Pre-baccalaureate students, Residents, and Mentors engage in a PLC (that focuses on inquiring, sharing, and discussing situations, problems, and/or opportunities related to their teaching

#### A.4. Collaboration of Partners

**Mercer University** is poised to lead collaborative work and has partnered with appropriate partners to maximize the effectiveness of **GENERATE**. MU prepares more professional educators than any other private institution in Georgia. It offers baccalaureate and graduate degrees (approved by the GaPSC) for teacher education, including initial certification, teacher advancement, and educational leadership. MU has a longstanding and highly-regarded education program and deep expertise in producing highly effective educators. While many certification programs have gone totally online, MU chose a different path. Before the COVID pandemic, MU's Tift College shifted the MAT for working adults from face-to-face to blended learning experiences. Blended learning combines the best elements of traditional classroom-based instruction and online modes of learning, where the benefits of technology-mediated instruction are maximized. The MAT for adult learners also has multiple starting points during the year, August, October, January, March, and May. With four campuses in Georgia, two regional academic centers, blended delivery, and multiple starting points, MU is positioned to have outreach and build capacity throughout the state. MU's College of Liberal Arts and Sciences (CLAS) and Tift College of Education have a history of collaboration supporting STEM teacher education and enhancing STEM learning in K- 12 schools. Recent Woodrow Wilson Teaching Fellows (WWTF) and National Science Foundation (NSF) Noyce projects were co-directed by CS and Education faculty. WWTF involved the collaborative development and implementation of a MAT to prepare STEM teachers for Georgia's high-need middle and high schools. MU also maintains a Teacher Education Council to preserve content currency and align CLAS courses in teacher education. Recent work involving CS and Education faculty led to the development and

approval of a 3- course CS teacher endorsement and plans for offering 1-credit CS courses for teachers on topics related to new middle and high school CS courses, including robotics, cybersecurity, and web design. The SEED grant will scale that initiative by providing the opportunity to develop the courses into self-paced modules.

**Dalton State College:** DSC is poised to be a sub awardee. It is the only HSI in GA with a large (48.8%) student population of first-generation college students. DSC has elementary and secondary education programs. Since its inception, the Elementary Education program has had more graduates than any other campus. The SOE's graduates are heavily recruited in neighboring LEAs. DSC has worked with WC Schools to secure over 1 million grant funding through GOSA. DSC successfully delivered multiple literacy endeavors to help WC raise reading scores on the GA Milestones literacy assessments. Through the multiple years, these grants were awarded, DSC worked closely with the outside evaluator to make changes each year to improve programming based on surveys, focus group interviews, and pre and post-assessment results of P-12 students.

Because DSC has robust data to prove the initiatives have worked, they have been able to use their data and innovations as they have written and been awarded additional grants. They have a one-year grant from the Deal Center in GA to start a reading clinic that helps to train their teacher candidates while simultaneously improving literacy skills for early elementary students. The School of Arts and Sciences (SAS) and the SoE were awarded almost 1.2 million dollars for a Robert Noyce grant through the NSF to support math and science majors to become math and science secondary teachers.

**LEA Partners:** Our LEA partners include Bibb, Clayton, Dublin City, Pike, Twiggs, and Whitfield County Schools. These schools were selected as partners because they desire to provide all their students with high-quality instruction to meet their CS needs. In addition, each of these system partners has at least 30% economically disadvantaged students, with the majority far exceeding 30%. Additionally, they employ teachers outside their licensed content area and/or with an emergency or provisional certificate. Many have a majority-minority population in their schools. See Table 2 below. These districts were also chosen because they have an established reciprocal partnership with MU or DSC. Developing Residents and ETAC candidates for the specific communities will increase and/or diversify the number of qualified educators in the district and helps to address SB108.

Table 2. LEA Partner Demographics and Teachers Teaching Out of Field or with emergency or provisional credentials.

2020-2021 District Data	Asian	African American	Hispanic	White	Multi-racial	Eligible for Free/Reduced Meals	Teachers Teaching	
							Out of Field	With Emergency or Provisional credentials
Bibb County	1%	78%	6%	12%	3%	100%	18%	8%
Clayton County	3%	69%	23%	2%	3%	93%	9%	21%
Dublin City Schools	1%	90%	2%	6%	2%	100%	13%	9%
Pike County	0%	6%	2%	89%	2%	32%	5%	4%
Twiggs County	0%	63%	2%	34%	1%	91%	16%	30%
Whitfield County	1%	1%	45%	50%	3%	60%	3%	3%

## A.5. Address Need

GENERATE was designed to successfully address the needs of the partnering LEAs in Georgia. The shortages and issues concerning teacher recruitment, hiring, and retention are not new phenomena in education. Sutchter, Darling-Hammond, & Carver-Thomas (2019) defined teacher shortage as "an insufficient production of new teachers given the size of student enrollments and teacher retirements" but also noted "teacher staffing problems are driven by a myriad of factors, including not only production of new teachers in various fields, but also teacher turnover, changes in educational programs and pupil-teacher ratios, and the attractiveness of teaching generally and in specific locations." Nationally, research reveals a growing trend in the absence of highly qualified teachers in the classroom. Estimates in 2015 revealed a shortage of 47,000 to 80,000 teachers to serve the needs of students in classrooms across the country. Approximately 109,000 teachers were uncertified for the teaching positions they were holding, meaning these staff members had not earned the necessary credentials to be deemed prepared for the jobs and responsibilities of the position for which they were hired. The shortages of teachers and the presence of uncertified teachers seem to be more prevalent in areas such as CBS, CS, special education, math, science, and bilingual education. Research reveals that schools with high minority student enrollment have four times as many uncertified teachers as their counterparts in non-minority school settings (Sutchter, et al., 2019). These results reveal the systemic presence of unqualified, inexperienced, and out-of-field teachers in schools where minority students are the predominant population, as well as in rural areas of the country. The pandemic and political unrest challenges were pervasive across the country and have caused increased teacher turnover and departure from the classroom. These challenges include staffing shortages, student mental health issues, lost learning time, and political issues revolving around discussions on systemic

racism. A survey released by EdWeek showed that about half of teachers said they are likely to leave the teaching profession within the next two years.

As noted in AP1, data on teacher shortages in GA mirror the labor market statistics on the national level. GENERATE will address the LEAs needs by producing 170 additional teachers and providing CS and CBS PD to all partnering LEAs' personnel.

### **B.1. Significance of Outcomes**

GENERATE will create an evidence-based model for teacher preparation that increases teachers' effectiveness in strengthening students' holistic needs that are central to short-and long-term outcomes, including employment and retention (see C1 Logic Model). Our focus is on developing a diverse and effective pipeline of highly qualified educators. Two key areas of impact include: 1) the number of students, teachers, and LEAs impacted, and 2) recruitment and retention of teachers of color. As explained in B2, GENERATE will impact over 92,000 P-12 students in five years. Teachers will gain the tools to implement a holistic approach to teaching, which allows them to respond to students' academic and non-academic needs effectively.

Through the components described in A1, 92,000 students will have access to effective educators skilled in CS and CBS instruction, holistic development, and CRP. Residents (170) will receive a MAT degree which affords them to begin their teaching career at a higher level in pay and certification. Educators in partnering LEAs will have access to a suite of PD opportunities that can improve their instruction. As teachers continue to hone their teaching and extend their leadership in their schools, this can have exponential benefits for students, schools, and their communities during the grant period and for years to come. LEAs reap the benefit of GENERATE when they have more highly qualified teachers teaching in high-needs areas.

Through the partnership with an HSI, the efforts of the MSI Recruiter, the ETAC initiative, and deliberate recruitment efforts aimed at career changers and paraprofessionals, GENERATE's Residents diversify the teaching workforce, which meets a critical need for partnering LEAs as explained in A5. In D4, we have outlined the magnitude of the results likely to be attained.

## B.2. Reasonable Costs

The costs associated are reasonable and are for direct services or supplies. Personnel costs were determined based on the number of hours projected to complete the work. Compensation for PIs was determined by the percentage of time PIs would be working on their parts of the grants. Other stipends were paid based upon the amounts provided for hourly wages for similarly educated individuals in the surrounding areas. The Career Changers are offered living wages because they will leave full-time paid positions to take on a one-year residency program. The [REDACTED] provided for a living wage is less than they will make once they are certified to teach in GA. This project will serve over 170 Residents who will later become teachers. Assuming the average secondary teacher will teach 100 students per day, roughly 17,000 students will be served by Residents who have been trained in equity work, CS, and holistic development (to name but a few of the skills they will bring). ETAC anticipates recruiting a minimum of 60 students, and all 60 candidates will interact with 60 MU teacher candidates. This means that 120 future elementary classrooms will have teachers who have shared in a CEI to help them develop more equitable classrooms. Assuming 25 children per elementary classroom, this adds another 1500 elementary students impacted by teachers who understand equity and work with people from different cultural backgrounds. With all the support and experiences built into GENERATE, the retention of these teachers, once they are in the teaching field, should be

higher than the average across the nation. If these teachers work for five years, they will have impacted 92,500 students. The cost to train highly qualified teachers with 92,500 P-12 students is \$105.29 per child based on the \$9,739,048 requested.

The dissemination plan outlined in the grant indicates a strong desire for the P Is to share the lessons learned from their work. With dissemination, others will be able to apply lessons learned to their teacher preparation programs to prepare even more teachers. Co-P Is can use the lessons learned to further improve the rest of the teacher preparation programs in their institutions, which will significantly impact additional teachers and children. MU will allow open access to the created materials (such as the CS Modules). Site supervisors, mentors, and aspiring leaders may take advantage of the available professional learning beyond the PD they will automatically receive by virtue of their positions.

Some of the activities in which the ETAC students will participate (camps and tutoring) will provide additional services immediately for hundreds of children during the three years of the grant. The addition of the ETAC candidates means more elementary students will have the chance to become immersed in project-based science/social studies opportunities or improve their literacy skills to be on-grade level in reading by third grade.

### **B.3. Benefits at the end of Federal Funding**

At the end of the federal funding, there is potential for MU and partners to continue to incorporate GENERATE components. Sustaining the activities after the funding period will occur via the institutionalization of the model by the PT. After the funding period, MU will continue to offer the MAT cohort model supported by mentors and the CS and CBS modules.

The inclusion of the CBS and CS self-paced gamified modules will provide MU and DSC with unique and attractive programs. GENERATE will host an annual summit; once initiated and determined to be beneficial, these summits will continue to be held annually following the funding period. LEAs not selected as partners have expressed interest in future residency partnerships. School leaders view GENERATE as a viable means to address the GA SB 108 mandate. The PT will also seek funds from new private sources such as local businesses and banks to support ETAC. Funds to sustain activities are being sought through a newly formed MU Philanthropic Leadership Board. As a Research 2 institution, MU faculty are consistently seeking funding opportunities to support the greater community and align with the mission and vision of the university.

#### **B.4. Dissemination**

The GENERATE Dissemination Plan will include strategies that increase the likelihood of replication and scalability of the effort to maximize the magnitude of results. The PT will work closely with a marketing team to develop the visual identity of GENERATE.

Marketing materials designed to recruit Residents will be created and disseminated widely through various state organizations and posted on the GENERATE web pages at MU, DSC, and partnering LEAs. We will present our findings to local School Boards of the partnering LEAs. We will hold five knowledge cafés to enable supportive but critical discussion of the findings and their implication. The "Knowledge Cafes" will involve a mix of stakeholders, e.g., career changers, current Residents, Mentors, P-12 educators, higher education faculty, community members, and state agencies, and will be facilitated by members of the PT and local stakeholders. We will collaboratively explore how our research findings fit with current practice

and policy, how they could inform improvements to practice, and how best to translate research findings into usable and effective outputs. We will generate actionable messages and recommendations for broader dissemination. We will engage in a major media campaign, including articles in professional journals. Project participants and the PT will be asked to share information about their experiences through social media, allowing for near real-time output and reactions from other social media users and may also help drive website traffic. Results will also be disseminated through conferences and professional teacher education associations and networks. The PT will also share information and learn from the work of others by engaging with SEED webinars, regional meetings, and summits. MU and DSC will develop a website that acts as a repository.

**GENERATE** partners will provide open access to all reports and other outputs such as project-related events, activities, CS modules, and findings. **GENERATE**'s PT will host an annual **GENERATE** Summit and invite local, state, and regional stakeholders to attend to gain familiarity with the initiative and assess the suitability of replication within their communities.

The reach and impact of **GENERATE** communication activities will be assessed qualitatively and quantitatively and closely monitored using participation statistics, search metrics, and other established indicators of media use. The following measures outlined in Table 3 will be used to evaluate the output of the Dissemination Plan.

Table 3: **GENERATE** Dissemination Plan Strategy Monitoring

Communication tool	Quantification	Target annual value defined by PT	Proof of communication
Website	Number of Visitors	5000 Output of Google Analytics	Output of Google Analytics
Social media (Facebook)	No. of posts No. of campaigns	24 4	Facebook Facebook
Social media (Instagram)	No. of posts	24	Instagram
Social Media (YouTube)	No. of videos	12	You Tube
Mass mailing (Newsletter)	No. of issues No. of subscribers	1 1200	Emails System Printouts
Local mass media (Press release)	No. of press releases	4	Press Releases
Brochures	No. of promotional/ informational flyers	4	Brochures
Educational Webinars	No. of webinars	2	Website
Convenings for Potential Residents	No. of convenings	48	Participation Lists
Convenings for Mentors	No. of convenings	12	Participation Lists
Presentations at Conferences	No. of presentations	4	Conference Booklets
Publications	No. of publications	1	Publications

### C.1. Clear and Measurable Outcomes

The extent to which the goals, objectives, and outcomes to be achieved are clearly specified and measurable are outlined below in the **GENERATE** Logic Model. The Logic Model will guide activities, deliverables, and outcome evaluation (See D 1-4) that focuses on alignment between services and the goal, objectives, and outcomes of **GENERATE**.

**GENERATE LOGIC MODEL**

**Goal 1: Increase and diversify the number of highly-qualified educators in high-needs content areas within high-needs LEAs.**

Partners	Objectives	Activities	Short-Term Outcomes	Long-Term Outcomes
DSC Mercer	1a) Recruit students from MSIs to become Residents.	Hire an MSI recruiter Develop marketing materials	20% increase in the diversity of the applicant pool enrolling and completing the MAT program.	A more diverse teaching force is created.
Mercer Partner LEAs Districts	1b) Provide a Residency program to support the career changers in meeting state requirements to become certified teachers while obtaining a Master's degree.	Create Residency program Career changers participate in residency	90% of Residents teach in high needs LEAs	80% of Residency candidates are retained for two years in high needs schools and are highly effective
DSC Mercer Partner LEAs	1c) Strengthen the teacher pipeline by recruiting and supporting potential education students through an Exploring Teaching as a Career (ETAC) Academy.	Created ETAC Recruit students for ETAC	20 students per year are recruited and retained in teacher education programs at DSC	80% of ETAC graduates are retained for two years in high needs schools and are highly effective

**Goal 2: Establish a mentoring and induction program that empowers educators and leaders to effectively contribute to P-12 student-learning growth.**

Partners	Objectives	Activities	Short-Term Outcomes	Long-Term Outcomes
Mercer Partner LEAs Residents Mentors	2a) Support Residents through a mentoring program that requires the AL mentors to work with Residents to identify needs and to plan, revise, and monitor instruction; ensuring effective delivery of required curriculum, differentiated instruction, and accessibility for all students (GaDOE, 2014).	AL mentors and Residents matched Mentors and Residents participate in curriculum PLC	90% of Residents retained 90% of Residents graduate and are certified 95% of Residents hired	80% of Residency graduates are retained for two years in high needs schools and are highly effective.

Mercer Partner LEAs Residents Mentors	2b) Support Residency candidates through a mentoring program that requires the AL mentors to work with Residents to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessments to provide timely and accurate feedback and to inform future instructional practice (GaDOE, 2014).	AL mentors and Residents matched.  AL mentors Residents participate in PLC.	90% of Residents retained  90% of Residents graduate and are certified  95% of Residents hired	80% of Residency graduates are retained for two years in high needs schools and are highly effective.
Mercer Partner LEAs VICs Mentors Hired Residents	2c) Implement a three-year comprehensive and sustainable induction program to enhance the Residents' effectiveness in the classroom.	Match graduates with VICs and mentors  VICs and mentors hold regular debriefing meetings with hired Residents	Participants find value in monthly meetings	80% of Residency candidates are retained for two years in high needs schools and are highly effective
Mercer DSC Partner LEAs ETAC candidates Mentors	2d) Support ETAC candidates through a mentoring program that requires the mentors to work with candidates to identify needs and to plan, revise, and monitor instruction; ensuring effective delivery of the required curriculum, differentiated instruction, and accessibility for all students (GaDOE, 2014).	Mentors and potential teacher candidates matched  Mentors and ETAC participants participate in a curriculum PLC.	90% of ETAC candidates retained  90% of ETAC candidates graduate, are certified, and are hired.	80% of ETAC graduates are retained for two years in high needs schools and are highly effective.

Mercer DSC Partner LEAs	2e) Support ETAC candidates through a mentoring program that requires the mentors to work with candidates to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessments to provide timely and accurate feedback and to inform future instructional practice (GaDOE, 2014).	Mentors and potential teacher candidates matched  Mentors and ETAC candidates participate in an assessment PLC.	90% of ETAC candidates retained  90% of ETAC candidates graduate and are certified  95% of ETAC graduates hired	80% of ETAC graduates are retained for two years in high-needs schools and are highly effective.
<b>Goal 3: Develop a Resident/Mentor PLC focusing on inquiring, sharing, and discussing situations, problems, and/or opportunities related to their teaching with a specific focus on holistic development, culturally responsive pedagogy, equitable discourse, and linguistic justice.</b>				
Partners	Objectives	Activities	Short-Term Outcomes	Long-Term Outcomes
Mercer Partner LEAs Mentors Residents	3a) Provide PLC's for Residents and mentor teachers focusing on holistic development, CRP, equitable discourse, and linguistic justice.	Residents and Mentors engage in CRP PLC  Residents and Mentors analyze individualized feedback  Residents and Mentors engage in professional learning modules	90% of graduates have stronger self-efficacy for creating equitable classrooms  90% of Residents score higher on assessments than non-resident participants in areas related to CRP  90% of participants find the PLC valuable	Teachers creating equitable classrooms  Teachers work successfully with stakeholders from diverse backgrounds.

<p>Mercer DSC Partner LEAs ETAC candidates Mercer candidates</p>	<p>3b) Provide a cultural exchange initiative (CEI) for ETAC candidates to prepare them to work with peers, families, students, and administrators of diverse backgrounds between two or more diverse institutions.</p>	<p>Participants will attend workshops with participants from other institutions prior to participating in exchange programs.</p> <p>Participants will visit at least one other institution</p> <p>Participants will debrief after the CEI exchange</p>	<p>90% of Participants have stronger self-efficacy for creating equitable classrooms</p> <p>90% of Participants score higher on assessments instruments than the non-participants</p> <p>90% of Participants find value in CEI</p>	<p>Teachers creating equitable classrooms for all</p> <p>Teachers work successfully with stakeholders from diverse backgrounds.</p>
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**Goal 4: Implement a professional development series that aligns with the GACE (Georgia Assessments for the Certification of Educators) Computer Science Assessment (Ga. Comp. R. & Regs. R. 5053-.41, 2017) and prepare Residents to teach Introduction to Cybersecurity.**

Partners	Objectives	Activities	Short-Term Outcomes	Long-Term Outcomes
<p>Mercer Co-PI Yerby Residents</p>	<p>4a) Provide training for Residents so they will be prepared to meet the eight <a href="#">Computer Science Standards</a>.</p>	<p>Create eight computer science modules</p> <p>Residents earn digital badges for completed modules</p>	<p>80% of Residents complete eight CS modules.</p> <p>95% of Residents completing CS modules feel confident in meeting CS standards.</p>	<p>90% of Residents pass the GACE test for CS</p>
<p>Mercer Co-PI Yerby Residents</p>	<p>4b) Provide training for Residents in cybersecurity, so they are aware of and able to provide instruction around cyber security to faculty, staff, parents, and students.</p>	<p>Participants complete the Cybersecurity module</p>	<p>80% of Residents complete the CBS module</p>	<p>10% of Residents teach cyber security</p>

## C.2. Clear Plan to Keep Project on track

GENERATE's PT plans to achieve the objectives on time and within budget, including clearly defined responsibilities, timelines, and milestones. The PT has developed a management plan to ensure fiscal stewardship and timely implementation to accomplish our overarching goal of strengthening the ability of high-needs rural and urban LEAs to increase and diversify the number of highly-qualified educators in their systems. The goals of the management plan include:

1) effectively managing GENERATE, 2) equity-focused decision making, and 3) effective oversight and accountability.

**Effectively manage the GENERATE grant:** Through strong management and clearly defined responsibilities, the PT has identified the need for additional personnel to support successful implementation. The PT, additional personnel, Advisory Board, and Keystone Consultants will ensure the success and continuous improvement of GENERATE.

**Project Coordinator (PC):** Under the direction of the PI, PC will manage all aspects of the project, including personnel, fiscal, curriculum, partner outreach, vendor relations, evaluation, and student engagement to ensure timely implementation and compliance with federal mandates.

**Data Manager (DM):** Will utilize multiple instruments to collect, analyze, and report annual data aligned to the objectives and goals. DM will work with the External Evaluators, Keystone Consulting, and the Director of Assessment.

**Project Liaisons:** will serve as a resource for the partnering LEAs. They will liaise between

LEA partners, MSI Recruiter, P C, and PI. Will meet regularly with the P C and Data Manager to ensure objectives are being implemented and goals are being met. The goal is to hire 3 Project Liaisons over the life of the grant.

**Minority Serving Institution (MSI) Recruiter:** will coordinate all aspects of the MSI Recruitment Initiative. Duties will include managing all aspects of recruitment efforts across the nation. The Recruiter will connect MSI graduates with GENERATE partner LEAs, helping to recruit and enroll the graduates in the Residency program. The Recruiter will represent GENERATE at career fairs and similar initiatives.

**Advisory Board:** will serve as a critical management oversight structure that provides stakeholders with a voice. Members from traditionally-underrepresented subgroups will ensure a diversity of perspectives that influence the planning, implementation, and continuous improvement of GENERATE. The Advisory Board will report outcomes and progress to increase transparency within the greater community.

**Equity Focused Decision Making:** MU and partners will provide equal access/treatment for participants. MU recognizes the strength of a diverse community of individuals with varied experiences, perspectives, and backgrounds, including but not limited to age, citizenship, creed, disability, ethnicity, gender identity, genetic information, indigenous people, marital status, national origin, native language, political affiliation, pregnancy, race, religion, sex, sexual orientation, socio-economic status, veteran/military status, or any other basis protected by federal and/or state law. MU welcomes and seeks opportunities to learn through research-practice collaborations and partnerships. We commit to critically examine current policies, reflect on and refine programs, and continuously improve the development of teachers and all educational

leaders to utilize inclusive and equity-based practices. All teachers, administrators, students, families, and community stakeholders will be encouraged to participate in GENERATE activities to maximize impact. GENERATE will be administered to guarantee equal treatment of and equal opportunity for all participants. MU and partners will fully comply with the equal access regulations outlined in the General Education Provisions Act section 427 (GEPA 427).

**Effective Oversight and Accountability:** MU will hire a Grants Support Specialist (part of a non-federal match) to liaise between the PT and MU's Grants and Contracts Office (GCO) and the Office of the Vice President for Research. The Grant Specialist will manage and reconcile budget expenditures, including those associated with personnel, travel, material, and equipment purchases, and help ensure compliance with all federal funding requirements. MU's Dean has experience serving as PI for Noyce Capacity Building and NSF grants and US Department of Education grants. MU's GCO will establish a system of accounting, cost management, and reporting to promote efficient expenditures of funds. Coordination of GENERATE by grant managers will ensure the delivery of high-quality services in accordance with an extensive Timeline (see below) and Logic Model. The PT, Advisory Board, and external evaluators, Keystone Consultants, will monitor progress, ensure fidelity with design, and assess milestones.

**Timeline**

**Responsible Party:** Advisory Board (AB); Aspiring Leader Mentors (ALM); Co-PIs; Computer Science Developer (CSD); Course Facilitators (CF); Data Manager (DM); DSC Dean (DSD); DSC Mentors (DSM); DSC Faculty (DSF); Mercer Faculty (MF); Minority- Serving Recruiter (MSR); Outside Evaluator (OE); Program Coordinator (PC); School-Based Mentors (SBM); University Supervisors (US)

**Goal 1: Increase and diversify the number of highly-qualified educators in high-needs content areas within high-needs LEAs.**

Activity	Year 1	Year 2	Year 3	Responsible Party
Create a Residency program to support candidates to meet state requirements to become certified teachers while obtaining a Master's degree (Obj. 1b)	Oct. 2022 - Feb. 2023	N/A	N/A	Co-PIs
Recruit Residency Candidates (Obj. 1a)	Oct. 2022 - Feb. 2023	Feb. 2023 & ongoing	Jan. 2024 & ongoing	MSR
Residents participate in GENERATE residency program (Obj. 1b)	1st Cohort Mar. 2023	Two cohorts Aug. 2023 & Jan. 2024	1 cohort Mar. 2024	ALM/CF/SBM /US
Assess Residency program (Obj. 1b)	Dec. 2023	May & Dec. 2024	May & Dec. 2025	AB/DM/OE/ PC/
Use Residency assessment data to make program improvements (Obj. 1b)	Jan. 2024	June 2024	Jan. 2025	Co-PIs/OE
Create an Exploring Teaching as a Career (ETAC) Academy to expose pre- baccalaureate students to the education profession. (Obj. 1c)	Oct. 2022 - May 2023	N/A	N/A	DSD
Recruit students to participate in ETAC. (Obj. 1c)	Feb. 2023 & ongoing	Jan. 2024 & ongoing	Jan. 2025 & ongoing	DSD
ETAC students participate in ETAC. (Obj. 1c)	1st Cohort Summer 2023	2nd Cohort Summer 2024	3rd Cohort Summer 2024	DSD
Assess ETAC program (Obj. 1c)	Dec. 2023	Aug. 2024	Jan. 2025	AB/DM/OE/ PC
Use ETAC assessment data to make program improvements (Obj. 1c)	Jan. 2024	Sept. 2024	Feb. 2025	Co-PIs PC

**Goal 2: Establish a mentoring and induction program that empowers educators and leaders to effectively contribute to P-12 student-learning growth.**

Activity	Year 1	Year 2	Year 3	Responsible Party
Aspiring leader (AL) mentors and Residents matched. (Obj. 2a, 2b)	Feb. 2023	July 2023 Dec. 2023	Feb. 2024	ALM/Co-PIs/CF
AL mentors and mentees participate in the PLC. (Obj. 3a)	Mar. 2023 – May 2024	Aug. 2023- May 2024 & Jan. 2024- Dec. 2024	Mar. 2024- May 2025	ALM/ Co-PI (██████████)
AL mentors will work with Residents to identify needs and plan, revise, and monitor instruction, ensuring effective delivery of required curriculum, differentiated instruction, and accessibility for all students (GaDOE, 2014). (Obj. 2a)  AL mentors will work with Residents to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessments to provide timely and accurate feedback and to inform future instructional practice (GaDOE, 2014) (Obj. 2b)	Mar. 2023 – May 2024	Aug. 2023- May 2024 & Jan. 2024- Dec. 2024	Mar. 2024- May 2025	ALM/ Co-PI (██████████)
Assess mentoring programing (Obj. 2a, 2b)	Dec. 2023	May 2024 & Dec. 2024	May 2025 & Dec. 2025	AB/DM/OE/PC
Use assessment results to make improvements (Obj. 2a, 2b)	Jan. 2024	June 2024	Jan. 2025	Co-PIs (all)/ALM
Mentors and potential teacher candidates matched. ETAC (Obj. 2d, 2e)	April 2023	April 2024	April 2025	DSD
Mentors and mentees participate in the PLC. ETAC (Obj. 3b)	Summer 2023 & ongoing	Summer 2024 & ongoing	Summer 2025 & ongoing	DSD

Mentors will work with ETAC candidates to identify needs and plan, revise, and monitor instruction, ensuring effective delivery of the required curriculum, differentiated instruction, and accessibility for all students (GaDOE, 2014). (Obj. 2d)	Summer 2023 & ongoing	Summer 2025 & ongoing	Summer 2025 & ongoing	DSM DSD
Mentors will work with ETAC candidates to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessments to provide timely and accurate feedback and to inform future instructional practice (GaDOE, 2014) (Obj. 2e)	Summer 2023 & ongoing	Summer 2025 & ongoing	Summer 2025 & ongoing	DSM DSD
Assess mentoring program for ETAC (Obj. 2d, 2e)	Dec. 2023	Aug. 2024	Jan. 2025	AB/DM/OE/PC
Use assessment results to make program improvements (Obj. 2a, 2b)	Jan. 2024	Sept. 2024	Feb. 2025	Co-PIs (all as needed) OE
<b>Goal 3 - Develop a Resident/Mentor PLC focusing on inquiring, sharing, and discussing situations, problems, and/or opportunities related to their teaching with a specific focus on holistic development, culturally relevant pedagogy, equitable discourse, and linguistic justice.</b>				
<b>Activity</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Responsible Party</b>
Residents and Mentors will engage in discourse around culturally responsive teaching, equity, justice, and inclusivity in the classroom, which builds an emotionally and physically safe, connected, and engaging classroom environment where all students are expected to reach their fullest potential. (Obj. 3a)	Mar. 2023 & ongoing		Mar. 2024 & ongoing	ALM/Co-PIs [REDACTED]
Residents and mentors will analyze individualized feedback to allow teachers to recognize racialized, gendered, or socio-economic participation patterns. (Obj. 3a)				
Residents and Mentors will engage in virtual synchronous and asynchronous professional learning modules related to linguistic justice, including (a) the history and present-day linguistic diversity of Georgia, (b) how to be a critical listener, (c) the role of language in teaching and assessment and (d) curricularizing linguistic justice for the elementary, middle, secondary, and P12 classroom using authentic examples and models of Georgia's linguistic diversity examples and models of Georgia's linguistic diversity to prepare teacher candidates to teach in		Aug. 2023 & ongoing	Jan. 2024 & ongoing	

diverse urban and rural Georgia contexts. (Obj. 3a)				
Create exchange Program (Obj. 3b)	Spring 2023	N/A	N/A	Co-PIs [REDACTED])
Participants will attend workshops with participants from other institutions prior to participating in exchange programs. (Obj. 3b)	Early Fall 2023	Early Fall 2024	Early Fall 2025	Co-PIs [REDACTED] CF/DSE
Participants will visit at least one other institution and participate in activities together (classes, field, etc.). (Obj. 3b)	Mercer Fall 2023 DSC Spring 2024	DSC	DSC	Co-PIs [REDACTED] CF/DSE
Participants will debrief after the exchange program with participants from at least one other institution. (Obj. 3b)	1 month after the visits Fall 2023 & Spring 2024	1 month after the visits Fall 2024 & Spring 2025	Nov. 2025 Dec. 2025	Co-PIs [REDACTED])/ CF/DSE
Assess Cultural Exchange Initiative (Obj. 3b)	Dec. 2023	May 2024 Dec. 2024	May 2025 Dec. 2025	AB/DM/OE/PC
Use assessment results to make program improvements (Obj. 3b)	Jan. 2024	June 2024 Jan. 2025	May 2025	Co-PIs [REDACTED] OE

Activity	Year 1	Year 2	Year 3	Responsible Party
Create Modules (Obj. 4a, 4b)	Oct. 2022- Feb. 2024	N/A	N/A	Co-PI [REDACTED]
Participants will have 8 computer science modules to complete. (Obj. 4a)	Cohort 1 Mar. 2022- May 2022	Cohort 2 Aug. 2023- May 2024 Cohort 3 Jan. 2024- Dec. 2024	Cohort 4 Mar. 2024-May 2025	Co-PI [REDACTED])

Participants will have interactive opportunities to reinforce learning, provide feedback, and foster continuous improvement. (Obj. 4 a)	Cohort 1 Mar. 2022- May 2022	Cohort 2 Aug. 2023- May 2024 Cohort 3 Jan. 2024- Dec. 2024	Cohort 4 Mar. 2024-May 2025	Co-PI [REDACTED]
Participants will have one Cybersecurity module to complete. (Obj. 4b)	Cohort 1 Mar. 2022- May 2022	Cohort 2 Aug. 2023- May 2024 Cohort 3 Jan. 2024- Dec. 2024	Cohort 4 Mar. 2024-May 2025	Co-PI [REDACTED]
Participants will have one Cybersecurity module to complete. (Obj. 4b)	Cohort 1 Mar. 2022- May 2022	Cohort 2 Aug. 2023- May 2024 Cohort 3 Jan. 2024- Dec. 2024	Cohort 4 Mar. 2024-May 2025	Co-PI [REDACTED]
Use Assessment results to make a program improvement (Obj. 4a,4b)	Dec. 2023	Dec. 2024	Dec. 2025	AB/DM/OE/PC

## D. Quality of the Project Evaluation

Directed by [REDACTED], who has over a decade of experience evaluating Teacher Quality Partnership programs, the evaluation team will conduct formative and summative assessments of GENERATE at multiple program points throughout each year. The effect of residency participants on student learning will be assessed using anchor action research (AAR) projects, which the Residents design and conduct within their placement classrooms. Further quantitative assessment will be based on data collected related to the SEED performance indicators and the performance indicators developed specifically for the goals of GENERATE. Finally, qualitative assessments will be used throughout to provide an in-depth understanding of the experiences of program participants at all levels.

### D.1. Produce Rigorous Evidence

GENERATE PLC's work plans build from the Knowledge Arts model (Perkins, 2004) and an AAR plan with Teacher-Intern-Professor (TIP) groups, providing a strong empirical research base for our model (Curlette, Hendrick, Ogletree, & Benson, 2014). TIP groups provide Residents an opportunity to develop hands-on teaching skills by working with a K-12 teacher, mentor teacher, and university professor on a unit of instruction.

The AAR study is a quasi-experimental study using a Resident's class (treatment) compared to a comparison class in the same school, which is matched on grade level, academic performance, subject, curriculum, ethnicity, and gender. Typically, the researcher uses propensity scores to establish a match for the comparison condition.

The comparison class uses the same curriculum prescribed by the state as the treatment class. The treatment and comparison classes use the same teacher-made pretest and post-test, which the TIP group constructs for both classes following the prescribed common curriculum (Curlette et al., 2014).

The AAR studies with TIP groups are anchored in three respects: (1) through common methodology, primarily quasi-experimental designs; (2) through a common overall construct, student achievement; and (3) through attention to participants' inquiry skills and data interpretation ability. The studies are then summarized with meta-analysis, which provides three advantages: a large sample size, increased generalizability of results because of various settings, and the ability to examine study characteristics as moderator variables. A previous study (Curlette et al., 2014) was very successful in summarizing TIP groups with AAR using meta-analysis, which resulted in an effect size of .387 that was statistically significant ( $p < .05$ ). The forest plot in the meta-analysis (Borenstein, Hedges, Higgins, & Rothstein, 2009), shows the results of 25 previous TIP with AAR studies, and is presented in Appendix G as evidence for the high likelihood of success for TIP with AAR in GENERATE. Recent meta-analyses all had statistically significant effect sizes, exceeding the target effect size of .20.

### **TIP Groups Related to PLC**

Using the AAR plan with TIP groups, the PLC members will create knowledge, communicate that knowledge, organize the knowledge, and act on their knowledge. In a cycle of continuous improvement, the PLC members will reflect on the previous cycle and continue to refine their work (see Change Model below). In fact, TIP groups meet the five essential characteristics of PLCs defined by Vescio, Ross, and Adams (2008), which are developing shared values, focusing

on student learning, engaging in reflective dialogue, making teaching public, and focusing on collaboration.

**GENERATE** adopts the Transtheoretical Model of Change (Figure 1) as our theory of change

by recognizing that learning takes place over

a series of developmental steps at all P-12

and university levels. For the sake of

brevity, we focus on four key aspects of the

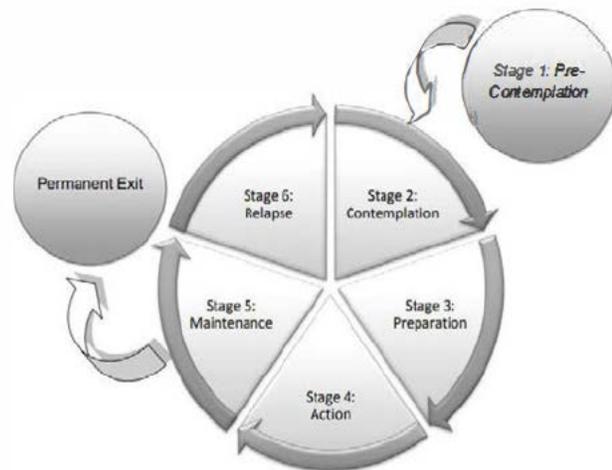
model: deepening knowledge (pre-

contemplation & contemplation) changing

values (preparation & action) and

developing skills to maintain change

(maintenance) (Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992).



**Prochaska & DiClemente's  
Six Stages of Change**

**Deepening Knowledge.** Through coursework, PD modules, and PLCs focused on individualized coaching and mentorship, **GENERATE** Residents will develop the knowledge of teaching, which will help improve the instruction of our nation's increasingly diverse learners.

**Changing Values.** Engaging in AAR may require changing teachers', school leaders', and Residents' values. The model of change recognizes and explicitly addresses barriers that shifting the values, habits, and dispositions of individuals often presents when engaging in new activities.

**Developing Skills.** Participation in PLCs will further build the candidates' teaching and learning skills while providing a renewal opportunity for mentor teachers.

**GENERATE** represents an exceptional approach to supporting high-need students and improving effectiveness in six innovative ways: (1) a strong PT, (2) a unique residency model, (3) a focus on high-need teaching areas in AAR with TIP, (4) an emphasis on developing a pipeline to teaching, (5) an integrated series of PLCs to support the adoption of diversity, equity, and inclusion, and (6) implementing a PD series that aligns with the GACE CS Assessment (GA. Comp. R 7 Regs. R. 505-3-.41, 2017) and prepare residents to teach Introduction to Cybersecurity (GaDOE, 2021).

## **D.2. Feedback and Periodic Assessment**

This residency model builds on research validated by previous residency models for teachers (Bohan & Many, 2011) and best practices in the literature for teacher residencies (e.g., Berry et al., 2008; Klein et al., 2013; Solomon, 2009). **GENERATE** residency provides candidates opportunities to apply their theoretical knowledge in the school's context, thereby providing contextualized, experiential learning that supports the development of highly effective teachers. Through ongoing, sustained collaboration within PLCs focused on developing teaching ability embedded within the schools (Hargreaves & Fullan, 2013), complementary supporting activities, and individualized mentoring and coaching (Browne-Ferrigno & Muth, 2004), the instructional capacities will improve as they support and develop teachers' practices, thus improving students' engagement and academic achievement. Professional learning communities (PLCs) are small learning communities dedicated to the collaborative analysis of teaching, learning, and assessment practices in the service of increased student achievement. They provide support for the successful induction and retention of new teachers and build a collaborative culture of continuous improvement focused on students' learning (Bryk, Sebring, Allensworth, &

Luppescu, 2010). Therefore, our residency model includes a series of PLCs that will improve the practice of the teacher residents through focused collaborations with others in their school, external experts, and university professors and coaches. Further, while the benefits of PLCs for practice are well established (Vescio et al., 2008; Voelkel & Chrispeels, 2017), PLCs can also improve candidates' instructional skills as they deliberately work to improve their respective practices. Through the cohort structure, teacher residents have opportunities to further develop strategies that foster diversity, equity, and inclusion. Teachers then share their successes, concerns, and questions with peers, program graduates, and mentor leaders and contribute to improving teaching and learning. Through multiple methods, we will examine student achievement, teacher retention, PLC membership, and collaboration between P-12 Partners.

Evaluation has been integrated into the programmatic activities to be an integral part of this project. The evaluation plan is thorough, feasible, and appropriate to the goals, objectives, and outcomes. We have chosen to use Stufflebeam's CIPP Model of Program Evaluation (Stufflebeam, 2000; Stufflebeam & Coryn, 2014) as the overall approach to the evaluation and a logic model (McLaughlin & Jordan, 2004). Within the context of the CIPP model, the evaluation team will use a mixed-methods approach, allowing us to meet multiple purposes and avoid trade-offs that we would otherwise be forced to decide upon, such as internal versus external validity. An overall logic model (See C1) has been developed to link the activities with the outcomes and to clarify relationships. A. U. S. Department of Education Evidence Form, showing how GENERATE is supported by studies demonstrating moderate evidence of effectiveness, is also provided in ED Evidence of Effectiveness.

### D.3. Quantitative and Qualitative Data

**Quantitative Evaluation Plan.** All the quantitative evaluations employ designs that are in line with the WWC standards through the use of matched comparison classrooms to treatment classrooms (quasi-experimental designs). Two strong features of the quantitative evaluation are the following: (1) the use of matched classrooms on curriculum, grade, ethnicity, and achievement level to evaluate student achievement using the TIP with ARR approach with a quasi-experimental design, and (2) the use of meta-analysis to accumulate results across AAR studies which increase the generalization of results.

**Qualitative Evaluation Plan.** Qualitative research focuses on the description, conceptual construction, and contextual factors concerning a situation, event, or lived experience.

GENERATE's qualitative approach (see Merriam, 2009) will include collecting data from various stakeholders to determine how they make meaning of their participation in the program and how they incorporate what they learn to the benefit, directly or indirectly, of school students.

Specifically, the residents, mentor teachers, and administrators in the treatment schools may be interviewed face-to-face, by phone, or using Internet communications. The data will be analyzed, and results will be produced for formative and summative reporting. Transferability "is the ability of the researcher (and user of the research results) to extend findings of a particular study beyond the specific individuals and settings in which that study" is conducted (Mertens, 2015, p. 319). To facilitate transferability, findings and reports of outcomes will include robust descriptions (Geertz, 1973) and ethically responsible transparencies so that potential audiences other institutions of higher education and other LEAs can evaluate the transferability of outcomes to their situations and assess how the components might improve outcomes for

children in their location.

## **Performance Data**

Descriptive information regarding the number of participants for each objective will be provided each year for the previous year by September 1. Data Analysis. In addition to the meta-analysis of AAR data, the data analyses will consist of analyses of variance and propensity score analysis for each year and accumulated over the years. The purpose of the meta-analysis is to provide a cumulative sample and increase the generalization of results.

Through analysis of variance, the classrooms and schools can examine the student achievement (classroom level). All statistical significance testing will be done with a conceptualized alpha of .05 or lower. Throughout the evaluation process, efforts will be made to minimize threats to validity (Shadish, Cook, & Campbell, 2002). Mediators. A mediator variable helps account for the relationships between a predictor variable and an outcome variable. In general, we will test for mediation (and moderation) through regression analyses for variables that may affect the relationship of key components on the outcomes. An example of mediation is when a variable is influenced by the predictor variable and, in turn, influences the outcome variable. This is slightly different from moderation (inter-action), in which an influence from the moderator variable affects the relationship between the predictor and outcome variable.

### **D.4. Relevant Outcomes**

**Performance Objectives:** The performance objectives and their data sources, indicators, targets, timeline, and facilitator (responsible party) are listed below, with SEED performance measures preceding GENERATE objectives. The SEED performance measures are specified in the grant

announcement, and the GENERATE objectives align with the goals (discussed earlier). For each objective and its associated activities, a performance measure has been specified so GENERATE will be accountable for the expenditure of grant funds, including partner cost-share and funds from other related sources. With the timeline and facilitator identified in these charts, this information contributes to the management plan regarding reporting data for all performance objectives. In all instances, IRB regulations will be followed.

**SEED Performance Indicators**

<b>Data Source</b>	<b>Indicator</b>	<b>Target</b>	<b>Timeline</b>	<b>Facilitator</b>
<b>GENERATE Participants &amp; school/class settings.</b>	SEED2. % of Participants who serve concentrations of high-need students and are highly effective.	80% of participants serve high-need students and are highly effective	% reported each year as of June 1 for the previous academic year	[REDACTED]
<b>GENERATE Participants &amp; school/class settings</b>	SEED 3. % of Participants who serve concentrations of high-need students are highly effective and serve at least 2 years.	80% of participants serve high-need students, are highly effective, and serve at least 2 years.	% reported each year as of June 1 for the previous academic year	[REDACTED]
<b>GENERATE Participants &amp; school/class settings</b>	SEED 4. Cost of GENERATE Participants.	The total cost of the project divided by the number of GENERATE participants meeting the first three SEED indicators.	Reported at the close of the project.	[REDACTED]
<b>GENERATE Participants &amp; school/class settings</b>	SEED5. The evaluation design meets WWC standards with reservations.	The Quasi-experimental plan establishes attrition rate, baseline equivalency comparison and treatment, and matching variables.	Oct. 1 for the previous academic year	[REDACTED]

**SEED Indicator Performance Measure 1: High-need schools.** The percentage of GENERATE participants serving concentrations of high-need students. The plan for the residency program meets these requirements, as discussed previously. Careful monitoring and placement of students in the residency by faculty advisors will help meet this objective.

GENERATE participants are typically placed in high-need classrooms and schools where FRL rates are  $\geq 60\%$  and are proxy indicators of poverty rates.

*SEED Indicator Performance Measure 2: Highly Effective.* The percentage of GENERATE participants serving high-need students and are highly effective. A highly effective participant is measured by the supervising faculty and mentor feedback on their teaching performance. SEED Indicator Performance

*Measure 3: Two-year service.* The percentage of GENERATE participants who serve high-need students are highly effective, and complete at least 2 years of service in a high-need school.

*SEED Indicator Performance Measure 4: Cost of the participant.* The cost of the GENERATE participants is calculated by dividing the total GENERATE cost by the number of participants meeting the indicators (high-need students, highly effective, and at least 2 years of service) in GENERATE. Since this is a total cost indicator, it will be assessed at the end for the total number of participants meeting the criteria.

*SEED Indicator Performance Measure 5: Meets WWC Standards with reservations.* The quasi-experimental design uses a comparison group matched on age, subject, general curriculum, size, ethnicity, gender, and academic performance. The difference in baseline effect size calculations between the treatment and comparison groups will be  $< .05$  or  $.05$  to  $.25$ . In the case the ES is  $.05$  to  $.25$ , a statistical adjustment using analysis of covariance will be employed. The attrition rate is expected to be less than 5% overall, and propensity matching without replacement will be used to establish the groups.

**GENERATE Project Objectives with Indicators** The following objectives are unique to **GENERATE**. The **GENERATE** performance objectives with indicators and targets for performance provide data to indicate whether objectives are being met, providing project accountability.

These results support formative evaluation and provide observable data to indicate the degree of the overall success of **GENERATE** at a particular time during implementation. Some performance indicators describe if the activity actually occurred, and other objectives are concerned with the effectiveness or quality of the activity. Taken together, this information contributes to assessing the worth of **GENERATE**.

**Goals**

<b>Goal 1: Increase and diversify the number of highly-qualified educators in high-needs content areas within high-needs LEAs.</b>				
<b>Data Source</b>	<b>Indicator</b>	<b>Target for Indicator</b>	<b>Timeline</b>	<b>Facilitator</b>
MERCER professor in charge of Residency Program	<u>Obj. 1a</u> : Recruit students from HSI's, HBCUs, and other MSIs to become Residents.	50 participants in the Residency program each year	Sept. 1 & Feb. 1 each year for reports of enrollment	██████████
MERCER professors in charge of the Residency Program	<u>Obj. 1b</u> : Provide a Residency program to support the career changers in meeting state requirements to become certified teachers while obtaining a Master's degree.	90% completion rate of the Residency program each year	Sept. 1 & Feb. 1 each year for reports of enrollment	██████████
Pre and Post-Test scores of AAR GENERATE	<u>Obj. 1b</u> . Hedge's g mean difference effect size for comparing GENERATE Project scores with	Standardized mean difference effect size of .2	Report Feb	

Project & comparison classes	comparison group scores.	in favor of the <b>GENERATE</b> Project classrooms	1 annually	<b>E</b>
Director of ETAC programs, ETAC staff & participants, status reports	<u>Obj. 1c.</u> Strengthen the Teacher Pipeline by recruiting and supporting potential education students through an Exploring Teaching as a Career (ETAC) Academy.	Description of successes and challenges in implementing ETAC programs.	Three reports annually	

<b>Goal 2: Establish a mentoring and induction program that effectively empowers educators and leaders to contribute to P-12 student-learning growth.</b>				
<b>Data Source</b>	<b>Indicator</b>	<b>Target for Indicator</b>	<b>Timeline</b>	<b>Facilitator</b>
Director of Mentoring programs, staff & participants, status reports	<u>Obj. 2a.</u> Support Residency candidates through a mentoring program that requires the Aspiring Leader (AL) Mentors to work with Residents to identify needs and plan, revise, and monitor instruction; ensuring effective delivery of required curriculum, differentiated instruction, and accessibility for all students (GaDOE, 2014)	Maximum of 170 total through year 3 as stated in proposal	Sept. 1 each year	<b>E</b>

<p>Director of Mentoring programs, staff &amp; participants, status reports</p>	<p><b>Obj. 2b. Support Residency candidates through a mentoring program that requires AL Mentors to work with Residents to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessment to provide timely and accurate feedback and to inform future instructional practice (GaDOE, 2014).</b></p>	<p>Maximum of 170 total through year 3 as stated in proposal</p>	<p>Sept. 1 each year</p>	
<p>Director of Mentoring programs, staff &amp; participants, status reports</p>	<p><b>Obj. 2c. Implement a three-year comprehensive and sustainable mentoring and induction program to enhance the Residents' effectiveness in the classroom.</b></p>	<p>Qualitative report</p>	<p>Sept. 1 each year</p>	 
<p>Director of ETAC programs, staff &amp; participants,</p>	<p><b>Obj. 2d. Support ETAC candidates through a mentoring program that requires the mentors to work with Candidates to identify needs and to plan, revise, and monitor instruction; ensuring effective delivery of the required curriculum, differentiated instruction, and</b></p>	<p>Maximum of 60 total through year 3 as stated in</p>	<p>Sept. 1 each</p>	

status reports	accessibility for all students (GaDOE, 2014).	proposal	year	
Director of ETAC programs, staff & participants, status reports	<b>Obj. 2e. Support ETAC candidates through a mentoring program. The mentors work with Candidates to plan, design, monitor, and evaluate the use of diagnostic, formative, and summative assessment to provide timely and accurate feedback and inform future instructional practice (GaDOE, 2014).</b>	Maximum of 60 total through year 3 as stated in proposal	Sept. 1 each year	

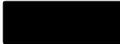
**Goal 3: Develop PLC that focuses on inquiring, sharing, and discussing situations, problems, and/or opportunities related to their teaching with a specific focus on holistic development, culturally relevant pedagogy, equitable discourse, and linguistic justice.**

Data Source	Indicator	Target for Indicator	Timeline	Facilitator
Director of PLC programs, staff & participants, status reports	<b>Obj. 3a. Provide PLC's for Residents and mentor teachers focusing on holistic development, CRP, equitable discourse, and linguistic justice.</b>	Positive perceptions of culturally responsive teaching, equitable discourse, and linguistic justice within residency program components	Report available by August 1 <sup>st</sup> each year	

Director of CEI programs, staff & participants, Status reports	<u>Obj. 3b.</u> Provide a cultural exchange initiative (CEI) for ETAC candidates to prepare them to work with peers, families, students, and administrators of diverse backgrounds between two or more diverse institutions.	Positive perceptions of cultural exchange initiative (CEI) by ETAC participants	Report available by August 1 <sup>st</sup> each year	[Redacted]
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**Goal 4: Implement a professional development series that aligns with the GACE (Georgia Assessments for the Certification of Educators) Computer Science Assessment (Ga. Comp. R. & Regs. R. 505-3-.41, 2017) and prepare Residents to teach Introduction to Cybersecurity (GaDOE, 2021).**

DataSource	Indicator	Target for Indicator	Timeline	Facilitator
Director of Computer Science programs, staff & participants, Status reports	<u>Obj. 4a.</u> Provide training for Residents so they will be prepared to meet the eight <u>Computer Science Standards.</u>	80% of participants will meet all eight computer science standards.	Aug report annually	[Redacted]

Director of Computer Science programs, staff & participants, Status reports	<a href="#">Obj. 4b. Provide training for Residents so they will be prepared to meet the eight Computer Science Standards.</a>	80% of Residents will be prepared to teach Cyber security.	Aug report annually	
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### D.5. Project Replication

The dissemination is comprehensive (see B4), beginning with local communities and expanding to international consortiums.

University dissemination will focus on Department and College websites and University communications. Statewide dissemination will focus on the GA Educational Research Association and appropriate educational journals.

National dissemination will include presentations at the American Education Research Association (AERA) annual conferences and the publication of student and faculty research in peer-reviewed journals. Through the detailed information about GENERATE in this application, the evaluation process, and the comprehensive dissemination, GENERATE provides information about replication of the study and the effectiveness of analyses with the project.