

# Leveraging PDS teacher preparation grants: a majority–minority research university’s approach to increasing the diverse teacher pipeline

Joseph R. Feinberg

*Department of Middle and Secondary Education, Georgia State University,  
Atlanta, Georgia, USA, and*

Yasmine Bey

*University of Louisville, Louisville, Kentucky, USA*

## Abstract

**Purpose** – A primary goal of the Collaboration and Resources for Encouraging and Supporting Transformations in Education (CREST-Ed) program was to increase the number of highly qualified, minoritized teachers committed to teaching in minority-serving, high-need school districts. This study’s purpose was to evaluate the CREST-Ed program’s impact on teacher residency outcomes using multiple sources of program evaluation data collected during the five-year grant.

**Design/methodology/approach** – This study of a federal Teacher Quality Partnership (TQP) grant at Georgia State University (GSU), a minority-serving institution (MSI) and research university, shows teacher residency programs can improve the diverse teacher pipeline. The grant, CREST-Ed, provided professional development schools (PDS) support for four urban and 23 rural school districts through partnerships with GSU, Albany State University (ASU) and Columbus State University (CSU).

**Findings** – The study findings suggest that teacher preparation grants can be leveraged to recruit traditionally minoritized teachers of color to increase the diverse teacher pipeline and strengthen PDS partnerships.

**Originality/value** – Both urban and rural PDSs could benefit from teacher residency programs like the CREST-Ed model that catered to the unique needs of each school and partnership district.

**Keywords** Minoritized teachers, Professional development schools, Student teaching, Teacher recruitment, Teacher residency, Teacher preparation, Teacher shortage

**Paper type** Research paper

---

© Joseph R. Feinberg and Yasmine Bey. Published in *School-University Partnerships*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

This inquiry was supported by the US DOE Teacher Quality Enhancement Grants for States and Partnerships Program: CREST-Ed: Collaborations and Resources for Encouraging and Supporting Transformation in Education [grant number U336S140036].

*NAPDS nine essentials addressed:* (1) A comprehensive, articulated mission that is broader than the goals of any single partner and that aims to advance equity, antiracism and social justice within and among schools, colleges/universities and their respective community and professional partners. (2) A school–university culture committed to the preparation of future educators that embraces their active engagement in the school community. (3) A context for continuous professional learning and leading for all participants, guided by need and a spirit and practice of inquiry.



---

## Introduction

This study was situated in Georgia where there were pronounced teacher shortages in high-demand subject areas including math, science, special education and English as a second language (ESOL). During the 2019-20 school years, the total enrollment for both traditional and alternative teacher preparation programs in Georgia was 11,714 (United States Department of Education, 2019). However, the total number of program completers for all programs in Georgia during the same year was only 3,807 (United States Department of Education, 2019). In the same year, even fewer teachers completed programs in critical high-need subject areas: middle and secondary math (365), science (299), special education (759) and only (17) in ESOL (United States Department of Education, 2019). There is a need to increase teacher preparation program completion rates and to recruit quality candidates to fill high-demand subject areas throughout the state.

There is also a need for certified math and science teachers in high-minoritized and high-poverty school districts. The National Science Foundation reported that high-minoritized and high-poverty school districts have less fully certified math and science teachers than more privileged schools throughout the nation (National Science Board, 2016). In low-poverty and low-minoritized schools, 95% of math and science teachers were fully certified (National Science Board, 2016). In contrast, in high-minoritized schools 91% of science teachers and 88% of math teachers were certified in those subjects (National Science Board, 2016). The results are staggering when contrasting the shortage of high-quality certified teachers in critical subject areas relative to the number of teacher vacancies. The Georgia Professional Standards Commission published in its most recent report in 2015 that 44% of public school teachers in the state leave within their first five years of employment (Owens, 2015). The Georgia Department of Education released a groundbreaking survey, asking over 50,000 Georgia educators to explore the reasons for high teacher attrition. The survey respondents cited inadequate levels of teacher preparation when entering the profession and a lack of ongoing professional learning (Owens, 2015).

Inadequate teacher preparation programs and high teacher attrition rates can also impede school and district improvement efforts (Ronfeldt, Loeb, & Wyckoff, 2013). Districts are left with the financial burden of high teacher attrition rates and low student achievement (Ronfeldt *et al.*, 2013; Guha, Hyler, & Darling-Hammond, 2016). Teachers who graduate from inadequate teacher preparation programs leave after their first year “at more than twice the rate” of teachers who graduate with more rigorous preparation and student-teaching (Guha *et al.*, 2016, p. i). Additionally, graduates of teacher preparation programs that do not offer mentoring or support during the first years of employment often leave the teaching field “at much higher rates than those whose school or district provides such support” (Ingersoll & Strong, 2011; Guha, Hyler, & Darling-Hammond, 2017, p. 31). Consequently, students suffer from high teacher attrition rates, which often result in a “revolving door” of teachers over the course of their school careers (Podolsky, Kini, Bishop, & Darling-Hammond, 2016; Guha *et al.*, 2017, p. 31). This revolving door of inadequately prepared teachers can contribute to widening achievement gaps, especially for minoritized students (Ronfeldt *et al.*, 2013; Podolsky *et al.*, 2016; Guha *et al.*, 2017, p. 31).

## A promising solution to increase the pipeline of new teachers

Although the demand for teachers increases, shortages of teachers remain in high-needs school districts, primarily in the subject areas of mathematics, science, special education, and ESOL. Therefore, the federal government created the Teacher Quality Partnership (TQP) grants program in 2008, which has provided \$900 m for teacher preparation programs that prepare teachers to succeed in high-need, high-poverty school districts and support them during their first years of teaching (American Association of Colleges for Teacher Education [AACTE], 2009; Gillam, 2019). This study highlights how one TQP grant, Collaboration and Resources for

Encouraging and Supporting Transformations in Education (CREST-Ed), worked toward reducing teaching shortages in high-need subject areas. In partnership with local school districts and multiple universities in Georgia, the CREST-Ed program was designed to meet the critical subject matter needs of local school districts in urban and rural Georgia.

Teacher residency programs, such as the CREST-Ed residency, can help to improve teacher retention in hard-to-staff, urban and rural school districts, increase the number of minoritized teachers and produce more prepared teachers. Empirical studies show teacher residency programs help to increase the number of minoritized teachers (Guha *et al.*, 2016; Papay, West, Fullerton, & Kane, 2012). The San Francisco Teacher Residency Program (SFTR) enrolled 66% of minoritized teachers, compared with 49% within their school district (Guha *et al.*, 2016). The Boston Teacher Residency Program (BTR) recruited candidates for secondary math, science, special education and ESOL, while attracting racially and ethnically diverse teachers (Gillam, 2019; Papay *et al.*, 2012). A seminal study found that BTR residents were more likely to be Asian or Latinx, rather than non-minoritized (Papay *et al.*, 2012; Guha *et al.*, 2016). Empirical evidence also suggests that minoritized teachers stay in high-need, low-income and hard-to-staff school districts longer than non-minoritized teachers, thereby reducing teacher attrition and turnover (Villegas & Lucas, 2005).

The preceding information suggests a link between teacher residency programs, an increased number of minoritized teachers and lower teacher attrition rates. Teacher residency programs have been traditionally grounded in the idea that teachers who are prepared in specific urban and rural contexts do better than those who receive less specific training (Gillam, 2019). Moreover, a longitudinal study showed that teacher preparation programs that target teaching in a particular setting, such as urban or rural, have longer teacher retention than graduates from less specific programs (Feiman-Nemser, Tamir, & Hammerness, 2014; Hammerness, Williamson, & Kosnick, 2016). The CREST-Ed program sought to accomplish important goals of increasing the number of minoritized teachers through high quality and relevant training in urban and rural settings and improving teacher retention rates.

### **Collaboration and Resources for Encouraging and Supporting Transformations in Education (CREST-Ed)**

The CREST-Ed program originated at Georgia State University (GSU), which was founded in 1913 and evolved from a night school and then a business school to the current research university. In 2016, the University System of Georgia consolidated Perimeter College with Georgia State University, making GSU the largest higher education institution in the state (History, 2016) and a minority-serving institution (MSI) [1]. Currently, GSU is among the top ten universities in the nation which serve a “majority–minority” student population with a 0.73 diversity index (Moody, 2021). The diversity index is based on the Fall 2020 undergraduate student enrollment and ranges from 0 to 1 to distinguish the most diverse universities. In Fall 2020, GSU student enrollment was the following: 38% African American, 25% White, 13% Asian, 12% Hispanic, 6% two or more races, 5% nonresident-alien and 1% Race/Ethnicity Unknown (Integrated Postsecondary Education Data Center [IPEDS], 2021).

### **Teacher residency programs**

Teacher residency programs such as those offered by the CREST-Ed program help to address the preceding challenges faced by high-need, high-minoritized and high-poverty school districts. The CREST-Ed program was a Department of Education, TQP grant that recruited, prepared and retained diverse teacher candidates in urban and rural communities

---

throughout Georgia. The mission of the CREST-Ed program was to increase the number of highly qualified and diverse teachers who are committed to social justice and teaching in high-need schools in the following critical shortage areas: middle and secondary math and science, special education and ESOL. The teacher residency component of the program provided an evidence-based approach to improve teacher preparation and retention. The CREST-Ed program offered a comprehensive induction and mentorship program, enhanced professional development school (PDS) partnerships and provided a menu of support services to the partnering urban and rural school districts.

In a detailed case study of the CREST-Ed teacher residents, [Curlette \(2018\)](#) found the year-long teacher residency, mentorship support and an Anchor Action Research (AAR) project combined to enhance student achievement at the classroom level. AAR involved teacher residents to work through a Teacher-Intern-Professor (TIP) model to conduct quasi-experimental research projects in their teaching practice. TIP groups provided the intern or teacher resident with direct support, with a university faculty member and a classroom mentor teacher directing the intern's research efforts. "AAR projects are anchored (1) through commonalities among the studies in methodology, primarily quasi-experimental design and (2) through the use of general construct underlying the outcome measures (which for education is typically defined as student academic achievement outcome variables)" ([Curlette, 2018](#), p. vii). The TIP model was designed by the CREST-Ed program to support teacher residents with developing action research skills and to improve classroom practice.

[Curlette \(2018\)](#) concluded that the TIP model provides an authentic teaching experience for the teacher residents. The school leaders interviewed in Curlette's research regularly commented about the authenticity of the residency program in preparing teachers. AAR studies implemented by the teacher residents "prepared the residents to teach at least as well as a certified teacher of at least three years of experience while requiring less supervision from the mentor teacher" (p. 94). Moreover, the CREST-Ed teacher residents developed self-assurance from their full-year embedded teaching experience at the same K-12 PDS ([Curlette, 2018](#)). The self-assurance gained by teacher residents from their full-year experience becomes invaluable when they become teachers of record.

### **Purpose of study**

This study has two purposes: (1) to examine how the CREST-Ed teacher residency program utilized a federal grant to increase minoritized teachers in high-need school districts and (2) to examine how the CREST-Ed grant addressed teacher shortages. The CREST-Ed program is an example of how grants can be leveraged to enhance school-university partnerships and provide high-need schools with highly qualified minoritized teachers. Both urban and rural PDSs could benefit from teacher residency programs like the CREST-Ed model that catered to the unique needs of each school and partnership district.

### **Data collection and analysis**

The data collection for this CREST-Ed study used multiple sources of program evaluation data from the CREST-Ed teacher residency program. According to [Stufflebeam \(2000\)](#), the CIPP model organizes program evaluation via four evaluations to form the acronym: context evaluation, input evaluation, process evaluation (formative) and product evaluation (summative). Within the CIPP model, multiple sources of program evaluation data were used for this study. This study provided data on the overall success of the CREST-Ed program with a specific focus on the diversity of the teacher residents, their graduation rates and employment retention rates.

**Minoritized partnership school districts**

The CREST-Ed program partnered with minoritized school districts during the five years of the grant from 2015 to 2020. Four urban school districts partnered with Georgia State University. In addition, 23 rural school districts partnered with the rural universities (19 with CSU and four with ASU) for the CREST-Ed program. This study focused on the CREST-Ed program at Georgia State University and the four urban and minoritized partnership school districts, which included Atlanta Public Schools, Clayton County Public Schools, DeKalb County School District and Fulton County School System.

Within the four partnership school districts, the specific schools for the CREST-Ed grant included four elementary schools, five middle schools and five high schools. Below is a table of the schools in each school district and the percentage of minoritized students for the 2018 school year, which is the earliest readily-available data within the College and Career Ready Performance Index (CCRPI). For comparison purposes, the percentage of minoritized students within the state of Georgia during the 2018 school year was 61.66%, according to the CCRPI (CCRPI, 2018).

This Table 1 shows that each of the partnership schools had a percentage of minoritized students at 90% or above according to the CCRPI in 2018, unless otherwise noted. Sylvan Hills Middle School and Allgood Elementary School were not within the CCRPI, and 2022 data were used for these schools.

**CREST-Ed teacher residency program recruitment and outcomes**

Teacher residents were primarily recruited through candidates applying for the Master of Arts in Teaching (MAT) programs in either special education, middle level math/science, secondary level math/science and/or Teaching English as a ESOL concentrations. These areas reflect the high need/shortage areas that were prevalent within the PDS partnership school districts for the grant and requested by the school districts. Some specific criteria for candidates included (but were not limited to) career changers, people with experience in STEM areas and applicants from underrepresented or minoritized backgrounds.

The CREST-Ed teacher residency program enrolled 84 total residents for the five years of the grant from 2015 to 2020, with 71 residents completing their programs within the three

School district	Partnership schools	% minority students
Atlanta Public Schools	Continental Colony Elementary School	100.00
	Sylvan Hills Middle School	99.80 <sup>1</sup>
	Booker T. Washington High School	99.98
DeKalb County School District	Allgood Elementary School	99.00 <sup>2</sup>
	Columbia Elementary School	99.70
	Tucker Middle School	90.00
	Freedom Middle School	95.40
	Salem Middle School	99.10
	Clarkston High School	98.60
	Towers High School	
Fulton County Schools	Camp Creek Middle School	98.90
	Langston Hughes High School	99.5
	Parklane Elementary School	98.00
Clayton County Public Schools	Morrow High School	98.30

**Table 1.** Partnership schools, percentage of minoritized students

**Note(s):** <sup>1</sup><https://www.schooldigger.com/go/GA/schools/0012000058/school.aspx> (2022)

<sup>2</sup><https://www.publicschoolreview.com/allgood-elementary-school-profile> (2022)

**Source(s):** CCRPI (2018)

partnership universities: Georgia State University, Albany State University and Columbus State University. The evaluation data shows that 100% of the program completers served at high-need schools as defined by the federal government. The CREST-Ed teacher residency also successfully enrolled 67 teacher residents of the 84 throughout the five years of the grant from underrepresented or minoritized groups (See Table 2). Thus, 80% of the teacher residents represented minoritized populations to serve minoritized children at high-need and high-poverty schools.

Not only did the CREST-Ed teacher residents frequently shared cultural and racial backgrounds with the students they taught but also they were successful in becoming licensed teachers in high-need content areas, with 85% completing the teacher residency program with a master degree, passed state assessments and obtained state certification/licensure. Moreover, 90% (64 of 71) of these highly qualified, minoritized teachers were retained in teaching within the partnership high-need and high-poverty school district for at least three years after initial employment.

### Challenges

Although the overall effort of the CREST-Ed grant was successful, there were several challenges with recruiting traditionally minoritized teacher candidates. First, the CREST-Ed grant did not have resources for advertising or marketing the program, so recruitment relied heavily on website information and word of mouth. Second, local school districts were hiring GSU preservice, MAT candidates with provisional teaching credentials to fill teaching shortage areas. The provisional teacher salary is much more than the stipend provided by the CREST-Ed teacher residency program, and the teacher residents were not teachers of record. Therefore, some adjustments to the residency program included enhancing the package provided for the teacher residents, such as including tuition waivers to further incentivize the program to applicants. Due to previous PDS focused grants, the partnering school districts and universities worked together for over 10 years to establish trust and strong collaborative relationships. In all operations and communications, the CREST-Ed grant leaders and district coordinators were proactive in keeping the partners involved and actively participating in the grant activities.

Although this study focused on the CREST-Ed teacher residency program, other aspects of this innovative partnership grant included a co-created menu of support services (as previously noted) for the urban and rural PDS partners. The comprehensive menu of services included Cross Career Learning Communities (CCLC) to help solve dilemmas in practice, bullying education, project-based learning, wellness and a whole child initiative and practitioner learning communities. The partnership districts used the menu to select and tailor initiatives that best fit the needs of the PDS stakeholders.

Even though most partnership schools were eager to participate in the menu of services and join the CREST-Ed program, challenges included providing sufficient teacher residents to meet the requests of the schools. In addition, some of the partnership schools needed extra support and visits to learn about the PDS network and the benefits of becoming PDS

GPRA Indicator	Number of graduates	Total graduates	Percentage (%)
Represent minoritized populations	67	84	80
Initial certification	71	84	85
Employment retention	64	71	90

Source(s): Created by authors

**Table 2.**  
Teacher quality partnership indicators

---

partners. The four urban partnership school districts are exceptionally large and when combined serve approximately a quarter of a million children each year. Fortunately, GSU and the partnership districts had a rich history and positive PDS reputation that enhanced the collaborative effort to offer high quality professional development and/or instruction for in-service, preservice and future teachers in the partnership. Overall, the TQP grants, such as the CREST-Ed program through GSU, positively enhanced and sustained numerous instructional and academic improvements and strengthened the PDS partnerships.

### Future research

The COVID-19 pandemic limited the CREST-Ed data collection efforts for the last couple of years of the grant and additional research should continue to follow the teacher residents and determine their long-term retention rates beyond three years. Another important consideration for future research would be to determine the amount of a livable wage or stipend for teacher residents. As previously noted, the CREST-Ed compensation was not sufficient to compete with provisional teachers' salaries. This information would be useful for subsequent teacher residency grant programs.

### Conclusion

The success of the CREST-Ed teacher residency grant demonstrates the efficacy of the teaching residency model, which could support statewide reforms in teacher preparation across the country. The TQP grants program continues to offer this type of funding for institutions interested in building PDS networks and alleviating the shortages of highly qualified teachers from minoritized backgrounds in high-need schools and districts. As previously summarized, teacher shortages in Georgia and across the country are exacerbated within high-poverty and high-minoritized schools that have fewer certified teachers and higher rates of turnover. Building on the successes of the San Francisco Teacher Residency Program and the Boston Teacher Residency Program (Gillam, 2019; Guha *et al.*, 2016; Papay *et al.*, 2012), the CREST-Ed teacher residents represented predominately minoritized populations and remained longer in high-need, low-income and hard-to-staff school districts which reduces teacher attrition (Villegas & Lucas, 2005). In addition, the CREST-Ed teacher residents were prepared as certified teachers with three years of experience, and they required less supervision when employed as the teacher of record (Curlette, 2018). Curlette (2018) also concluded that CREST-Ed teacher residents developed self-assurance from their full-year PDS embedded teaching experience that helps them succeed as teachers of record. The CREST-Ed teacher residency grant reflects a successful path for high-need schools to have highly qualified minoritized teachers who remain in the schools. These findings reinforce the purpose of teacher residency programs to closely partner with PDSs and school districts to meet their mutual needs while leveraging relevant grants to sustain and grow the PDS networks.

### Note

1. Minority-serving institution (MSI) is the language used by universities.

### References

- All Good Elementary. (2022). Public school review. Available from: <https://www.publicschoolreview.com/allgood-elementary-school-profile>

- American Association of Colleges for Teacher Education. (2009). Teacher quality partnership grant. Available from: <http://aacte.org/index.php?/Grants/GovernmentGrants/teacher-quality-partnershipgrants.html>
- College and Career Ready Performance Index (CCPRI). (2018). Georgia department of education. Available from: [http://ccrpi.gadoe.org/Reports/Views/Shared/\\_Layout.html](http://ccrpi.gadoe.org/Reports/Views/Shared/_Layout.html)
- Curlette, D. (2018). An anchor action research study on student achievement utilizing the teacher intern professor model, (Doctoral dissertation). doi: [10.57709/12039555](https://doi.org/10.57709/12039555).
- Feiman-Nemser, S., Tamir, E., & Hammerness, K. (2014). *Inspiring teaching: Context-specific teacher education for the 21st century*. Cambridge, MA: Harvard Education Press.
- Gillam, G. A. (2019). Teaching residency programs as a new pathway to teacher preparation for high-needs schools. (Doctoral dissertation).
- Guha, R., Hyler, M., & Darling-Hammond, L. (2016). *The teacher residency: An innovative model for preparing teachers*. The Learning Policy Institute.
- Guha, R., Hyler, M., & Darling-Hammond, L. (2017). The teacher residency: A practical path to recruitment and retention. *American Educator*, *41*(1), 31.
- Hammerness, K., Williamson, P., & Kosnick, C. (2016). Introduction to the special issue on urban teacher residencies: The trouble with 'generic' teacher education. *Urban Education*, *51*(10), 1155–1169.
- History (2016). Perimeter college. Available from: <https://perimeter.gsu.edu/about-perimeter-college/history/#:~:text=Its%202016%20consolidation%20with%20Georgia,DeKalb%20County%20Board%20of%20Education>
- Ingersoll, R., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Education Research*, *81*(2), 201–233. doi: [10.3102/0034654311403323](https://doi.org/10.3102/0034654311403323).
- Integrated Postsecondary Education Data System (2021). *National center for education statistics, a part of the*. U.S. Department of Education. Available from: <https://nces.ed.gov/ipeds/datacenter/institutionprofile.aspx?unitId=139940&goToReportId=6>
- Moody, J. (2021). *See the most diverse national universities*. U.S News & World Report. Available from: <https://www.usnews.com/education/best-colleges/slideshows/see-the-most-diverse-national-universities?slide=2>
- National Science Board. (2016). *Science and engineering Indicators 2016*. National Science Foundation. Available from: <https://www.nsf.gov/statistics/2016/nsb20161/#/report/chapter-1/teachers-of-mathematics-and-science>
- Owens, S. J. (2015). *Georgia's teacher dropout crisis: A look at why nearly half of Georgia public school teachers are leaving the profession*. Georgia Department of Education. Available from: <https://www.gadoe.org/External-Affairs-and-Policy/communications/Documents/Teacher%20Survey%20Results.pdf>
- Papay, J. P., West, M. R., Fullerton, J. B., & Kane, T. J. (2012). Does an urban teacher residency increase student achievement? Early evidence from Boston. *Educational Evaluation and Policy Analysis*, *34*(4), 413–434.
- Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the teacher shortage: How to attract and retain excellent educators*. Learning Policy Institute.
- Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, *50*(1), 4–36.
- Stufflebeam, D. L. (2000). The CIPP model for evaluation. In D. L. Stufflebeam, G. F. Madaus, & T. Kellaghan (Eds.), *Evaluation Models: Viewpoints on Educational And Human Services Evaluation*. Boston, MA: Kluwer Academic.
- Sylvan Hills Middle School. (2022). School digger. Available from: <https://www.schooldigger.com/go/GA/schools/0012000058/school.aspx>



United States Department of Education. (2019). 2019 Georgia state report [dataset]. 2019 title II data reports, national teacher preparation data. Available from: [https://title2.ed.gov/Public/Report/DataFiles/DataFiles.aspx?p=5\\_01](https://title2.ed.gov/Public/Report/DataFiles/DataFiles.aspx?p=5_01)

Villegas, A. M., & Lucas, T. F. (2005). Diversifying the teacher workforce: A retrospective and prospective analysis. *Yearbook of the National Society for the Study of Education*, 103(1), 70–104. doi: [10.1111/j.1744-7984.2004.tb00031.x](https://doi.org/10.1111/j.1744-7984.2004.tb00031.x).

**Corresponding author**

Joseph R. Feinberg can be contacted at: [jfeinberg@gsu.edu](mailto:jfeinberg@gsu.edu)

---

For instructions on how to order reprints of this article, please visit our website:

[www.emeraldgroupublishing.com/licensing/reprints.htm](http://www.emeraldgroupublishing.com/licensing/reprints.htm)

Or contact us for further details: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)