VIRGINIA DEPARTMENT OF EDUCATION
VIRGINIA IS FOR LEARNERS

Office of the Superintendent of Public Instruction
James F. Lane, Ed. D.

November 1, 2021

The Honorable Janet D. Howell
Chair, Senate Finance Committee
Virginia General Assembly
P.O. Box 2608
Reston, Virginia 20195-0608

The Honorable Luke E. Torian
Chair, House Appropriations Committee
Virginia General Assembly
4222 Fortuna Plaza
Suite 659
Dumfries, Virginia 22025

Dear Senator Howell and Delegate Torian:

I am pleased to submit the enclosed Report on Teacher Residency Partnership Grants, 2020-2021. Item 144, Q., of the 2020 Appropriation Act (Chapter 854) directs the Department of Education to issue grants for teacher residency partnerships between university teacher preparation programs and the Petersburg, Norfolk, and Richmond City school divisions and any other university teacher preparation programs and hard-to-staff school divisions to help improve new teacher training and retention for hard- to-staff schools. The Department of Education consolidates all reports from the participating university partners and school divisions and submits an annual report to the Chairs of the House Appropriations and Senate Finance Committees.

If you have any questions or require additional information, please do not hesitate to contact Joan B. Johnson, Assistant Superintendent for Teacher Education and Licensure, at Joan.Johnson@doe.virginia.gov, or (804) 371-2522.

Sincerely,

James F. Lane

Enclosure

c: The Honorable Atif Qarni, Secretary of Education

REPORT ON TEACHER RESIDENCY PARTNERSHIP

GRANTS 2020-2022
November 1, 2021

OVERVIEW:

The General Assembly appropriated fiscal year 2021 state funding for a teacher residency partnership between university teacher preparation programs in Virginia and the Petersburg, Norfolk, and Richmond City school divisions and any other university teacher preparation programs and hard-to-staff school divisions to help improve new teacher training and retention for hard-to-staff schools. Virginia public institutions of higher education with teacher preparation programs may apply for the grant funds. A public institution of higher education may partner with a teacher preparation program in a private institution of higher education, following necessary grant-making or procurement processes.

The language from the 2020 Appropriation Act, Item 144 is as follows:

Teacher Residency

Chapter 1289, Item 144, Q., of the Appropriation Act states:

Q. Out of this appropriation, $1,750,000 the first year and $1,750,000 the second year from the general fund is provided for grants for teacher residency partnerships between university teacher preparation programs and the Petersburg, Norfolk, and Richmond City school divisions and any other university teacher preparation programs and hard-to-staff school divisions to help improve new teacher training and retention for hard-to-staff schools. The grants will support a site- specific residency model program for preparation, planning, development and implementation, including possible stipends in the program to attract qualified candidates and mentors. Applications must be submitted to the Department of Education by August 1 each year.

Partner school divisions shall provide at least one-third of the cost of each program and shall provide data requested by the university partner in order to evaluate program effectiveness by the mutually agreed upon timelines. Each university partner shall report annually, no later than June 30, to the Department of Education on available outcome measures, including student performance indicators, as well as additional data needs requested by the Department of Education. The Department of Education shall provide, directly to the university partners, relevant longitudinal data that may be shared. The Department of Education shall consolidate all submissions from the participating university partners and school divisions and submit such consolidated annual report to the Chairmen of the House Appropriations and Senate Finance Committees no later than November 1 each year.

Through a competitive grant opportunity, two institutions of higher education were awarded grants for fiscal year 2021 as follows:

- Old Dominion University: $584,039
- Virginia Commonwealth University: $1,165.961

TOTAL $1,750,000

The Department of Education has consolidated the report submissions from the participating university partners and school divisions. Attached are reports from each of the two institutions of higher education awarded Teacher Residency Partnership Grants in fiscal year 2021.

COMMONWEALTH of VIRGINIA
DEPARTMENT OF EDUCATION
P.O. BOX 2120
RICHMOND 23218-2120

October 29, 2021

The Honorable Janet D. Howell Chair,
Senate Finance Committee
Virginia General Assembly
P.O. Box 2608 Reston, Virginia 20195-0608

The Honorable Luke E. Torian Chairman,
House Appropriations Committee
Virginia General Assembly
4222 Fortuna Plaza,
Suite 659 Dumfries, Virginia 22025

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Enclosure

c: The Honorable Atif Qarni, Secretary of Education

The Honorable Janet D. Howell
The Honorable Luke E. Torian
October 29, 2021

REPORT ON TEACHER RESIDENCY PARTNERSHIP

GRANTS 2020-2022
November 1, 2021

OVERVIEW:

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VIRGINIA DEPARTMENT OF EDUCATION
DEPARTMENT OF TEACHER EDUCATION AND LICENSURE
P. O. BOX 2120
RICHMOND, VIRGINIA 23218-2120

REPORT – TEACHER RESIDENCY GRANT

PROGRAM YEAR: July 1, 2020 – June 30, 2021 [FY2021]

Due June 30, 2021

AUTHORITY:

The language from the 2020 Appropriation Act, Item 144 is as follows:

Teacher Residency
Chapter 1289, Item 144, Q., of the Appropriation Act states:

> *Q. Out of this appropriation, $1,750,000 the first year and $1,750,000 the second year from the general fund is provided for grants for teacher residency partnerships between university teacher preparation programs and the Petersburg, Norfolk, and Richmond City school divisions and any other university teacher preparation programs and hard-to-staff school divisions to help improve new teacher training and retention for hard-to-staff schools. The grants will support a site-specific residency model program for preparation, planning, development and implementation, including possible stipends in the program to attract qualified candidates and mentors. Applications must be submitted to the Department of Education by August 1 each year.*
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PLEASE COMPLETE:

Name of Public Virginia Higher Education Institution: Old Dominion University

Partners: Click or tap here to enter text.

Participating School Division(s): Norfolk Public Schools, Newport News Public Schools, Virginia Beach City Public Schools

Name of Grant Director: Kala Burrell-Craft

Title: Director of Teacher Residencies

Mailing Address: 4301 Hampton Blvd, Education Building Room 3104

City, State, Zip Code: Norfolk, VA 23529

Telephone Number: 757-683-3247

Email Address: Knburrel@odu.edu

DETAILED PROGRAM DESCRIPTION:
Provide a detailed description of the teacher residency program.

The ODU Teacher in Residence (TIR) program is an ongoing partnership between the Darden College of Education and Professional Studies at Old Dominion University and Norfolk Public Schools, Newport News Public Schools, and new this past year, Virginia Beach City Public Schools. The TIR program prepares skilled teachers in high-need areas using a culturally relevant pedagogical approach. The program also seeks to increase the racial diversity of the teacher pool by recruiting and preparing teacher candidates from historically under-represented groups. The program combines a year-long teacher residency with intensive coursework that blends theory and practice, mentoring and coaching, and full immersion in the culture and context of schools. Program participants will earn licensure through VDOE-approved Master of Science in education (MSEd) programs. This is the sixth VDOE-funded residency partnership between ODU and Norfolk Public Schools (NPS), second year with Newport News Public Schools (NNPS) and first year with Virginia Beach City Public Schools. We have continued to learn through our partnership about best practices in

preparing highly qualified teachers to serve in our culturally rich urban schools; we have carried the lessons and insights from prior cohorts into the design and implementation of this TIR Cohort VI in 2020-21.

The TIR Cohort VI is comprised of 22 teacher candidates placed in schools around Norfolk, Newport News, and Virginia Beach; 12 in NPS, nine in Newport News, and one in Virginia Beach. 18 of the teacher candidates have been prepared for special education (general curriculum) licensure, two for secondary science licensure, and two for secondary math licensure.

Selection

A rigorous process for recruitment, identification, and selection of teacher candidates is a central component of the TIR program. ODU, NPS, NNPS, and VBCPS collaborated on recruiting a pool of prospective teacher candidates. Building on insights from the prior iterations of the program with NPS, we broadened our recruitment efforts. ODU recruited candidates through several targeted outreach strategies:

- Distributing TIR program information to advisors and program leaders at area universities to recruit recent graduates with relevant content majors
- Referral incentives for former TIR graduates to recruit individuals they identify as having teacher potential
- Newspaper, social media, and other advertisements
- Attended job and career fairs
- Direct messaging to all district employees through their communication department via email

After completing a standardized online application process that included a review of grades, test scores, and a writing sample, prospective candidates participated in an intensive virtual interview with an admissions panel comprised of ODU faculty and NPS/NNPS/VBCPS administrators. Minimum qualifications included a bachelor's degree in a high-need or related field from a regionally accredited institution, a minimum undergraduate GPA of 3.0, passing scores on the Praxis Core and VCLA, and successful completion of a criminal background check.

Curriculum

The TIR program prepares teachers for Norfolk, Newport News, and Virginia Beach City Public Schools for licensure in high need areas identified by the school division: special education (K-12 general curriculum), secondary science, or secondary math. Due to the success of the prior VDOE-funded residency cohorts, which prepared secondary math and science teachers for NPS, the division's critical shortages in the STEM fields have been significantly reduced. As a result, this year's program included special education for a third year. As with prior iterations of the TIR program, TIR Cohort VI covered in this grant cycle uses a culturally relevant pedagogy (Ladson-Billings, 1995, 2014) in conjunction with the development of sound instruction skills identified in the literature needed for successful teacher leadership in urban schools. At the heart of Ladson-Billings' work are three criteria crucial for culturally relevant teaching: the ability to develop student academic achievement; the willingness to nurture cultural competence; and the development of a critical consciousness in which students think about the world around them and their place in that world (Ladson-Billings, 1995, p. 483). The TIR program is built on those criteria, focusing on how to leverage strong instructional capacity to increase academic achievement for all students. This year's curriculum also centered social emotional learning and trauma informed instruction.

The program of study is 37 credits for Master's of Science in Secondary Education (Science) and 35 credits for the Master's of Science in Special Education (K-12 General Curriculum) taught by ODU's faculty in the Darden College of Education and Professional Studies. As with the former residency cohorts, this project cycle focuses on the development of strong content knowledge and sound instructional strategies. To ensure the requisite skills, knowledge and with the support of the VDOE grant, the program now continues the residency placement to a full academic year. This permits our teacher candidates to be fully immersed in district and schools across the span of the school year, during which they develop and refine their skills and knowledge alongside a skilled clinical residency coach. Teacher candidates work in classrooms every school day during contractual hours, while completing ODU coursework in the evenings. The unique delivery of the competencies, aligned with the professional studies standards for Virginia educators, provide opportunities for teacher candidates to link theory to practice in the context of culturally relevant pedagogy under the mentorship of a master teacher (clinical residency coach) and an ODU faculty member who together create a learning community.

Residency

Each teacher candidate has been placed with a carefully chosen mentor, called a clinical residency coach (CRC). These coaches are highly qualified, successful teachers working in districts. CRCs model best practices in their classrooms, providing examples of how to connect theory to practice in implementing high quality instruction through a culturally relevant pedagogy lens. To support the CRCs serving as a mentor, this group of teachers received training in best practices to support the preparation and retention of new TIR candidates delivered by the Center for Teacher Leadership, who are certified by the National Center for Teacher Residencies (NCTR) to deliver such training. This professional development introduced CRCs to the critical elements and expectations of the TIR program and best practices in implementing Culturally Relevant Pedagogy in urban classrooms. ODU university faculty supervise the teacher candidates through regular observations and conversations, as well as an additional targeted professional development session each semester.

Current residents are enrolled in their final semester of courses and have started receiving offers of employment from district schools. In accordance with the terms of the program, all candidates must serve as a teacher in their respective districts for three years or pay back the stipend and tuition money on a payback schedule established by the Old Dominion University Research Foundation.

PROGRAM OBJECTIVES:

Describe the goals and objectives of the teacher residency program.

1. Prepare highly qualified teachers to serve in critical shortage areas in Norfolk, Newport News, and Virginia Beach City Public Schools.
2. Develop a sustainable model for preparing culturally relevant teachers through integrating course work with residency-based practice.
3. Implement the Board of education-approved model for licensure for Teachers-in-Residency in a dual model of residency and coursework.

4. Design and implement a research-based evaluation that will both test and further the foundations of culturally relevant teaching in Virginia's urban public schools.

PARTNERSHIP(S):

Describe the partnership(s) with the public schools. Include any other program partnerships or stakeholder involvement and collaborations.

The Teacher in Residence (TIR) program is built on a strong collaboration with Norfolk Public Schools (NPS) that extends back several years to the first TIR cohort in 2015-16. The partnership was first established to address a critical teaching shortage in NPS: math and science teachers. The first three TIR cohorts prepared 32 math and science teachers for secondary teaching positions, significantly reducing the critical shortage in this area. Because there were fewer science vacancies in Fall 2018 than in prior cohort years, we expanded the scope of the TIR program to other critical shortage areas in NPS. In the 2018-19 Cohort IV, we admitted eleven candidates: 4 secondary science and 7 special education (general curriculum). The TIR collaboration bridges the expertise and resources of ODU and NPS to provide teacher candidates with an intensive preparation experience that bridges theory to practice through a full-year residency. ODU and NPS have worked closely together to identify and recruit teacher candidates and clinical residency coaches. In accordance with the VDOE funding parameters, in the 2019-20 Cohort V program, NPS has contributed $150,000 to support a third of program costs. Drawing on the no cost extension, the program recruited a new cohort of 13 teacher candidates for the 2020-21 school year.

In addition to the partnership with NPS funded by the VDOE grant, the TIR program expanded in 2018-19 to include a cohort with Newport News Public Schools (NNPS) that supported four teacher candidates for special education licensure that was fully funded by their division. NNPS recruited qualified candidates from teaching assistant positions, enabling the division to work within its budgeted resources to fund a year-long residency. The Newport News program followed the same coursework and residency model as the VDOE-funded Norfolk cohort. Newport News continued their partnership with the program for the 2019-20 year, with the help of the VDOE residency grant and increased their cohort to six teacher candidates and for the 2020-21 SY nine teacher candidates. Newport News contributed a third of the program cost by paying their residents as instructional assistants during the residency year.

Beginning for the 2020-21SY, Virginia Beach City Public Schools partnered with ODU to support one special education candidate. Covid-19 impacted VBCPS ability to recruit the number of candidates they had wished to support. Their partnership will continue moving forward with a larger teacher candidate participation.

In order to continue to refine and strengthen the TIR model, an additional collaboration began in 2018-19 with the National Center for Teacher Residencies (NCTR) as a member organization. This membership has provided critical professional resources to ensure that our residency program reflects the best practices in the field. In addition, as part of our membership NCTR has fielded surveys for our residents and their mentors. These mid-program and summative surveys have provided invaluable data about our program. NCTR also provided the opportunity for residency programs across the country to compete for a grant that focused on the recruitment, preparation, and retention of Black educators. ODU was successful in being awarded that grant for the 2020-21 SY.

INCENTIVES AND SUPPORTS:

Describe the incentives and supports, such as tuition, fees paid for the training, stipends, mentoring, etc., provided to the teacher residents. Include training or support provided to the partner school division educators involved in the program.

The grant provides funding for teacher candidate support, including funds to pay for up to 37 credits in graduate tuition and a stipend of up to $23,000 for each TIR teacher candidate. In addition, the funding covers licensure test fees as well as costs for LiveText, a candidate assessment management system used to monitor and report on candidate performance. Teacher candidates also received support in the form of special workshops and seminars focused on culturally relevant pedagogy and other critical topics related to leading learning in urban, high-need classrooms. In addition to the financial supports, teacher candidates also received ongoing support from their clinical residency coaches with whom they shared a classroom during their residency. This relationship is the crux of the TIR program, providing teacher candidates with a highly skilled mentors who model all facets of effective practice and guide their residents with critical feedback. The grant also supports the training and support of clinical residency coaches (CRC) in mentoring/coaching skills, including understanding, applying, and mentoring others in culturally relevant pedagogy. Each CRC received a $2,500 stipend for their mentoring and coaching work that begins with PD in the summer the candidate is onboarded through the end of the academic school year.

PARTICIPANTS:

Please complete the following chart for program participants:

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	If the resident has accepted employment, please indicate the employer.	Area of Teaching Assigned
Mattie Stooks	Special Education	Norfolk	35	yes	Norfolk	Special Ed
Michelle Guzman	Special Education	Norfolk	35	yes	Norfolk	Special Ed
Dominique Ford	Special Education	Norfolk	35	yes	Norfolk	Special Ed

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	If the resident has accepted employment, please indicate the employer.	Area of Teaching Assigned
Javana Boyd	Special Education	Norfolk	35	yes	Norfolk	Special Ed
Kerrin Taylor	Special Education	Norfolk	35	yes	Norfolk	Special Ed
Shawn Hines	Special Education	Norfolk	35	yes	Norfolk	Special Ed
Juan Puentes	Special Education	Norfolk	35	yes	Norfolk	Special Ed
Natalie Foster	Special Education	Norfolk	35	yes	Norfolk	Special Ed
Victoria Tabibi	Science	Norfolk	37	yes	Norfolk	Science
Christiana Bautista	Science	Norfolk	37	yes	Norfolk	Science
Juhara Bushra	Math	Norfolk	37	yes	Norfolk	Math
Kentrell Darden-Askew	Math	Norfolk	37	yes	Norfolk	Math
Lauren Hitchcock	Special Education	Newport News	35	yes	Newport News	Special Ed
Linda Moise	Special Education	Newport News	35	yes	Newport News	Special Ed
Aaron Carter	Special Education	Newport News	35	yes	Newport News	Special Ed
Teiko Soova	Special Education	Newport News	35	yes	Newport News	Special Ed
Jennifer Robinson	Special Education	Newport News	35	yes	Newport News	Special Ed
Marcus Cook, Jr.	Special Education	Newport News	35	yes	Newport News	Special Ed
Carlos Martinez	Special Education	Newport News	35	yes	Newport News	Special Ed

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	If the resident has accepted employment, please indicate the employer.	Area of Teaching Assigned
Sirena Ramirez	Special Education	Newport News	35	yes	Newport News	Special Ed
Deborah Folk	Special Education	Newport News	35	yes	Newport News	Special Ed
Kimberley Freeman	Special Education	Virginia Beach	35	yes	Virginia Beach	Special Ed
Joseph Harrison	Science	Norfolk	37	no	N/A	N/A
Natalie Conrad	Science	Norfolk	37	no	N/A	N/A

****Note: Current teacher residents are enrolled in the last semester of their graduate work, which will be completed by August 20, 2021.**

PROGRAM EVALUATION:
Please attach the copy of the Program Evaluation.

Please include in the evaluation plan how the university and school division(s) collected information to organize meaningful data to inform the program of its effectiveness and how such information was used for program improvement.

Please detail the following:

a. the effectiveness of the program in meeting the stated goals and objectives;
b. the success of identifying and recruiting well qualified, diverse candidates to work in an urban school environment;
c. the effectiveness of the partnership(s); and
d. the perceptions of the program success by participants and partners.

Report on available outcome measures, including student performance indicators. [Please include any available retention data.]

*See Attached document (TIR Cohort VI Program Evaluation)

EXPENDITURES:

Please complete the following charts reporting total expenditures:

Period of Award: **July 1, 2020 – June 30, 2021**

Public Institution of Higher Education: Old Dominion University

Personal Services 1000					**Source of Funds**			**Totals**
	Description				**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	
Job titles of individuals whose salaries were charged to this program	Program Role	% FTE	Salary	Total charged to grant for this individual				
ODU Faculty Admin KBC	TIR Director	32.56%	$77,500.00	$25,234.22	$25,234.22	$0.00	$0.00	$25,234.22
ODU Faculty Admin MG	Faculty Contributor	22.31%	$67,238.00	$15,000.00	$15,000.00	$0.00	$0.00	$15,000.00
ODU Faculty Admin KG	Faculty Contributor	16.89%	$52,000.00	$8,781.25	$8,781.25	$0.00	$0.00	$8,781.25
ODU Faculty Admin RK	Faculty Contributor	8.70%	$52,000.00	$4,525.00	$4,525.00	$0.00	$0.00	$4,525.00
Total Personal Services 1000				$53,540.47	$53,540.47	$0.00	$0.00	$53,540.47

Employee Benefits 2000				Source of Funds			
Job titles of individuals whose benefits were charged to this program	% Benefits	Salary	Total	State Grant Funds	School Division Cash Funds (At least 1/3 of the dollar cost of the program)	In-Kind	
ODU Faculty Admin KBC	40.30%	$25,234.00	$10,169.36	$10,169.36	$0.00	$0.00	$10,169.36
ODU Faculty Admin MG	9.08%	$15,000.00	$1,362.00	$1,362.00	$0.00	$0.00	$1,362.00
ODU Faculty Admin KG	9.08%	$8,781.25	$797.32	$797.32	$0.00	$0.00	$797.32
ODU Faculty Admin RK	9.08%	$4,525.00	$411.09	$411.09	$0.00	$0.00	$411.09
Total Employee Benefits 2000				$12,739.77	$0.00	$0.00	$12,739.77

Purchased/Contractual Services 3000	Source of Funds			
Description (Please provide detailed cost calculations.)	State Grant Funds	School Division Cash Funds (At least 1/3 of the dollar cost of the program)	In-Kind	Totals
CRC Mentors	$32,000.00	$12,000.00	$0.00	$44,000.00
NPS Participant Stipends	$141,340.00	$36,400.00	$0.00	$177,740.00
NNPS Participant Stipends	$0.00	$200,000.00	$0.00	$200,000.00
VB Participant Stipends	$0.00	$20,000.00	$0.00	$20,000.00
NPS Participant Summer 2020 Tuition Payments	$55,625.50	$0.00	$0.00	$55,625.50
NNPS Participant Summer 2020 Tuition Payments	$35,759.25	$0.00	$0.00	$35,759.25
NPS Participant Fall 2020 Tuition Payments	$39,111.89	$20,311.61	$0.00	$59,423.50
NNPS Participant Fall 2020 Tuition Payments	$41,099.00	$0.00	$0.00	$41,099.00
VB Participant Fall 2020 Tuition Payments	$4,413.50	$0.00	$0.00	$4,413.50
NPS Participant Spring 2021 Tuition Payments	$0.00	$32,455.48	$0.00	$32,455.48
NNPS Participant Spring 2021 Tuition Payments	$9,038.00	$0.00	$0.00	$9,038.00
VB Participant Spring 2021 Tuition Payments	$0.00	$0.00	$0.00	$0.00
NPS Participant Summer 2021 Tuition Payments	$0.00	$34,359.00	$0.00	$34,359.00

NNPS Participant Summer 2021 Tuition Payments	$24,034.50	$0.00	$0.00	$24,034.50
VB Participant Summer 2021 Tuition Payments	$4,000.25	$0.00	$0.00	$4,000.25
National Center for Teacher Residencies (NCTR) Membership	$5,000.00	$0.00	$0.00	$5,000.00
Total Purchased Contractual Services 3000	$391,421.89	$355,526.09	$0.00	$746,947.98

Internal Services 4000	**Source of Funds**			
Description (Please provide detailed cost calculations.)	**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	**Totals**
				$0
				$0
				$0
				$0
				$0
Total Internal Services 4000				

Other Charges 5000	**Source of Funds**			
Description (Please provide detailed cost calculations.)	**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	**Totals**
Other Participant Support Costs (supplies and exam reimbursements)	$4,537.15	$0.00	$0.00	$4,537.15
				$0
Total Other Charges 5000	$4,537.15	$0.00	$0.00	$4,537.15

Materials and Supplies 6000	Source of Funds			
Description (Please provide detailed cost calculations.)	**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	**Totals**
Office Supplies	$1,847.18	$0.00	$0.00	$1,847.18
Total Materials and Supplies 6000	$1,847.18	$0.00	$0.00	$1,847.18

Total Expenditures for the Teacher Residency Grant				
	Source of Funds			**Total Expenditures**
	State Grant Funds	**School Division Cash Funds (At least 1/3 of the dollar cost of the program) [1/3 of state funds requested]**	**In-Kind**	
Personal Services (1000)	$53,540.47	$0	$0	$53,540.47
Employee Benefits (2000)	$12,739.77	$0	$0	$12,739.77
Purchased/Contractual Services (3000)	$391,421.89	$355,526.09	$0	$746,947.98
Internal Services (4000)	$0	$0	$0	$0
Other Charges (5000)	$4,537.15	$0	$0	$4,537.15
Material and Supplies (6000)	$1,847.18	$0	$0	$1,847.18
Totals	**$464,086.46**	**$355,526.09**	**$0**	**$819,612.55**

PROGRAM EVALUATION:

ODU partners with the National Center for Teacher Residencies (NCTR) to assist in tracking and measuring programming outcomes. NCTR assists ODU in collecting data twice a year from all stakeholders: residents, mentors, university supervisors, and principals.

Please detail the following:

e. the effectiveness of the program in meeting the stated goals and objectives;
f. the success of identifying and recruiting well qualified, diverse candidates to work in an urban school environment;
g. the effectiveness of the partnership(s); and
h. the perceptions of the program success by participants and partners.

TIR Cohort VI Program Evaluation

Effectiveness of program in meeting the stated goals and objectives

The overarching goal of the Teacher in Residence grant TIR Cohort VI was to prepare highly qualified teachers through a partnership between Old Dominion University, Norfolk Public Schools, Newport News Public Schools, and Virginia Beach City Public Schools with expertise both in their content and also in best practices in culturally relevant pedagogy (CRP). The program was built on the highly successful program of study implemented in the first five TIR cohort grant iterations, which incorporated the emphasis on CRP. Four clear objectives guided our work. A description of our success in meeting each of the objectives follows.

Objective 1: Prepare highly qualified teachers to serve in critical shortage areas in NPS, NNPS, and VBCPS schools

TIR Cohort VI represents the third year of expansion in the program. The third year of partnering with Newport News Public Schools, the third year of special education added to the program as a critical shortage, the third year of a full school year immersion experience, and the first year of adding Virginia Beach City Public Schools as a partner. Over the course of a year with the pandemic, the teacher candidates have had to be very flexible and resilient. The residents have had to teach in both virtual and face to face spaces. Our residents, with support, have been able to move from virtual learning to a collaborative co-teaching role to an increasingly demanding and more independent role of lead teacher. Throughout this time, clinical resident coaches and university supervisors have provided targeted feedback and support designed to ensure that teacher candidates are fully ready to be effective teachers in their own classrooms on their first day.

Rigorous recruitment and selection conducted jointly by ODU faculty, NPS, NNPS, and VBCPS administrators selected 24 teacher candidates for admission into TIR Cohort VI (two of which did not successfully finish the first semester of coursework). Two candidates pursued the master's in education in secondary education (science), Two candidates pursued the master's in education in secondary education (math), while 18 pursued the master's in education in special education (general curriculum).

All 22 candidates were placed in middle schools (for science and special education) and elementary schools (for special education) with highly qualified clinical residency coaches identified by district human resource specialists and content leaders. In tandem with the clinical residency coaches, faculty from ODU conducted onsite visits, with mid-term and culminating evaluations. The 22 teacher candidates are on track to successfully complete their programs by the end of Summer 2020 (they are currently enrolled in their final courses). To date, 18 of the 22 students have been offered employment for the 2021-22 SY. The remaining four residents are expected to be placed in the next couple of weeks.

It is our hope that all admitted teacher candidates will successfully complete the program. We believe that the full-year residency placement provides a rigorous experience that helps ensure that graduates are qualified and fully ready to step into their teaching roles.

Objective 2: Develop a sustainable model for preparing culturally relevant teachers through integrating coursework with residency-based practice.

The implementation of the partnership model has proven to be a successful way in which high quality teachers can be prepared to meet the unique needs of the partnering division, an urban school district with diverse students.

Although the TIR teacher candidates registered for discrete courses during each term, the program competencies were woven throughout the term of the grant, allowing for organic connections to theory and practice as they were immersed in the classrooms and working with their clinical resident coaches (CRCs). This marriage of content and immersion in the field created a seamless approach to providing teacher candidates with the knowledge and tools necessary for in the public classroom. The close-knit partnership between ODU faculty, school-based faculty, and administrators strengthens the partnership, building trust and anticipation of continuing similar approaches in the future. The sustainability of the program is evident by the enthusiasm of both parties in determining not only how to continue our work, but by our successful broadening of the program beyond secondary math and science and to include a special education. Because the issue of cost is a major concern, during the grant period, ODU faculty were paid modest stipends (for time and travel) for clinical supervision in tandem with adding the TIR responsibilities to their current instructional load. When schools were virtual, all observations were conducted using the zoom virtual platform.

Although the VDOE funding has been integral to the success of the TIR program, we have made gains to build sustainable approach to supporting teacher residencies. For TIR VI, both NPS, NNPS, and VBCPS have contributed one third of the program's yearly programming budget. The program has also actively sought to promote the sustainability of the program through its collaboration with The National Center for Teacher Residencies and Prepared to Teach. ODU's partnership with Newport News Public Schools and

Virginia Beach City Public Schools demonstrates our effort to explore scalable models that could broaden school division access to teacher residencies.

Objective 3: Implement a VDOE-approved model for fast-track licensure in a dual model of residency and coursework.

The TIR program has broadened from its focus on math and science licensure to include special education (K-12 General Curriculum), reflecting the program's efforts to adapt to meet the changing priorities and critical shortage areas of our partner schools.

Master's of Science in Education, Secondary Education (Science/Math)			
COURSE	#	TITLE	CREDITS
SPED	500	Foundations of Special Education	3
FOUN	641	Assessment and Evaluation of Student Learning	3
SPED	511	Classroom and Behavioral Management Techniques for Students with Diverse Needs	3
SPED	613	Human Growth & Development	3
TLED	552	Developmental Instructional Strategies	3
TLED	669	Internship/Student Teaching and Seminar	9
TLED	617	Digital Age Teaching and Learning	3
TLED	608	Foundations of Education & Assessment	3
TLED	583	Capstone Seminar	1
READ	680	Reading Across Curriculum	3
SPED	517	Collaboration & Transitions	3
			37 credits

SPED 500 – Foundations of Special Education: Legal Aspects and Characteristics: The course provides an introduction and overview of the field of special education from the perspective that it is a subsection of general education and that the field is in transition by virtue of philosophical, legislative, and programmatic changes. Legal aspects, regulatory requirements, and critical analyses of research are addressed. This course includes a broad overview of the expectations associated with the identification, characteristics, and education of students with disabilities.

FOUN 641 - Assessment and Evaluation of Student Learning: The valid use of formative and summative assessment and evaluation principles for monitoring and promoting students' learning and development will be addressed. Students will learn how to construct and use a variety of formal and informal teacher assessment procedures.

SPED 511 – Classroom and Behavioral Management Techniques for Students with Diverse Needs: This course will address classroom management techniques and individual interventions based upon behavioral, cognitive, affective, social, and ecological theory and practice. The course will focus on the field of applied behavior analysis, including best practices in the areas of data collection, program selection, program implementation, and data analysis. Positive behavior management and supports and functional behavioral assessment will be emphasized. Pre- or corequisite: a grade of C- of higher in SPED 400 or a grade of B- or higher in SPED 500.

SPED 613 – Human Growth and Development: Designed to give a through overview of human development from birth through adolescence and to develop an understanding of what impact physical, social, emotional, and intellectual development may have on the student, the learning environment, and instructional decisions. Provides an advanced overview of current research and theory in human growth and development and their applications to the classroom. Issues of diversity as it applies to economic, social, racial, ethnic, and religious will be explored as well as the developmental issues related to giftedness or disability and the impact of family.

TLED 552 – Developing Instructional Strategies for Teaching in the Middle/High School: This course will focus on understanding children's and adolescents' physical, social, emotional, intellectual, and speech/language development; integrating and incorporating children and adolescent differences (economic, social, racial, ethnic, religious, physical, and mental) into understanding developmental issues as they relate to instruction, including the identification and instruction of students with exceptionalities as well as special needs. Research related to the classroom application of these theories is examined and evaluated based on principles of research design and interpretation.

TLED 669 - Internship/Student Teaching and Seminar: Five days per week for 6-14 weeks; 3-9 credits. Available for pass/fail grading only. Provides practice in teaching and in analyzing teaching approaches and behaviors. Examines instructional problems and concerns. Prerequisites: Completion of an approved program in teacher education, passing scores on the appropriate licensure assessments, departmental approval, permission of the director of teacher education services, no grade less than C- in content area and professional education core, minimum major and overall GPA of a least 2.75, GPA of 3.0 required for graduate programs.

TLED 617 – Digital Age Teaching and Learning: In this class, contemporary digital tools and Internet resources are used to develop instructional plans and contribute to teaching techniques. The course is designed with three components: effectively integrating technology into the delivery of the curriculum, evidence-based good teaching practices utilizing technology that spans across grades and subject levels, and the technologies that support those practices. Upon completion of this course students should be able to pass or apply for exemption from their school district's TSIP exam.

TLED 608 – Foundations of Education and Instructional Assessment: Provides students with an understanding of historical, philosophical, economic, and sociological issues in American education, their effect on student achievement, and the impact of social change on existing institutions. Includes the development of instruction based on assessment data including the use, construction, interpretation, and analysis of valid assessments. A 30-hour observation/participation experience is required in an appropriate prek-6, 6-8, or 6-12 grade level. Prerequisites: graduate standing.

TLED 583 – Capstone Seminar: Explores issues, problems, concerns, and processes related to teaching and to entering the profession of teaching. Passing scores on Elementary Education Multiple Subjects Assessment in licensure content area, passing scores on the Virginia Communication and Literacy Assessment (VCLA), and where appropriate passing scores on Reading for Virginia Educators are required to pass this course. Prerequisite: admitted to approved teacher education program.

READ 680 – Reading to Learn Across the Curriculum: This class has an emphasis on advanced techniques in reading for classroom teachers who are not reading specialists. Students develop an understanding of the process of reading to learn across the curriculum including a wide variety of comprehension strategies and an understanding of the complex nature of reading throughout the disciplines. Lecture, demonstrations, development of materials, and practice in the techniques of reading for elementary and secondary classroom teachers and library media specialists are provided.

SPED 517 – Collaboration and Transitions: This course addresses the complex issues surrounding families and children with disabilities and transitions across the lifespan, as well as effective collaboration with families and professionals to support inclusion and/or effective early intervention services, educational programs and transition services for students at-risk and students with disabilities. Emphasis is on successful professional collaboration and effective relationships in educational, transition, and family settings. Pre- or corequisite: SPED 400/SPED 500.

Master's of Science in Education, Special Education (General Curriculum)			
COURSE	#	TITLE	CREDITS
SPED	500	Foundations of Special Education	3
SPED	502	Instructional Design 1: Learner Characteristics	3
SPED	511	Classroom Behavior	3
SPED	613	Human Growth & Development	3
SPED	515	Instructional Design 2: Curriculum Procedures and Individualized Education Planning	3
SPED	610	Characteristics of Students Accessing the General Curriculum	3
SPED	517	Collaboration and Transitions	3
SPED	611	Instructional Strategies: General Curriculum	3
SPED	669	Internship/Student Teaching and Seminar	1
SPED	518	Instructional Strategies: Math	3
TLED	568	Language Acquisition and Reading for Students with Diverse Learning Needs	3
READ	614	Foundations of Literacy Learning	3

CDSE	697	Internship/Student Teaching	1
			35 credits

SPED 500 – Foundations of Special Education: Legal Aspects and Characteristics: The course provides an introduction and overview of the field of special education from the perspective that it is a subsection of general education and that the field is in transition by virtue of philosophical, legislative, and programmatic changes. Legal aspects, regulatory requirements, and critical analyses of research are addressed. This course includes a broad overview of the expectations associated with the identification, characteristics, and education of students with disabilities.

SPED 502 – Instructional Design 1: Learner Characteristics: The intent of this course is to provide pre-service teachers with: (a) knowledge of the characteristics of students with mild disabilities who are accessing the general curriculum, K-12, including, but not limited to learning disabilities, emotional disabilities and intellectual disabilities and (b) the ability to develop knowledge and skill in the selection, administration, scoring and interpretation of standardized/norm-referenced assessments of exceptional learners. Administering formal and informal assessment tools and the development of an IEP are emphasized. The use of assessment data to improve instruction and student performance is discussed. Prerequisites: a grade of C- or higher in SPED 400 or a grade of B- or higher in SPED 500.

SPED 511 – Classroom and Behavioral Management Techniques for Students with Diverse Needs: This course will address classroom management techniques and individual interventions based upon behavioral, cognitive, affective, social, and ecological theory and practice. The course will focus on the field of applied behavior analysis, including best practices in the areas of data collection, program selection, program implementation, and data analysis. Positive behavior management and supports and functional behavioral assessment will be emphasized. Pre- or corequisite: a grade of C- of higher in SPED 400 or a grade of B- or higher in SPED 500.

SPED 613 – Human Growth and Development: Designed to give a through overview of human development from birth through adolescence and to develop an understanding of what impact physical, social, emotional, and intellectual development may have on the student, the learning environment, and instructional decisions. Provides an advanced overview of current research and theory in human growth and development and their applications to the classroom. Issues of diversity as it applies to economic, social, racial, ethnic, and religious will be explored as well as the developmental issues related to giftedness or disability and the impact of family.

SPED 515 - Instructional Design 2: Curriculum Procedures and Individualized Education Planning: The intent of this course is to provide preservice teachers with: (a) knowledge of research-based instruction for K-12 students with disabilities and those who are gifted; (b) knowledge and skill in using data collection to make decisions about student progress, instruction, program, accommodations and teaching methodology for exceptional learners, and (c) knowledge and skill in planning, developing and implementing individual educational plans and group instruction for diverse exceptional learners who are accessing the general education curriculum and the Virginia Standards of Learning. Practicum of 45 hours required. Prerequisites: a grade of C- or higher in

SPED 400 and SPED 402 or a grade of B- or higher in SPED 500 and SPED 502, and passing scores on Praxis Core Academic Skills for Educator Tests or equivalent as prescribed by the Virginia Board of Education.

SPED 610 - Characteristics of Students Accessing the General Curriculum: The intent of this course is to provide pre-service and currently licensed teachers with(a) knowledge of the characteristics of students with disabilities who are accessing the general curriculum, K-12, including, but not limited to learning disabilities, emotional disabilities, and intellectual disabilities; (b) the ability to recognize etiologies, underlying factors, and contributing conditions that impact student learning, and (c) the cultural impact of disabling conditions. Prerequisites: SPED 400/SPED 500.

SPED 517 - Collaboration and Transitions: This course addresses the complex issues surrounding families and children with disabilities and transitions across the lifespan, as well as effective collaboration with families and professionals to support inclusion and/or effective early intervention services, educational programs and transition services for students at-risk and students with disabilities. Emphasis is on successful professional collaboration and effective relationships in educational, transition, and family settings. Pre- or corequisite: SPED 400/SPED 500.

SPED 611 - Instructional Strategies: General Curriculum: This course emphasizes effective research-based instructional strategies for teaching students with mild/moderate disabilities in grades K-12 who are accessing the general education curriculum. Practicum of 45 hours in middle/secondary-level setting is required. Prerequisites: SPED 400/SPED 500, SPED 415/SPED 515, SPED 610 and passing scores on Praxis Core Academic Skills for Educator Tests or equivalent as prescribed by the Virginia Board of Education.

SPED 669 – Internship/Student Teaching and Seminar: The course provides supervised involvement in a practicum setting where the student and the instructor work together closely to develop curricula and gain expertise in teaching specific topics of importance to special educators. 50 hours per credit. Prerequisites: appropriate graduate instructional strategies course work and passing scores on Praxis Core Academic Skills for Educator Tests or equivalent as prescribed by the Virginia Board of Education.

SPED 518 – Instructional Strategies to Meet Diverse Learning Needs in Math: This course covers instructional strategies necessary to teach mathematics to students with diverse learning needs in elementary and secondary settings. Students will study and apply pedagogy-based research on how learning takes place and strategies for differentiating instruction for the unique needs of diverse learners. Students will address and apply effective research-based methodology and evaluation standards.

TLED 568 - Language Acquisition and Reading for Students with Diverse Learning Needs: This course provides an overview of normal language development and language disorders which impact the acquisition of language-based curriculum skills such as listening, speaking, reading, and written expression. Emphasis is on instructional techniques to assist students with diverse learning needs to achieve reading and comprehension skills. Effective reading strategies and curricula for individuals with disabilities will also be reviewed.

READ 614 – Foundations of Literacy Learning: Surveys theories and historical trends leading up to present day literacy instruction. Participants will learn how to incorporate application of current research to the methods and philosophies of teaching reading and writing. An integrated language model suggests that reading, writing, and thinking be viewed as interrelated, critical processes for exploring and responding to the world. Offers students an opportunity to acquire foundational knowledge of materials, instructional strategies, and assessment tools that support literacy and engaging learners.

CDSE 697 – Internship/Student Teaching: Independent study of special topics in communication disorders and special education. Prerequisite: permission of the instructor.

Objective 4: Design and implement a research-based evaluation that will both test and further the foundations of CRP in Virginia's urban public schools.

As delineated more fully in the following sections, the TIR program has implemented an evaluation plan that assesses the program's success in reducing teacher shortages in critical need areas in Norfolk Public Schools by recruiting and preparing a racially diverse and highly qualified pool of teacher candidates in a rigorous residency program. The TIR program has been evaluating the effectiveness of the program since its inception. With the TIR Cohort IV the program has drawn on its collaborations with the National Center for Teacher Residencies to broaden evaluation our efforts. After next year, we will have enough data to effectively evaluate retention.

Success of identifying and recruiting well-qualified candidates

The TIR program was established to recruit and prepare a diverse cadre of effective teachers able to meet the instructional needs of all students in high-need schools. One metric of success is the program's success in preparing a racially diverse cohort of teacher candidates. As noted in the report from the Task Force on Diversifying Virginia's Educator Pipeline (August, 2017), 49% of PreK-12 students identify as students of color, while only 21% of Virginia teachers identify as people of color. Since the first TIR cohort in 2015-16, the cohorts have become progressively more racially diverse. As shown in the table below, the racial diversity of the cohorts grew from 31% in Cohort I to 76% in Cohort VI. This upward trend mirrors the scholarship on teacher residencies that suggests that teacher residencies are more likely to be racially diverse than traditional teacher preparation programs because such programs remove the financial barriers to entry that disproportionately affect individuals of color. Guha & Kini (2016) found in their study of national residency programs that more than a third of residents were people of color, which is twice the national average of new teachers of color entering the field.

Race/Ethnicity	Cohort I 2015-016	Cohort II 2016-17	Cohort III 2017-18	Cohort IV 2018-19	Cohort V 2019-20	Cohort VI 2020-21
White	69%	40%	50%	13%	41%	29%
Black	31%	53%	50%	73%	59%	47%
2 or more races	0%	6%	0%	13%	0%	0%

Total % Individuals of Color	31%	46%	50%	86%	59%	71%

A rigorous process for recruitment, identification, and selection of teacher candidates is a central component of the TIR program. ODU, NPS, NNPS, and VBCPS collaborated on recruiting a pool of prospective teacher candidates. Building on insights from the prior iterations of the program, we broadened our recruitment efforts. ODU recruited candidates through several targeted outreach strategies:

- Distributing TIR program information to advisors and program leaders at area universities to recruit recent graduates with relevant content majors
- Asking district teachers to recruit former students or other individuals they identify as having teacher potential
- Newspaper, social media, and other advertisements
- Referral incentives for former TIR graduates to recruit individuals they identify as having teacher potential
- Attendance at job and career fairs
- Direct messaging to all district employees through their communication department via email

Although the program has been successful in identifying and recruiting strong teacher candidates, we continue to explore how to expand our recruitment efforts. While we know that residency programs are among the most effective ways of preparing strong teacher candidates who remain in the teaching profession, potential teacher candidates may not be aware of the different routes to teacher preparation. We are continuing to explore how to use social media, social and professional networks, and other digital platforms to reach and attract new potential candidates that may not know about the benefits of a residency program.

Effectiveness of the partnership

In addition to contributing to the diversity of NPS' teacher pool, the TIR program has also helped reduce the division's critical shortage areas. As noted earlier, the program has prepared three cohorts of teachers licensed in secondary mathematics or science, which has helped significantly reduce the need for new teachers in these fields. The expansion of the TIR program in Cohort IV to include special education reflects the success of the prior math and science cohorts. Across the first three cohorts, 84% of program graduates have remained in their teaching positions in Norfolk Public Schools or other school divisions (4 graduates of Cohort II accepted positions in other Hampton Roads divisions because all teaching openings in science had been filled. As of now, all 11 of the 12 NPS residents have been offered a position for the 2021-22 SY.

The TIR program was established not only to increase the teacher pool in Norfolk Public Schools, but also to reduce attrition from the division. Beginning with the 2019-20 school year, graduates of the first TIR cohort were able to seek employment in other divisions without being required to repay a portion of their program costs. We are monitoring graduates from this cohort to evaluate the effectiveness of the partnership in retaining teachers beyond the terms of their TIR contract. The TIR program has provided informal

mentoring and induction support to prior cohort members and will continue to refine and develop this work to help ensure a smooth transition from roles as teacher candidates in a residency to their roles as teachers of record.

The TIR program has also been effective in building a collaborative partnership between the university and school division that is responsive to the needs of schools. The Teacher in Residence (TIR) program is built on a strong collaboration with Norfolk Public Schools (NPS) that extends back several years to the first TIR cohort in 2015-16. The partnership was first established to address a critical teaching shortage in NPS: math and science teachers. The first three TIR cohorts prepared 32 math and science teachers for secondary teaching positions, significantly reducing the critical shortage in this area. Because there were fewer science vacancies in Fall 2018 than in prior cohort years, we expanded the scope of the TIR program to other critical shortage areas in NPS. In the 2018-19 Cohort IV, we admitted eleven candidates: 4 secondary science and 7 special education (general curriculum). The TIR collaboration bridges the expertise and resources of ODU and NPS to provide teacher candidates with an intensive preparation experience that bridges theory to practice through a full-year residency. ODU and NPS have worked closely together to identify and recruit teacher candidates and clinical residency coaches. In accordance with the VDOE funding parameters, in the 2018-19 Cohort IV program, NPS has contributed $150,000 to support a third of program costs. Drawing on the no cost extension each year, the program has been able to continue recruiting a new cohort each year.

The partnership with Newport News Public School has helped reduce their special education critical shortage area. With the first year of partnership, NNPS fully funded four residents for the special education licensure. Last year's Cohort V, NNPS committed to seven residents (six of which graduated at the end of last summer). Beginning last year, we were able to include NNPS in the writing of our grant to assist with their efforts. NNPS contributes one third of the support of the program for their residents by hiring them as instructional assistants while they complete their coursework and residencies.

Drawing on the model that Newport News uses, Virginia Beach contributes one third of the support of the program for their residents by hiring them as instructional assistants while they complete their coursework and residencies.

Perceptions of the program success by participants and partners

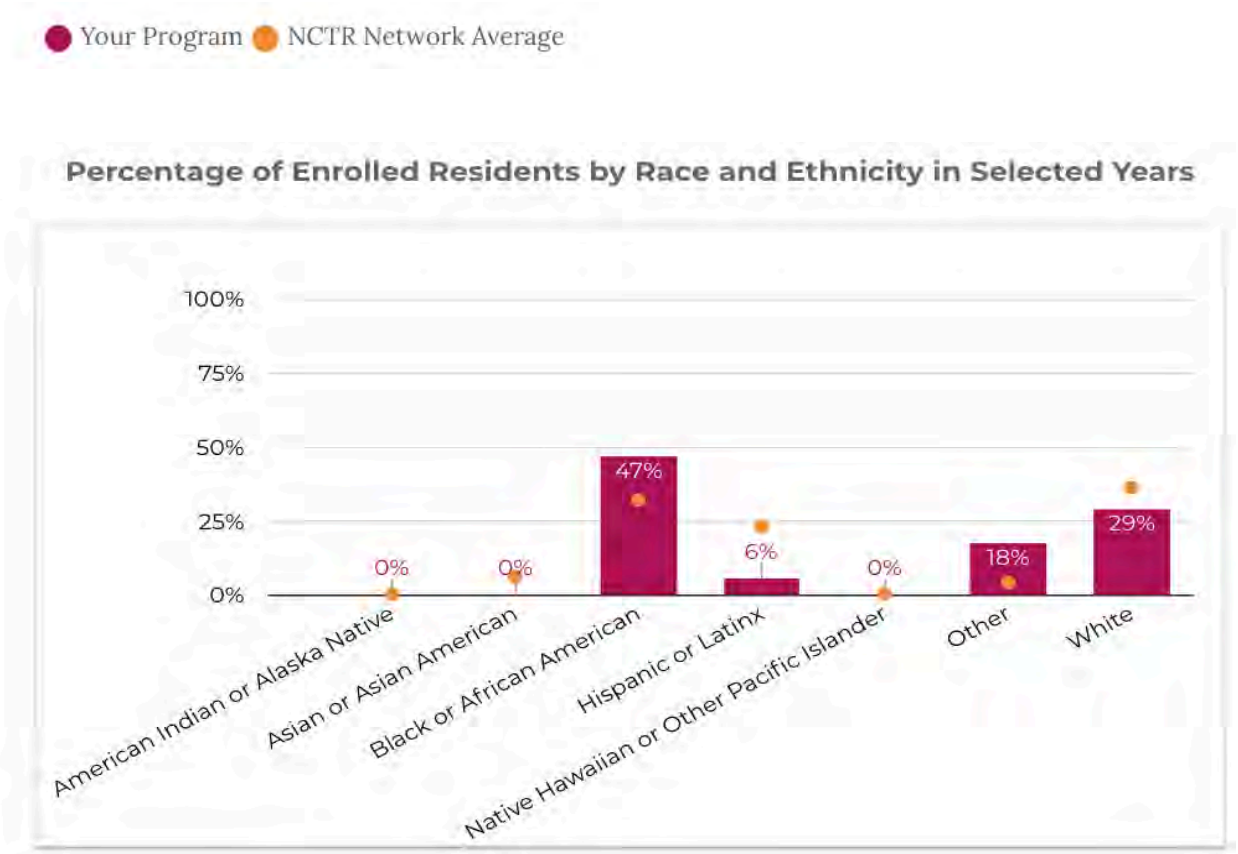
In previous cohorts, the program surveyed participants about their satisfaction with their preparation experience. Beginning with Cohort IV in 2018-19, the program has partnered with the National Center for Teacher Residencies to survey teacher candidates and their mentors. This initiative has deepened our understanding of the strengths and opportunities for growth by comparing our TIR participant responses to those of a national pool. The surveys were fielded at the program's mid-point in November 2019, again in July 2020, and again in April 2021. The survey asks respondents questions about program design, recruitment and selection, vision and expectations, and program satisfaction. The survey also includes open-ended prompts inviting feedback from respondents and optional focus group sessions with residents across the country in other residency programs.

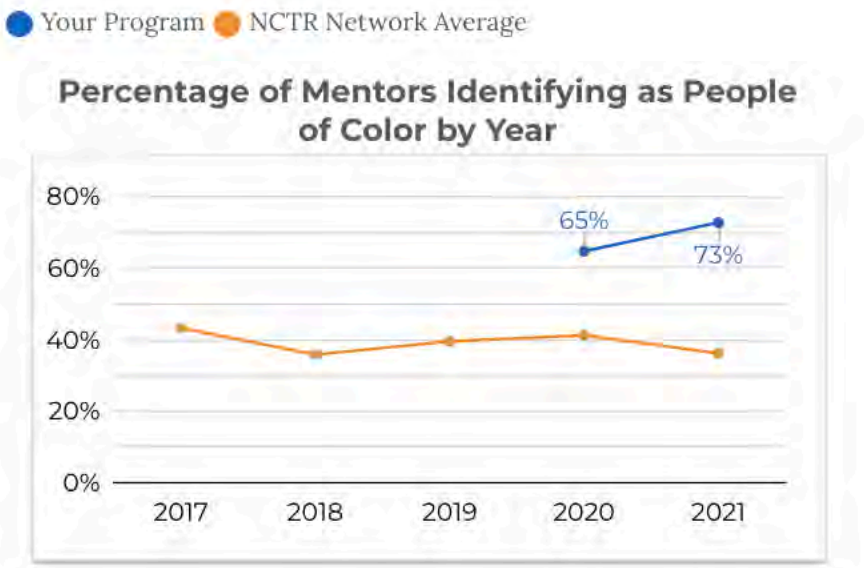
The last year mid-point and summative surveys indicate that teacher candidates/residents are generally satisfied with their preparation program. Teacher candidates rated most aspects of their preparation above a 3.0 on a 4-point scale, particularly the support they

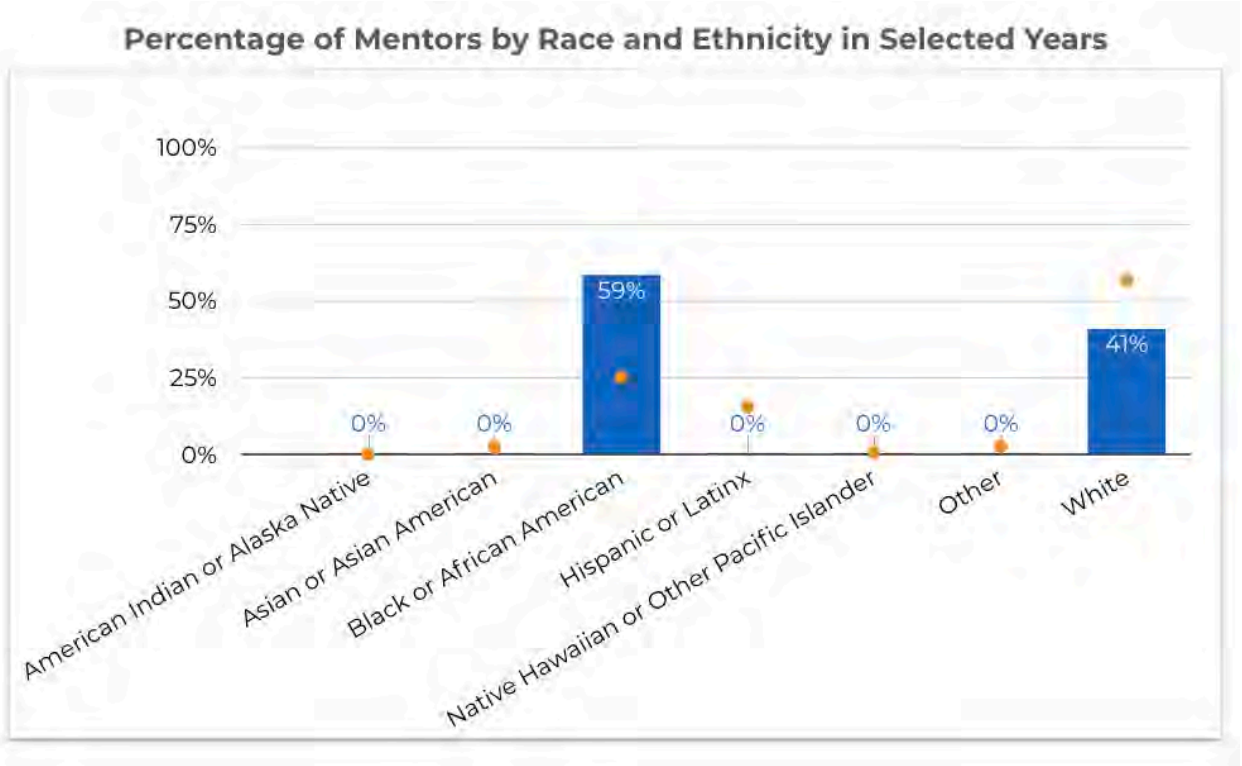
received by mentors to be effective learners/practitioners (3.6 at midpoint), the effectiveness of the matching process for clinical resident coaches and teaching candidates (3.5 at midpoint), the learning environment (3.2 at midpoint), and professionalism and leadership (3.3 at midpoint). Overall, teacher candidates rated highly their preparation to be an effective teacher (3.0 at midpoint). Updated final survey results will be fielded in July and available September 2021.

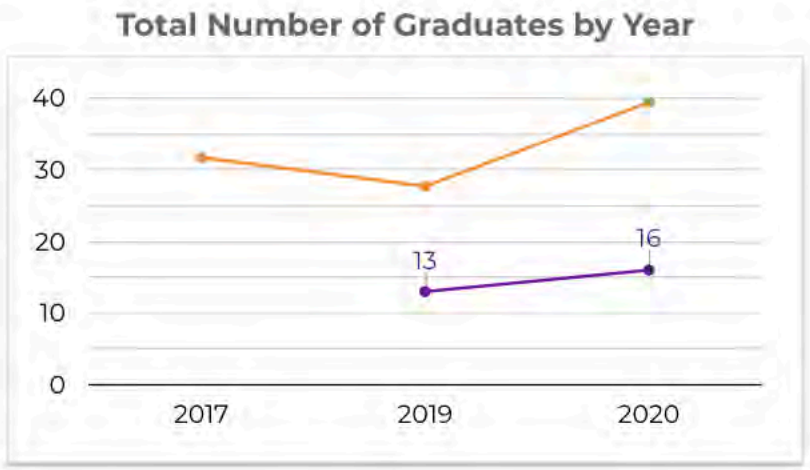
We are gratified that our teacher candidate residents and clinical resident coaches are generally satisfied with their experience in the TIR program. We are using the survey data that is collected and open-ended suggestions to guide the continued refinement of the program model to support our teacher candidates most effectively in becoming high quality teachers committed to meeting the needs of all students. The National Center for Teacher Residencies includes surveys of graduates and principals (who employ our graduates), which we will use in the next iteration of the TIR program. These data will help guide our continued improvement efforts as well as contribute to the field's understanding of residency models for teacher preparation.

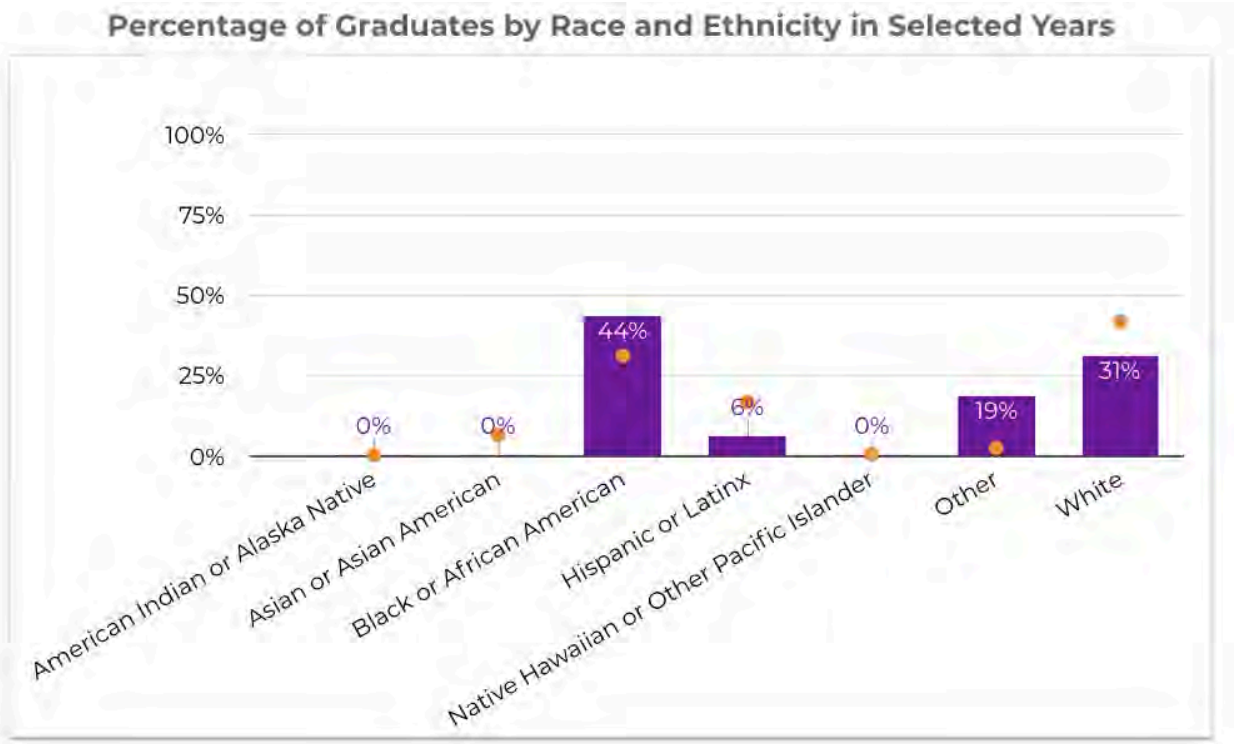
This year's data points and visualizations are below and act as a comparison against other residency programs across the country.

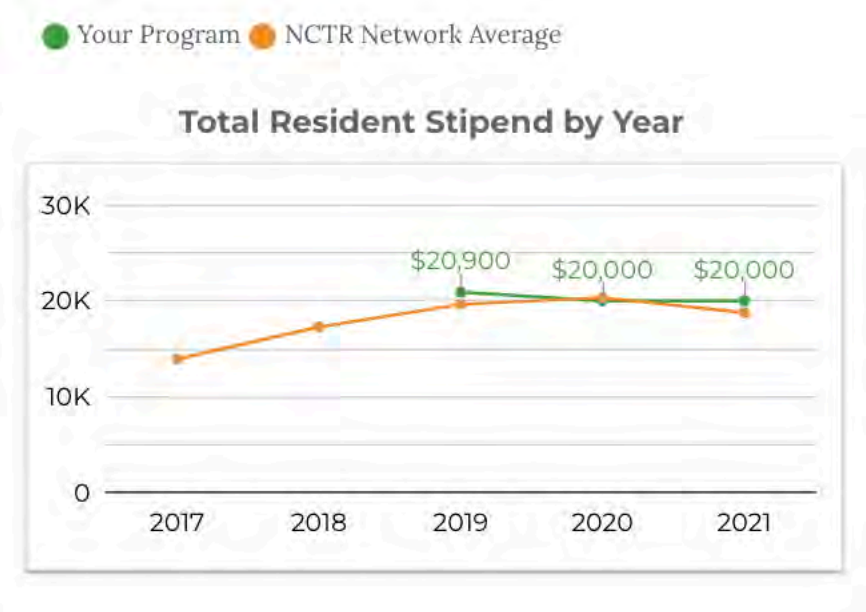



Your Program
NCTR Network Average
Percentage of Mentors Identifying as People of Color by Year
80%
60%
40%
20%
0%
65%
73%
2017
2018
2019
2020
2021


Percentage of Mentors by Race and Ethnicity in Selected Years
100%
75%
50%
25%
0%
0%
0%
59%
0%
0%
0%
41%
American Indian or Alaska Native
Asian or Asian American
Black or African American
Hispanic or Latinx
Native Hawaiian or Other Pacific Islander
Other
White
Your Program
NCTR Network Average


Total Number of Graduates by Year
40
30
20
10
0
13
16
2017
2019
2020


Percentage of Graduates by Race and Ethnicity in Selected Years
100%
75%
50%
25%
0%
0%
0%
44%
6%
0%
19%
31%
American Indian or Alaska Native
Asian or Asian American
Black or African American
Hispanic or Latinx
Native Hawaiian or Other Pacific Islander
Other
White



COMMENTS AND DOCUMENTS

Please provide any additional comments regarding the program. Also, attach any documentation (articles, brochures) highlighting the program and its achievements.

ODU Teacher in Residency news:

https://www.odu.edu/news/2021/6/teacher_in_residency#.YNkvS-lKjRY

https://www.ateva.org/awards

ATE-VA Awards

ATE-VA has a long and distinguished history promoting partnerships between Virginia public schools and Virginia colleges and universities.

Each spring at our conference, ATE-VA recognizes a student researcher and honors a partnership project.

Congratulations to the Blair Middle School-Old Dominion University Partnership! The goals of the BMS-ODU partnership are varied to reflect the focus on preservice and inservice teacher education inherent to the partnership:

Significantly increase the number of students who will become science, technology, engineering, and math (STEM) teachers in Virginia and across the country.

Develop outstanding STEM teachers who will make a positive impact on their students.

Promote mathematics, science, and technology in the community and improve the quality of STEM education in local schools.

Increase the rigor of teacher preparation through embedding courses at a school site.

Recruit, retain, and create high quality, culturally sustaining teachers to meet the needs of our future young leaders in area urban schools.

Recruit and retain teachers of color for our students because representation matters.

The BMS-ODU partnership includes three different initiatives: MonarchTeach, Teacher in Residence (TIR), and site-based instruction of teacher education courses. The MonarchTeach program includes ODU undergraduate mathematics, science, and technology majors who are interested in expanding their professional skills and exploring a career in secondary teaching. Traditionally, TIR participants are substitutes already working in our districts, paraprofessionals, recent math/science undergraduates, mid-career changers, and veterans from the Armed Forces. On-site courses include ODU undergraduate students preparing to teach history, English, theater, art, and dance. Approximately 15 BMS teachers and their students support these initiatives.

Project coordinators include Dr. Kala Burrell-Craft, Director of Teacher in Residence; Ms. Mary Gregory, Lead Supervisor for Clinical Residency Coaches and Lead Master Teacher for MonarchTeach; Dr. Mary Enderson, Co-Director; Dr. Christina Steel, Co-Director; Dr. Patrick Doyle, Principal of Blair Middle School; Dr. Jori S. Beck, School-University Partnership Committee Co-Chair

SCHOOL/UNIVERSITY PARTNERSHIP PROJECT AWARD

ODU’s Teacher Residency Program Part of National Initiative to Recruit, Develop and Retain Black Teachers for Local Schools

June 04, 2021

Old Dominion University's Darden College of Education and Professional Studies' teacher-in-residence program has received $228,000 from the National Center for Teacher Residencies (NCTR) to expand and improve its efforts to recruit and develop Black teachers for partner district schools.

The award comes through the NCTR's Black Educators Initiative, a five-year, $20 million effort to recruit and train 750 new Black teachers through NCTR's nationwide network of teacher residency programs. This year, the NCTR awarded nearly $2.2 million in grants to seven programs. Funding for the initiative comes from The Ballmer Group.

This is the second year ODU's teacher residency program has been awarded the competitive grant; 2020-21 the program was awarded $152,000.

ODU's program was one of eight residencies chosen to help launch NCTR's Black Educators Initiative.

The majority of school children in the United States are students of color, yet less than 20% of teachers are people of color, and only 7% of them are Black. Research shows that students of color do better in school and consider going to college at higher rates when they are taught by teachers with similar racial and demographic backgrounds. NCTR's Black Educators Initiative aims to improve student achievement by increasing access to Black teachers.

"Now more than ever, we need to focus on recruiting and retaining Black teachers," said Anissa Listak, NCTR's founder and CEO. "We are so proud to be able to work with ODU's teacher residency program through NCTR's Black Educators Initiative."

Teacher residency programs have proven effective at recruiting and developing teachers of color. In 2019-2020, NCTR's network of partner residencies reported that 62% of their teachers in training identified as persons of color - more than twice the diversity rate of teachers nationally. This year, 73% of teachers training in the ODU teacher residency program identify as a person of color.

"As a Black female scholar-practitioner, I am uniquely situated to critically examine the education and experiences of traditional preservice programs," said Kala Burrell-Craft, director of ODU's teacher residency program. "The Black Educators Initiative grant affords me the opportunity and the resources to intentionally recruit, develop and retain Black teachers that are needed in schools across our Hampton Roads area. Representation matters, and our children need diverse and inclusive schools, teachers and administrators.

VIRGINIA DEPARTMENT OF EDUCATION
DEPARTMENT OF TEACHER EDUCATION AND LICENSURE
P. O. BOX 2120
RICHMOND, VIRGINIA 23218-2120

REPORT – TEACHER RESIDENCY GRANT

PROGRAM YEAR: July 1, 2020 – June 30, 2021 [FY2021]

Due June 30, 2021

AUTHORITY:

The language from the 2020 Appropriation Act, Item 144 is as follows:

Teacher Residency
Chapter 1289, Item 144, Q., of the Appropriation Act states:

> *Q. Out of this appropriation, $1,750,000 the first year and $1,750,000 the second year from the general fund is provided for grants for teacher residency partnerships between university teacher preparation programs and the Petersburg, Norfolk, and Richmond City school divisions and any other university teacher preparation programs and hard-to-staff school divisions to help improve new teacher training and retention for hard-to-staff schools. The grants will support a site-specific residency model program for preparation, planning, development and implementation, including possible stipends in the program to attract qualified candidates and mentors. Applications must be submitted to the Department of Education by August 1 each year.*
>
> *Partner school divisions shall provide at least one-third of the cost of each program and shall provide data requested by the university partner in order to evaluate program effectiveness by the mutually agreed upon timelines. Each university partner shall report annually, no later than June 30, to the Department of Education on available outcome measures, including student performance indicators, as well as additional data needs requested by the Department of Education. The Department of Education shall provide, directly to the university partners, relevant longitudinal data that may be shared. The Department of Education shall consolidate all submissions from the participating university partners and school divisions and submit such consolidated annual report to the Chairmen of the House Appropriations and Senate Finance Committees no later than November 1 each year.*

PLEASE COMPLETE:

Name of Public Virginia Higher Education Institution: Virginia Commonwealth University

Partners: Robins Foundation, Cameron Foundation, and The Community Foundation

Participating School Division(s): Richmond Public Schools, Petersburg City Public Schools, Henrico County Public Schools, and Chesterfield County Public Schools

Name of Grant Director: Therese A. Dozier

Title: Director, Center for Teacher Leadership @ the VCU School of Education & RTR Executive Director

Mailing Address: 3600 West Broad Street, Suite 300

City, State, Zip Code: Richmond, VA 23230

Telephone Number: 804-828-0372 (w) 804-305-8895 (c)

Email Address: tadozier@vcu.edu

DETAILED PROGRAM DESCRIPTION:

Provide a detailed description of the teacher residency program.

RTR is an intensive, school-based teacher preparation model guided by the National Center for Teacher Residencies (NCTR) Seven Principles of Teacher Residencies. These principles were derived from the literature on developing and retaining effective teachers in high-needs schools and form the basis of the theoretical model that guides the RTR program (Berry, Montgomery & Snyder, 2008). The seven principles are: (1) tightly weave education theory and classroom practice together; (2) focus on learning alongside an experienced, effective mentor; (3) group teacher candidates in cohorts; (4) build constructive partnerships with districts, schools, communities, universities, and unions; (5) serve school districts; (6) support residents once they are hired as teachers of record; and (7) establish and support differentiated career roles for veteran teachers.

RTR combines the best of traditional and alternate route teacher preparation programs, ensuring that outstanding candidates are well-prepared to make a positive impact on student learning on their very first day as teachers of record. The RTR teacher preparation

model combines the NCTR residency principles with New Teacher Center (NTC) mentoring support for both residents and graduates. The NTC mentoring model was originally designed as induction support for beginning teachers. RTR has adapted it for pre-service teachers, providing an exceptional approach to preparing and supporting effective teachers. The NTC support throughout the residents' preparation and early teaching careers is central to the RTR model. Specifically, the **RTR/NTC program components include**:

- **Targeted recruitment and selection of residents aligned with school division needs:** Candidates are accepted into RTR based on an academic major, a 3.0 GPA, a written application, satisfaction of all Virginia teacher licensure exams for their content area (this includes the VCLA and Praxis II as well as the GRE and MAT), and the completion of a rigorous on-site selection process that includes (1) teaching a mini-lesson in front of students; (2) a personal interview conducted by both VCU and school division professionals; and (3) an on-demand writing sample that assesses both their writing skills and their coachability by asking them to describe how they would redesign and reteach their mini-lesson based on feedback provided by the assessors. Due to Covid-19 we had to move to an all virtual Selection Day. While candidates were not able to teach a lesson in front of students, they did submit a 5-minute video in which they taught a lesson to friends, parents, or siblings. We also had to adapt the on-demand writing sample by asking candidates to describe: (1) What aspects of the RTR mission and vision statements speak to you and **why?** (2) How will you live the RTR mission, both as a resident and a teacher? Despite these necessary adjustments due to Covid, the process maintained the same rigor as in previous years.
- **An intensive medical-style residency in which residents co-teach alongside a master teacher for an entire year.** The residency year begins on the first day that teachers report to work and ends on the last day of school, allowing residents to scaffold their learning through an extended period of well-supervised clinical practice guided by both university faculty and master teachers. This year-long integration of theory and practice is distinct from traditional programs in which classroom-based practicums typically start halfway into the program.
- **A rigorous selection process and training for mentor teachers** that includes unannounced classroom observations, 4 full days of NTC mentor-teacher training, and monthly mentor forums to enhance their coaching skills.
- **A master's degree or graduate certificate and weekly seminars** that integrate the theory and instructional strategies learned in coursework with the reality of urban classrooms. VCU faculty provide three semesters of master's level coursework designed to address challenges specific to high-needs schools, using evidence-based practices as part of our teacher preparation programs.
- **Post-residency support from an NTC-trained content-specific career coach** who works with residents at least one hour a week for the first two years of their career.

PROGRAM OBJECTIVES:

Describe the goals and objectives of the teacher residency program.

The overarching goal of RTR is to improve student achievement in low-performing schools by recruiting, preparing, and supporting the retention of extraordinary, inspiring teachers and teacher leaders who are committed to social justice and the disruption of educational inequities for systemically underserved students in the Greater Richmond area. Our expected outcomes are well-prepared and highly effective teachers who remain in high-need schools and contribute positively to student achievement. In order to achieve our goals and objectives, RTR:

- Recruits talented, passionate teacher candidates who are committed to becoming career teachers in high-needs settings to address the most critical staffing needs of our most challenged schools and school divisions.
- Prepares teacher candidates in a research-based preparation program based on the NCTR Seven Principles of Teacher Residencies.
- Supports teacher candidates and graduates in the research-based New Teacher Center mentoring model that has been proven effective in improving student achievement for those teachers supported through this data-driven approach to mentoring.
- Retains highly effective teachers and teacher leaders through providing high-quality preparation, professional development, and differentiated career roles.

PARTNERSHIP(S):

Describe the partnership(s) with the public schools. Include any other program partnerships or stakeholder involvement and collaborations.

RTR (formerly Richmond Teacher Residency) began as a partnership between Virginia Commonwealth University (VCU) and Richmond Public Schools (RPS) to recruit, prepare, support, and retain highly effective teachers and teacher leaders who are committed to the students of RPS for the long-term. Originally funded in 2010 through at $5.8 million Teacher Quality Partnership (TQP) grant from the U.S. Department of Education, RTR developed an intensive, school-based teacher preparation model that combines the best of traditional and alternate route teacher preparation programs, ensuring that outstanding candidates are well-prepared and profession-ready on their very first day as teachers of record. In 2017-2018, RTR expanded beyond RPS, conducting a small foundation-funded pilot at Ettrick Elementary School in Chesterfield County Public Schools (CCPS). We are now serving Petersburg City Public Schools and high-needs schools in Chesterfield County and Henrico County Public Schools.

Starting with 9 residents preparing to be English, math, science, and social studies teachers, we expanded to special education in 2014 and elementary education in 2017. In 2019, we piloted a Graduate Certificate in elementary education for those who did not qualify for the Master of Teaching (M.T.) program in elementary education but did have enough content courses to be licensed to teach elementary education. In 2020-2021 RTR successfully worked with our division partners to create an RTR track just for Instructional Assistants (IAs) that allows them to remain on the payroll in their school division and still complete the program within four semesters, rather than three, so the program is less daunting to older residents. Three hours a day they learn to teach alongside a Clinical Resident Coach (CRC) as our other residents do; the remaining three hours they perform their normal IA responsibilities. Sixteen IAs will complete their Graduate Certificate in K-12 Special Education Teaching in August and most have already been hired as the teacher of record by their school division. With the addition of this new IA Pathway, 58 Cohort 10 residents will be hired by August, 65% of whom identify as people of color. **This brings the total number of residents RTR has recruited and prepared for high-needs schools to 277.**

Our school division partners determine RTR recruitment goals each year. Our original target for Cohort 11 was 59 residents. However, we were only able to enroll 37 residents. Our lower numbers are partly due to the impact of Covid on our recruitment efforts, but it also was the result of not being able to offer a competitive stipend that would allow residents to not only pay for their tuition and fees, but also to provide a reasonable living stipend. For Cohort 10 (the cohort that completed their residency year in

June), we were able to advertise a $23K stipend that allowed them to pay for tuition and fees and have at least an additional $9K to help defray living expenses. Unfortunately, for Cohort 11 we had to reduce our original budget request for the FY21 VDOE Residency grant which only allowed us to advertise an additional $5K stipend to help defray living expenses. We originally offered 47 candidates a position in Cohort 11, but 10 turned us down or asked to defer to Cohort 12. We know that at least 6 candidates turned us down because either they could not afford to participate in the program or they accepted an offer from another residency program that had a more competitive stipend. In addition, we do not know how many potential candidates never applied to RTR because they did not feel they could afford it. As the 2017 VDOE report by the Taskforce on Diversifying Virginia's Educator Pipeline (TDVEP) concluded, the number one barrier to building a more diverse teacher workforce is "the length and cost of the traditional teacher preparation pathway" (TDVEP, 2017). This was certainly true in our case in which 4 of the 6 candidates who determined they could not afford to join RTR were Black candidates.

While the size of Cohort 11 is disappointing, we are encouraged that the diversity of our new cohort remains high, with 65% identifying as residents of color.

Table 1: Cohort 11 Numbers by Curricular Track

Division	Math	Science	English	Soc. St.	SPED	Elem.	Traditional Residents	IA Pathway	Total
HCPS	0	0	0	0	1	0	1	0	1
CCPS	0	0	0	0	0	4	4	1	5
PCPS	1	3	1	1	1	2	9	0	9
RPS	2	0	5	0	2	8	17	5	22
	3	3	6	1	4	14	31	6	37

Table 2: Cohort 11 Diversity Statistics

Diversity	Elementary	MT in Elem. Education	Elem. Grad. Certificate	Secondary	SPED M.Ed.	SPED IA Pathway
Black	11/14 (78.5%)	6/8 (75%)	5/6 (83%)	4/13 31%	3/4 75%	4/6 67%
Hispanic	0	0	0	1/13 8%	0	0
Asian	2/14	2*	0	0	0	0
White	2/14	1	1	8/13 61.5%	1/4 25%	2/6 33%
Total	14*	8	6	13	4	6

*****One Resident identified as both Asian/Black

C11 Overall Diversity: 59% Black; 3% Hispanic; 5% Asia; 35% White

Collaboration with our school division partners is real and significant. School divisions determine the recruitment goals based on their staffing needs. More than 20 school division professionals and 20 VCU professionals (from both the School of Education and the College of Humanities and Sciences) participate in vetting and assessing candidates during the two annual recruitment cycles and Selection Day activities.

During the summer and fall of 2010, VCU faculty and exemplary RPS teachers, instructional specialists, and school divisions leaders collaboratively created a Vision of Effective Urban Teaching that undergirds the RTR coursework, seminars, and clinical experiences during the residency year. We have continued to incorporate input from our school division partners on what effective teachers in high-needs schools need to know and be able to do. Most recently this has resulted in topics such as trauma-informed practices, restorative justice, and ESL and special education strategies being incorporated into VCU coursework and the RTR seminars to better prepare residents for the realities of today's classrooms. With the renewed focus on racial injustices, we added a mandatory forum one Saturday a month from 9:00-12:00 to prepare residents to better meet the needs of students of color by becoming antiracist educators.

The RTR Advisory Board includes representatives from each partner school division and VCU that have decision-making authority and a direct reporting line to their respective superintendent (or dean in the case of VCU). They include individuals like the school division Chief Academic Officer, Director of Human Resources, and Director of Research and Evaluation and department chairs for the elementary, secondary, and special education programs in the VCU School of Education. The RTR Advisory Board members:

- Review the mission and purpose of RTR and make revisions, if and where needed.
- Review RTR goals and objectives and make revisions, if and where needed.
- Ensure effective planning, monitoring, and strengthening of RTR.
- Assist the program in setting priorities.
- Provide feedback to the program from K-12 educators and the community
- Keep administrators, colleagues, and community groups apprised of RTR activities.
- Assist in program evaluation and improvement.
- Assist in securing adequate funding.

While the Advisory Board meets once a semester, we have established an RTR Working Subgroup that meets on the third Wednesday of each month from 2:00 p.m.-4:00 p.m. These individuals are tasked with carrying out the decisions of the Advisory Board and monitoring the implementation of RTR.

Each of our partner school divisions has committed significant funding to sustain RTR as we move forward. Each has agreed to pay for the following RTR costs:

- CRC stipends
- New Teacher Center training and the monthly mentor forums

- Career Coaches

Each division partner has also agreed to provide RTR access to data for research/evaluation and the time and expertise of school division educators who serve on the RTR Advisory Board & Working Subgroup and who participate in vetting and assessing candidates during the two recruitment cycles and Selection Day activities.

In addition to the strong partnership with the local school divisions, RTR enjoys substantial support from others stakeholders in our community. The business community has partnered with us in numerous ways to contribute to RTR's success. Support from our business partners includes the following:

- The Greater Richmond Chamber Foundation provided funding to update the RTR website and increase our social media presence.
- Venture Richmond provides free hotel rooms for out-of-town candidates who attend the fall and spring Selection Days.
- Main Street Realty provides a fully-equipped seminar room where residents attend classes, plan lessons together, and socialize with one another.
- The Valentine Museum hosts a welcoming reception at the beginning of the year.

Since 2016, RTR has received funding from the Robins Foundation, Altria, and The Community Foundation. The Cameron Foundation provided funding for the 2017-2018 RTR pilot at Ettrick Elementary School in Chesterfield County Public Schools. Cameron, Robins, and The Community Foundation have committed to a five-year plan of support for RTR-Petersburg, contingent on continued state and PCPS investments.

INCENTIVES AND SUPPORTS:

Describe the incentives and supports, such as tuition, fees paid for the training, stipends, mentoring, etc., provided to the teacher residents. Include training or support provided to the partner school division educators involved in the program.

RTR residents co-teach full-time in our partner school divisions Monday through Thursday for an entire school year and are enrolled in VCU graduate coursework offered in the evening and on weekends. Given the intensity of their ongoing teaching responsibilities, ongoing instructional planning and preparation, and full-time VCU coursework, RTR residents are unable to work part-time. For this reason, we requested in our 2021 residency proposal a $24,000 living stipend to defray a significant part of the cost of residents' living expenses, tuition, books, fees, etc. As noted earlier, because we had to reduce our budget request, we were only able to offer a $19K stipend that resulted in only an additional $5K stipend after covering tuition and fees. In addition, the VCU School of Education offers a special RTR tuition rate that is 80% of in-state tuition for all residents.

In addition to these financial incentives, a critical component of RTR support is the approach we use in providing wrap around services for our residents. The RTR Recruitment and Admissions Administrator serves as an ombudsmen helping residents navigate the complicated application process with both RTR and VCU and any issues that arise with the Office of Financial Aid and Student Accounting once residents are accepted into the program.

Each RTR curriculum track has a curriculum coordinator who serves as a liaison between VCU and the Center for Teacher Leadership to monitor the implementation of RTR in terms of the VCU coursework. Curriculum coordinators:

- serve as the advisor to the residents in their respective curriculum track to ensure they are meeting all VCU requirements for graduation;
- plan and conduct the weekly RTR seminar designed to blend the theory residents learn in VCU coursework with practice in the schools and teach other RTR courses as appropriate;
- schedule the special off-campus classes;
- monitor the residents' attendance and performance in VCU coursework;
- collaborate with other VCU faculty to develop graduate level coursework and assignments that address the unique challenges of teaching in high-needs schools and align with the residency experience; and
- address any concerns raised by residents, CRCs, or the principal at the school site regarding VCU coursework or expectations.

The most critical support RTR provides residents is the mentor teachers or Clinical Resident Coaches (CRCs) who support them throughout the residency year. CRCs are selected through a careful screening process that includes: (1) a written application with recommendations from administrators; (2) evidence of student learning gains and collaboration with colleagues to improve instruction; (3) strong content knowledge and pedagogical skills; (3) unannounced classroom observations; and (4) post-observation debriefing interviews to determine the extent to which the teacher is a reflective practitioner.

In addition to the CRCs, RTR provides a residency coordinator for each curriculum track who supports the CRC/resident partnership in the schools. The residency coordinators:

- serve as a liaison between school sites and the Center for Teacher Leadership to monitor the implementation of the RTR Program;
- Conduct monthly coaching sessions with the CRC to. . .
    - support the use of the New Teacher Center (NTC) formative assessment tools;
    - assist the CRC in meeting the developmental needs of the resident; and
    - address challenges with may arise between the CRC/resident partnership.
- Conduct regular observations and/or formal/informal site visits <u>at least</u> once a month (or more if needed), to monitor the. . .
    - implementation of the RTR model (Gradual Release Calendar and NTC coaching tools);
    - growth of the resident; and
    - effectiveness of the resident/CRC partnership.
- conduct monthly mentor forums to enhance the coaching skills of the CRCs;
- address any concerns raised by residents, CRCs, or the principal at the school site; and
- troubleshoot problems as they arise in the schools.

This careful monitoring of a resident's performance and the program's effectiveness enables RTR to be responsive to the needs of both the residents and our school division partners in a timely and ongoing basis.

Once hired as teachers of record, RTR graduates also receive one-on-one mentoring for at least one hour a week from a highly-skilled, content-specific career coach who has been carefully selected and trained to observe instruction and student learning, to collect observation data, or to assist in the delivery of instruction. This strong induction support is a critical component of RTR because research shows that the most effective teachers leave urban school systems within the first two years (Barnes, Crowe & Schaefer, 2007; Darling-Hammond & Sykes, 2003; National Commission on Teaching and America's Future, 2007). The career coach focuses on formative assessment using the same New Teacher Center mentoring model and tools that are used by the CRCs, providing strong, consistent continuity of support from the residency year through the first two critical years of teaching. This ongoing process of data collection and data analysis informs both the coach's and the beginning teacher's next steps. Issues of content pedagogy, subject matter knowledge, the alignment of instruction with student content and grade level standards, student assessments, and school division curriculum initiatives drive the coach's work in response to the beginning teacher's developmental needs and instructional context. Virginia Professional Teaching Standards are used to provide a clearly articulated, well-validated vision of best practice and a framework within which coaches can focus their work with beginning teachers. The language of the standards helps coaches and beginning teachers carry on instruction- and learning-focused conversations and assists beginning teachers in setting professional goals.

The cost of the staff described above that support RTR residents and graduates is shared. The curriculum coordinators are VCU faculty who take on the additional RTR responsibilities that include advising residents and teaching the weekly RTR seminar. New Teacher Center training for CRCs and career coaches is conducted by the VCU Center for Teacher Leadership, one of only two organizations in the country licensed by NTC to conduct their training. In addition, the monthly mentor forums that both CRCs and career coaches attend are conducted by the residency coordinators who are employed by VCU. To date, the salary and fringe for RTR staff have been supported by federal grants. While CTL conducts the training, the cost of the training and monthly mentor forums is covered by the school divisions for their teacher leaders. In addition, the school divisions pay the CRC stipends for their teachers and the cost of career coaches.

PARTICIPANTS:

Please complete the following chart for program participants:

Chart A: The chart below represents Cohort 10 residents who completed RTR in 2020-2021. We have listed the school division in which the resident will teach and, if known, the name of the school. TBD indicates that these individuals have not yet been hired. The chart will be updated once hiring is completed for all of our graduates. RTR school division partners are:

- CCPS=Chesterfield County Public Schools
- HCPS=Henrico County Public Schools
- PCPS=Petersburg City Public Schools
- RPS=Richmond Public Schools

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	If the resident has accepted employment, please indicate the employer.	Area of Teaching Assigned
Carter, Sarah	Elementary Grad. Cert.	PCPS	Grad. Cert.	Yes	Cool Spring ES	Elementary
Douglas, Claire	Elementary Grad. Cert.	RPS	Grad. Cert.	Yes	Henry L. Marsh ES	Elementary
McPherson, Janell	Elementary Grad. Cert.	PCPS	Grad. Cert.	Yes	Cool Spring ES	Elementary
Moore, Adrianna	Elementary Grad. Cert.	PCPS	Grad. Cert.	Yes	Lakemont ES	Elementary
Uzzle, Alexis	Elementary Grad. Cert.	PCPS	Grad. Cert.	Yes	Cool Spring ES	Elementary
Vann, Victoria	Elementary Grad. Cert.	RPS	Grad. Cert.	Yes	E.D. Redd ES	Elementary
Motta, Cassandra	Elementary Grad. Cert.	RPS	Grad. Cert.	Yes	G.H. Reid ES	Elementary
Atkinson, Abigail	Elementary M.T.	RPS	M.T.	Yes	Miles Jones ES	Elementary
Castillo, Tatiana	Elementary M.T.	PCPS	M.T.	Yes	Pleasants Lane ES	Elementary
Faulkner, Elisabeth	Elementary M.T.	PCPS	M.T.	Yes	Cool Spring ES	Elementary
Fountain, Deihjzia	Elementary M.T.	PCPS	M.T.	Yes	Walnut Hill ES	Elementary
Hill, Taylor	Elementary M.T.	RPS	M.T.	Yes	Miles Jones ES	Elementary
Kay, Julia	Elementary M.T.	RPS	M.T.	Yes	J.B Cary ES	Elementary
Lowry, Elizabeth	Elementary M.T.	PCPS	M.T.	Yes	Lakemont ES	Elementary
Passela, Yohara	Elementary M.T.	PCPS	M.T.	Yes	Walnut Hill ES	Elementary
Thompson, Casey	Elementary M.T.	RPS	M.T.	Yes	J.L. Francis ES	Elementary
Rodriguez, Maria	Elementary M.T.	RPS	M.T.	Yes	Miles Jones ES	Elementary
Aquino, Rocio	English M.T.	RPS	M.T.	Yes	River City MS	English
Daggett, Adrian	English M.T.	PCPS	M.T.	Yes	Petersburg HS	English
Dickerson, Drew	English M.T.	HCPS	M.T.	Yes	Vernon Johns MS	English
Delao, Lisa	English M.T.	RPS	M.T.	Yes	TBD	English

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	If the resident has accepted employment, please indicate the employer.	Area of Teaching Assigned
Evangelista, Joshua	English M.T.	RPS	M.T.	Yes	TBD	English
Jacobs, Melody	English M.T.	RPS	M.T.	Yes	John Marshall HS	English
Mansfield, Adam	English M.T.	RPS	M.T.	Yes	Martin Luther King MS	English
Ross, Candace	English M.T.	RPS	M.T.	Yes	Albert Hill MS	English
Kim, Haeyun	Math M.T.	RPS	M.T.	Yes	Franklin Military Academy	Math
Laing, Julia	Math M.T.	HCPS	M.T.	Yes	Highland Springs HS	Math
Manuel, Danielle	Math M.T.	RPS	M.T.	No	N/A	N/A
Stromberg, Tyler	Math M.T.	CCPS	M.T.	Yes	Meadowbrook HS	Math
Liang, Andrew	Science/Chemistry M.T.	HCPS	M.T.	Yes	Fairfield MS	Science/Chemistry
Bush, Meredith	Social Studies M.T.	RPS	M.T.	Yes	Franklin Military Academy	Social Studies
Hayes, Ashton	Social Studies M.T.	PCPS	M.T.	Yes	Petersburg HS	Social Studies
Oberman, Cole	Social Studies M.T.	RPS	M.T.	Yes	TBD	Social Studies
Glover, Johnne	Special Education M.Ed.	RPS	12 credits	No	N/A	N/A
Gurley, Damond	Special Education M.Ed.	RPS	M.Ed.	Yes	Boushall MS	Special Education
Johnson, Tara	Special Education M.Ed.	PCPS	M.Ed.	Yes	TBD	Special Education
Palmer, Denzel	Special Education M.Ed.	RPS	M.Ed.	Yes	Armstrong HS	Special Education
Parrish, Megan	Special Education M.Ed.	CCPS	M.Ed.	Yes	Ettrick ES	Special Education
Roberson, Kim	Special Education M.Ed.	CCPS	M.Ed.	Yes	Falling Creek ES	Special Education
Schutt, Dan	Special Education M.Ed.	HCPS	M.Ed.	Yes	Virginia Randolph Special	Special Education
Smith, Adrienne	Special Education M.Ed.	RPS	M.Ed.	Yes	Overby-Sheppard ES	Special Education
Watson, Jamesha	Special Education M.Ed.	PCPS	M.Ed.	Yes	TBD	Special Education

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	If the resident has accepted employment, please indicate the employer.	Area of Teaching Assigned
Weber, Amy	Special Education M.Ed.	RPS	M.Ed.	Yes	G.H. Reid ES	Special Education
Winder, Olivia	Special Education M.Ed.	HCPS	M.Ed.	Yes	Fairfield MS	Special Education
Israel, Ariella	Special Ed. Grad. Cert.	HCPS	Grad. Cert.	Yes	John Rolfe MS	Special Education
Sharma, Alexandra	Special Ed. Grad. Cert.	CCPS	Grad. Cert.	Yes	Elizabeth Davis MS	Special Education
Mantzouris, William	Special Ed. Grad. Cert.	CCPS	Grad. Cert.	Yes	Elizabeth Davis MS	Special Education
Claibourne, Shanneka	Special Ed. Grad. Cert.	CCPS	3 credits	No	N/A	N/A
Jones, Shahrazad	Special Ed. Grad. Cert.	CCPS	Grad. Cert.	Yes	TBD	Special Education
Scott, Juanita	Special Ed. Grad. Cert.	CCPS	27 credits	No	N/A	N/A
Wilson, Kimberly	Special Ed. Grad. Cert.		0 credits	No	N/A	N/A
Wright, Kim	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	Southampton ES	Special Education
Fries, Antoine	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	Martin L. King MS	Special Education
Scott, Shaia	Special Ed. Grad. Cert.	RPS	Grad. Cert.	No	N/A	N/A
Clayton, Iman	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	Carver ES	Special Education
Venable, Wyatt	Special Ed. Grad. Cert.	RPS	0 credits	No	N/A	N/A
McKeever, Requel	Special Ed. Grad. Cert.	RPS	12 credits	No	N/A	N/A
Sinkfield, Timothy	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	TBD	Special Education
Greene, Lesley	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	Westover Hills ES	Special Education
Smith, Samantha	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	G.H. Reid ES	Special Education
Williams, Taylor	Special Ed. Grad. Cert.	RPS	6 credits	No	N/A	N/A
Winn-Brown, April	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	Thomas Jefferson HS	Special Education
Hill-Johnson, Senecca	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	TBD	Special Education

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	If the resident has accepted employment, please indicate the employer.	Area of Teaching Assigned
Kaur, Jaswinder	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	J.L. Francis ES	Special Education
Harris, Leon	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	TBD	Special Education
Patterson, Annette	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	River City MS	Special Education
Pleasant, Theresa	Special Ed. Grad. Cert.	RPS	Grad. Cert.	Yes	Henderson MS	Special Education

NOTE: The M.Ed. in Special Education is 37 graduate credit hours; the M.T. is 33-34 hours; the M.Ed. in Curriculum & Instruction for secondary Middle School STEM residents is 36 hours; and the Graduate Certificate in Elementary Teaching is 30 hours. The Graduate Certificate in K-12 Special Education is 27 hours plus a 3 credit pre-requisite course. One secondary resident withdrew during the summer semester citing family issues and one M.Ed. special education resident withdrew in October due to health issues. Six IA Pathway residents withdrew due to health issues or poor academic performance. Almost all left in the summer semester 2020. Juanita Scott had to withdraw from RTR because her CRC no longer wanted to participate in the program and no other teacher at Meadowbrook High School was qualified to serve as a CRC. Because Juanita was employed at that school, we were unable to move her to another high-needs school. She has, however, continued her coursework and will graduate with her peers in the IA Pathway. They will complete their Graduate Certificate in early August. The total number of credits completed by the 9 residents who withdrew or were dismissed due to poor academic performance is included above in the appropriate column.

Chart B: The chart below represents Cohort 11 residents who were recruited in 2020-2021 and began their VCU coursework in May 2021. They will not complete their residency year until June 2022. School assignments for the residency year are listed for those who have been placed. However, we have not determined all placements yet because we are still matching our residents with their CRCs for the 2021-2022 school year. This chart will be updated once all school assignments are completed.

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	Placement for the residency year	Area of Teaching Assigned
Carey, Emily	Science/Chemistry M.T.	PCPS	N/A	N/A	TBD	Science/Chemistry
Lewis, Jarae	Science/Biology M.T.	PCPS	N/A	N/A	TBD	Science/Biology
White, Maurice	Science/Biology M.T.	PCPS	N/A	N/A	TBD	Science/Biology
Mikkola, Tim	Math M.T.	PCPS	N/A	N/A	TBD	Math
Cislo, Courtney	Math M.T.	RPS	N/A	N/A	TBD	Math
McLaughlin, Emily	MS Math M.Ed.	RPS	N/A	N/A	TBD	MS Math
Perry, Oliver	English M.T.	RPS	N/A	N/A	TBD	English
Grant, Chloe	English M.T.	RPS	N/A	N/A	TBD	English
Sims, Jessica	English M.T.	PCPS	N/A	N/A	TBD	English
Banks, Tiara	English M.T.	RPS	N/A	N/A	TBD	English
Ibarra, Meagan	English M.T.	RPS	N/A	N/A	TBD	English
Livengood, William	English M.T.	RPS	N/A	N/A	TBD	English
Boyton, Elinor	Social Studies M.T.	PCPS	N/A	N/A	TBD	Social Studies
Nelson, Katrina	Elementary M.T.	CCPS	N/A	N/A	TBD	Elementary
Jaffe, Samantha	Elementary M.T.	RPS	N/A	N/A	Miles Jones ES	Elementary
Lawrence, Banetra	Elementary M.T.	RPS	N/A	N/A	Miles Jones ES	Elementary

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	Placement for the residency year	Area of Teaching Assigned
Fountaine, Kristin	Elementary M.T.	RPS	N/A	N/A	Obama ES	Elementary
Mitchell, Alexis	Elementary M.T.	RPS	N/A	N/A	Obama ES	Elementary
Smith, Courtney	Elementary M.T.	RPS	N/A	N/A	Chimborazo ES	Elementary
Wharton, Taylor	Elementary M.T.	RPS	N/A	N/A	Obama ES	Elementary
Helton, Ashley	Elementary M.T.	CCPS	N/A	N/A	TBD	Elementary
Reid, Kayla	Elementary Grad. Cert.	RPS	N/A	N/A	Bellevue ES	Elementary
Holwarth, Michael	Elementary Grad. Cert.	RPS	N/A	N/A	Bellevue ES	Elementary
Lewis, Cor De’	Elementary Grad. Cert.	CCPS	N/A	N/A	TBD	Elementary
Gordon, Patrick	Elementary Grad. Cert.	CCPS	N/A	N/A	TBD	Elementary
Medley, Kristi	Elementary Grad. Cert.	PCPS	N/A	N/A	Lakemont ES	Elementary
Godley, Shaquarius	Elementary Grad. Cert.	PCPS	N/A	N/A	Lakemont ES	Elementary
Small, Kailyn	Special Education M.Ed.	RPS	N/A	N/A	Broad Rock ES	Special Education
Braun, Suzette	Special Education M.Ed.	HCPS	N/A	N/A	Fairfield MS	Special Education
Wood, Breah	Special Education M.Ed.	PCPS	N/A	N/A	Pleasants Lane ES	Special Education
Bunns, Kristin	Special Education M.Ed.	RPS	N/A	N/A	Henderson MS	Special Education
Moore, Angela	Special Ed. Grad. Cert.	RPS	N/A	N/A	TBD	Special Education
Pittman, Ebony	Special Ed. Grad Cert.	RPS	N/A	N/A	Richmond Alternative School	Special Education

Name of the Resident	Area(s) of Teaching Seeking Endorsements	School Division (for residency)	Number of Hours of Graduate Credit Completed	Did the individual complete the first year of the TRP Program? (yes or no)	Placement for the residency year	Area of Teaching Assigned
Mason, Cierra	Special Ed. Grad. Cert.	RPS	N/A	N/A	Carver ES	Special Education
Johnson, Kerry	Special Ed. Grad. Cert	RPS	N/A	N/A	Overby-Sheppard ES	Special Education
Freeman, Maceo	Special Ed.Grad. Cert.	RPS	N/A	N/A	George Wythe HS	Special Education
Mojica, Glenda	Special Ed. Grad. Cert.	CCPS	N/A	N/A	Elizabeth Davis MS	Special Education

PROGRAM EVALUATION:
Please attach the copy of the Program Evaluation.

Please include in the evaluation plan how the university and school division(s) collected information to organize meaningful data to inform the program of its effectiveness and how such information was used for program improvement.

Please detail the following:

a. the effectiveness of the program in meeting the stated goals and objectives;
b. the success of identifying and recruiting well qualified, diverse candidates to work in an urban school environment;
c. the effectiveness of the partnership(s); and
d. the perceptions of the program success by participants and partners.

Report on available outcome measures, including student performance indicators. [Please include any available retention data.]

EXPENDITURES:

Please complete the following charts reporting total expenditures:

Period of Award: **July 1, 2020 – June 30, 2021**

Public Institution of Higher Education: Click or tap here to enter text.

Personal Services 1000					**Source of Funds**			**Totals**
	Description				**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	
Job titles of individuals whose salaries were charged to this program	Program Role	% FTE	Salary	Total charged to grant for this individual				
Director of RTR Partnerships	Works to develop new RTR partnerships with a particular focus on PCPS	100%	$83,000	$83,000	$0	$28,348	$54,652	$83,00
RTR Executive Director	Oversees all aspects of RTR	95.60%	$155,657	$148,808	$0		$148,808	$148,808
Director of Admissions & Recruitment Specialist	Oversees Recruitment/admissions to RTR & VCU Grad School & Designs/Implements recruitment strategies	100%	$58,035	$58,035	$0		$58,035	$58,035
Fiscal and Grants Specialist	Processes all fiscal documents; manages budget	100%	$43,008	$43,008	$0		$43,008	$43,008
SPED Curriculum Coordinator	Advises and teaches SPED residents	52.50%	$82,181	$43,145	$0		$43,145	$43,145
SPED Residency Coordinator	Supports SPED resident/CRC partnerships	70%	$55,128	$55,128	$0		$55,128	$55,128
Elementary Residency Coordinator	Supports elementary resident/CRC partnerships	80%	$65,000	$52,000	$0		$52,000	$52,000
Elementary Curriculum Coordinator	Advises and teaches elementary residents	50%	$28,163	$28,163	$0		$28,163	$28,163

Secondary Curriculum and Alumni Network Coordinator	Advises and teaches secondary residents and supports alumni	99%	$81,333	$80,520	$0		$80,520	$80,520
Secondary Residency Coordinator	Supports secondary resident/CRC partnerships	70.60%	$51,900	$51,900	$0		$51,900	$51,900
Administrative Assistant	Supports all RTR staff with logistics on trainings, travel reimbursements, supply orders, and other administrative needs	90%	$39,350	$35,415	$0		$35,415	$35,415
Director of Special Projects / Tutoring Instructor	VCLA tutoring support, special projects and events.	72.50%	$41,827	$41,827	$0		$41,827	$41,827
Total Personal Services 1000				$720,949		$28,348	$692,601	$720,949

Employee Benefits 2000				Source of Funds			
Job titles of individuals whose benefits were charged to this program	% Benefits	Salary	Total	State Grant Funds	School Division Cash Funds (At least 1/3 of the dollar cost of the program)	In-Kind	
Director of RTR Partnerships	41.1%	$83,000	$34,113			$34,113	$34,113
RTR Executive Director	41.1% & 8.5% summer	$148,808	$53,044			$53,044	$53,044
Director of Admissions & Recruitment Specialist	41.1%	$58,035	$23,852			$23,852	$23,852
Fiscal and Grants Specialist	41.1%	$43,008	$17,676			$17,676	$17,676
SPED Curriculum Coordinator	41.1% & 8.5% summer	$43,145	$15,424			$15,424	$15,424
SPED Residency Coordinator	8.5%	$55,128	$4,686			$4,686	$4,686
Elementary Residency Coordinator	41.1%	$52,000	$21,372			$21,372	$21,372
Elementary Curriculum Coordinator	0%	28,163	$0			$0	$0
Secondary Curriculum and Alumni Network Coordinator	41.1% & 8.5%	$80,520	$28,855			$28,855	$28,855
Secondary Residency Coordinator	8.5%	$51,900	$4,412			$4,412	$4,412
Administrative Assistant	41.1%	$35,415	$14,556			$14,556	$14,556
Director of Special Projects / Tutoring Instructor	8.5%	$41,827	$3,555			$3,555	$3,555
Total Employee Benefits 2000						$221,545	$221,545

Purchased/Contractual Services 3000	Source of Funds			
Description (Please provide detailed cost calculations.)	**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	**Totals**
National Center for Teacher Residencies Membership Fees	$0	$0	$10,000	$10,000

				$0
Total Purchased Contractual Services 3000	$0	$0	$40,302	$40,302

Internal Services 4000	**Source of Funds**			
Description (Please provide detailed cost calculations.)	**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	**Totals**
RTR Evaluation	$0	$0	$204,667	$204,667
				$0
				$0
				$0
				$0
Total Internal Services 4000	$0	$0	$204,667	$204,667

Other Charges 5000	**Source of Funds**			
Description (Please provide detailed cost calculations.)	**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	**Totals**
Summer 2021 Stipends for RPS, PCPS, CCPS, HCPS residents recruited in 2020-2021 (fall and spring stipends and Summer 2022 stipends for Cohort 12 will use up the remaining unspent funds)	$13,537	$0	$0	$13,537
Cash Match from divisions that includes mentor stipends, training, and the cost of career coaches to be paid after July 1 (see explanation at the end of the budget form)	$0	$392,369	$358,000	$$750,369
Special RTR Tuition Rate Savings for Residents (Summer 2021 @ $2,059*58)	$0	$0	$119,442	$119,442
Total Other Charges 5000	$13,537	$392,369	$477,442	$883,348

Materials and Supplies 6000	Source of Funds			
Description (Please provide detailed cost calculations.)	**State Grant Funds**	**School Division Cash Funds (At least 1/3 of the dollar cost of the program)**	**In-Kind**	**Totals**
Project Supplies	$0	$0	$9,340	$9,340
Media Services	$0	$0	$23,114	$23,114
Printing/Publication Costs	$0	$0	$863	$863
Total Materials and Supplies 6000	$0	$0	$33,317	$33,317

Total Expenditures for the Teacher Residency Grant				
	Source of Funds			**Total Expenditures**
	State Grant Funds	**School Division Cash Funds (At least 1/3 of the dollar cost of the program) [1/3 of state funds requested]**	**In-Kind**	
Personal Services (1000)	$0	$28,348	$$692,601	$720,949
Employee Benefits (2000)	$0	$0	$$221,545	$221,545
Purchased/Contractual Services (3000)	$0	$0	$40,302	$40,302
Internal Services (4000)	$0	$0	$204,667	$204,667
Other Charges (5000)	$13,537	$392,369	$477,442	$883,348
Material and Supplies (6000)	$0	$0	$33,317	$33,317
Totals	**$13,537**	**$420,717**	**$1,669,874**	**$2,104,128**

COMMENTS AND DOCUMENTS

Please provide any additional comments regarding the program. Also, attach any documentation (articles, brochures) highlighting the program and its achievements.

RTR is recognized as a national model for recruiting, preparing, and supporting not only new teachers, but also veteran teachers who co-teach and mentor our residents. We have presented at the NCTR and AACTE national conferences. RTR was asked to write the chapter on "Identifying and Recruiting Quality Mentor Teachers" in *The Teacher Residency Model: Core Components for High Impact on Student Achievement* published in 2019. The book describes key components of successful residencies, sharing specific aspects of their programs from which others can learn. The chapter written by Dr. Tamara Sober, our RTR Secondary Curriculum Coordinator, illustrates RTR's successful practices in recruiting, selecting, preparing, and supporting quality mentor teachers. It features the work of RTR Clinical Resident Coaches (CRCs). Interviews with CRCs provide specific examples of how their practice is strengthened by coaching and the important contributions veteran teachers can make to the profession by mentoring and coaching future teachers (Sober, 2019).

RTR has a track record of successful replication and expansion of our residency model. In 2011-2012, we started with 9 residents preparing to become secondary math, science, social studies, and English teachers in Richmond Public Schools. Today we are in four school districts that represent very different contexts—and we now prepare secondary, special education, and elementary residents. We have implemented two new graduate certificates programs using federal funds and negotiated with our partner LEAs to create a residency pathway for instructional assistants that allows them to remain employed while learning to teach.

Our success in preparing effective teachers and expanding RTR was recently recognized by Governor Northam when he proclaimed April 15, 2021 as Richmond Teacher Residency Day (McNeill, 2021; Proclamation, 2021).

This school year, RTR celebrated its 10-year anniversary of preparing teachers for our high-needs, hard-to-staff schools. Attached is our annual report for 2019-2020 that includes highlights our success. **Now with the graduation of Cohort 10, we have prepared 277 teachers for high-needs schools in the Great Richmond area.** Below are examples of media attention we received during 2020-2021.

- WTVR-CBS 6 News ran a feature story by Shelby Brown on July 20, 2020.
- **'Lifting a city up from inside the classroom': 10 years of VCU's teacher residency program**
  RTR, a program at the School of Education, has helped train more than 200 new teachers over the past decade, providing qualified educators for the schools that need them most.
  https://news.vcu.edu/article/Lifting_a_city_up_from_inside_the_classroom_10_years_of_VCUs
- Virginia Public Radio https://www.wvtf.org/post/vcu-offers-model-teacher-training-program#stream/0

Since 2015 when our first graduates were able to become CRCs, we have tapped the leadership skills of numerous RTR alums to serve as Clinical Resident Coaches (CRCs) for new cohorts of residents. This summer, our Lead Secondary Residency Coordinator, Ms. Jan Tusing, is retiring. After an extensive search that yielded many highly qualified candidates, we were delighted that the search committee unanimously recommended Ms. Wenda Thompson, chair of the English department at John Marshall High School, as the new RTR Lead Secondary Residency Coordinator. Wenda comes to CTL with extensive personal experience with RTR, both as an English resident in Cohort 2 and as a CRC for two English residents. In addition, she has taught TEDU 537: Secondary Curriculum for RTR residents. RTR's mission is to recruit, prepare, and support extraordinary, inspiring teachers and teacher leaders, and Wenda is a perfect example of this. To have one of our residents come full circle and assume this important leadership role is truly an RTR Proud moment!

We also were thrilled to learn that Ashley Bland, a math resident in Cohort 5, was named the RPS Teacher of the Year. Here is the spotlight article on Ashley Bland, SOE/RTR alum and RPS 2021 Teacher of the Year: https://soe.vcu.edu/news/recent-articles/ashley-bland-2021-rps-teacher-of-the-year.html

Most recently, the valedictorian of George Wythe High School was featured in the Richmond Free Press. http://richmondfreepress.com/news/2021/jun/17/personality-harold-aquino-guzman/ In the article he explains why he has chosen to enter VCU this fall: ***University I selected and why:*** *I selected Virginia Commonwealth University. I will be able to walk next fall with 112 college credits transferred and finish my bachelor's in May 2022,* ***and hopefully I will be able to enter into the RTR, or Richmond Teacher Residency, program to become a mathematics teacher.*** *I especially want to be able to teach dual enrollment courses so that other students in Richmond Public Schools can have the same opportunities I had.* His sister, Rocio Aquino-Guzman was the 2018 valedictorian at George Wythe High School, also entering VCU as a senior due to her college credits completed in high school. She is a member of Cohort 10 and will be teaching English in Richmond Public Schools in the fall.

As Black and Latinx individuals, Wenda, Ashley, Rocio, and Harold are examples of RTR's biggest success. In addition to preparing highly-effective teachers who are heavily recruited by principals in our partner districts, resulting in a 100% placement record, our biggest success has been in diversifying the teaching force for our school districts. This success is the result of several things. Starting with Cohort 4, we began to recruit intensively within our local communities. In addition, each time we have opened a new pathway for individuals to become teachers we have seen our diversity numbers increase. Our first three cohorts were only secondary residents. Candidates had to not only have a major in the content area, but also specific courses within the major to qualify for VCU's Master of Teaching program. With those restrictions our early cohorts were only about 20% non-white. In Cohort 4 we introduced a special education track that only required a bachelor's degree in any area. That increased our diversity to over 40%. With the addition of the new elementary and special education graduate certificates, this year's cohort is the largest and most diverse to date with 65% identifying as residents of color. In particular, all but two of our IA Pathway residents identify as Black.

We have consistently messaged through our website and social media that we are a program committed to social justice and leveling the playing field for students from low-income and minority communities. With federal funds we hired a graduate of an HBCU to assist us in recruiting candidates of color, and she has tried innovative approaches to reach out to minority communities including a highly successful Black radio ad campaign. In June 2020, the RTR Advisory Board approved the new mission and vision statement below.

RTR Mission Statement
RTR recruits, prepares, and supports the retention of extraordinary, inspiring teachers and teacher leaders who are committed to social justice and the disruption of educational inequities for systemically underserved students in the Greater Richmond area. RTR and its community partners are committed to strong collaborations that result in positive contributions to the collective culture and success of the public schools we serve.

RTR Vision Statement
Our vision is that every historically marginalized student in the Greater Richmond area is taught by culturally responsive teacher leaders who stand against systemic inequities and empower students to reach their full potential.

Recruiting heavily within the communities we serve, adding additional RTR pathways, implementing new innovative recruitment strategies targeting candidates of color, and revising RTR's mission and vision statements, have resulted in attracting minority candidates who want to give back to their communities. In addition, our evaluation results and the November 2020 Benefit-Cost Analysis of Richmond Teacher Residency (RTR) Program by the Center for Regional and Urban Analysis (CURA) in the L. Douglas Wilder School of Government and Public Affairs confirms the effectiveness of RTR. CURA findings include:

- **RTR-trained teachers more closely reflect the student demographics** of RPS than their non-RTR colleagues.
- **Student performance on standardized tests is generally better** in classes taught by RTR teachers compared to classes taught by non-RTR teachers in schools with similar student characteristics.
- **RTR teachers are deemed more prepared** to teach in high-needs RPS schools when they begin teaching than their traditionally prepared peers.
- **RTR teachers are less expensive to hire and cost less to replace than non-RTR teachers.** The hiring cost of an RTR teacher is $8,020, which is less than half of a non-RTR teacher ($17,574).
- **RTR retention rates are substantially higher in the first three years.** The ratio in the first two years is above 90%. Non-RTR first two years average retention ratio is about 70%. RTR third year retention is 82%, Non-RTR is about 52%.

RTR was fortunate to get a Black Educator Initiative (BEI) grant from the National Center for Teacher Residencies in April 2020. With this funding we were successful in enrolling and graduating 34 Black residents for Cohort 10 (18 in the regular RTR program and 16 in the IA Pathway) and establishing the Minority Educator Recruitment, Retention, and Equity Center (MERREC). Directed by Dr. LaRon Scott, MERREC provides a safe space for minority educators in our area—not just RTR residents--to receive the support, mentoring, advising, and resources they need to be successful. MERREC serves as a place to understand these educators' experiences, and track the patterns and mobility through their preparation programs and careers so that we can improve the racial diversity of the

teacher workforce. The establishment of MERREC is evidence of RTR's impact on the entire School of Education (SOE), our region, and state.

Please submit your report by June 30, 2021, to:

Mr. Rusty Fairheart
Deputy Superintendent and Chief of Staff
Division of School Quality, Instruction and Performance
Donald.Fairheart@doe.virginia.gov.

BENEFIT-COST ANALYSIS OF RICHMOND TEACHER RESIDENCY (RTR) PROGRAM

Designed by jcomp / Freepik

NOVEMBER 2020

VCU L. Douglas Wilder School of Government and Public Affairs
Center for Urban and Regional Analysis

RTR

BENEFIT-COST ANALYSIS OF RICHMOND TEACHER RESIDENCY (RTR) PROGRAM

Prepared for :
RICHMOND TEACHER RESIDENCY (RTR) PROGRAM
SCHOOL OF EDUCATION

Prepared by:
CENTER FOR URBAN AND REGIONAL ANALYSIS (CURA)
VIRGINIA COMMONWEALTH UNIVERSITY

NOVEMBER 2020

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ACKNOWLEDGMENTS

The Wilder School's Center for Urban and Regional Analysis is grateful to Dr. Therese Dozier, Director of the Richmond Teacher Residency (RTR) program, Dr. Tamara Sober, Dr. Kimberly McKnight, Dr. Lisa Abrams, and Dr. Jesse Senechal of VCU School of Education. CURA is also thankful to the Clinical Resident Coaches, Career Coaches, and School Principals who agreed to interview with us for the study.

ABOUT THE WILDER SCHOOL

The L. Douglas Wilder School of Government and Public Affairs at Virginia Commonwealth University informs public policy through cutting-edge research and community engagement while preparing students to be tomorrow's leaders. The Wilder School's Center for Public Policy conducts research, translates VCU faculty research into policy briefs for state and local leaders, and provides leadership development, education and training for state and local governments, nonprofit organizations and businesses across Virginia and beyond.

ABOUT CURA

The Center for Urban and Regional Analysis (CURA) is the economic and policy research center of the L. Douglas Wilder School of Government & Public Affairs at Virginia Commonwealth University. The Center serves stakeholders and organizations at all levels of focus, providing information systems support, program impact analysis, public policy evaluation, targeted investment models, and strategic plans to state agencies, regional and metropolitan organizations, planning districts, cities, counties and towns, as well as businesses and non-profit organizations.

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EXECUTIVE SUMMARY

Teacher recruitment and retention are issues faced by school divisions across the country. This is particularly true for high-needs urban school divisions, which often face challenges when recruiting and retaining highly-qualified teachers. An alternative teacher preparation program, the urban teacher residency, was created to address these challenges. RTR (formerly known as the Richmond Teacher Residency) is one such program. RTR recruits and trains teachers to serve in the highest-needs schools in Richmond Public Schools (RPS), a division which serves approximately 89% minority students and 66% economically disadvantaged students. RTR actively recruits teacher candidates who have a passion for working with urban youth and makes every effort to increase the pool of teachers of color. The RTR program provides RPS with highly-qualified teachers who are prepared to take on the challenges of working in the most high-needs schools in the division.

PURPOSE OF THE STUDY

This study sought to compare RTR and non-RTR prepared teachers in terms of the quality of the teachers and the costs associated with recruiting, hiring, and retaining them. This report presents a description of the schools served by these teachers and information about the preparedness and success of the teachers. Additionally, the report presents the results of a cost-benefit analysis of RPS hiring an RTR teacher over a non-RTR teacher. The findings of this study are designed to inform policy makers of the benefits and challenges associated with RPS teacher recruitment through the RTR program.

RTR began as a partnership between the VCU School of Education and RPS to recruit, prepare, support, and retain highly effective teachers and teacher leaders committed to long-term support of RPS students. The RTR program is uniquely designed to address the issue of teacher turnover by recruiting qualified individuals who desire to serve in high-needs urban schools. The program includes curriculum differentiated for high-needs teaching, a year-long clinical residency supported by a highly-trained, clinical resident coach, and continued mentorship during the first two years as a teacher of record. The RTR program is designed to benefit the RPS school system with the following two outcomes:

1. Cost savings due to reduced teacher turnover and high-quality teachers.
2. Improvement in student performance and (eventually) overall school quality.

SUMMARY OF FINDINGS

The following information presents two broad categories of findings. Within each section are specific data points addressed in greater detail in the body of the report.

RTR PROVIDES A PIPELINE OF HIGH-QUALITY, DIVERSE TEACHERS FOR THE MOST DIFFICULT TO STAFF, HIGHEST OF HIGH-NEEDS SCHOOLS.

Specific findings include:

- RTR-trained teachers more closely reflect the student demographics of RPS than their non-RTR colleagues. Just over 41% of RTR teachers hired have been non-White, which is more than double the national average in minority hiring. About 30% of RTR teachers are African American and are more representative of the majority-Black RPS student body. In addition, RTR teachers serve in schools with minority student populations that are disproportionately higher than the state average. The ratio of resident-teachers representing minority races in the program increased from 24% on average in 2012-2015 to 41% in 2017-2018.
- Student performance on standardized tests is generally better in classes taught by RTR teachers compared to classes taught by non-RTR teachers in schools with similar student characteristics.
- RTR teachers are deemed more prepared to teach in high-needs RPS schools when they begin teach-

ing than their traditionally prepared peers. Initial preparedness is defined in this report as a measure of the level of subject matter expertise, classroom experience, and capability to manage difficult classroom environments at the time of initial hire. Principals shared that they prefer to hire RTR teachers because they know the teacher quality will be greater than that of non-RTR teachers.

- RTR teachers are consistently hired to serve in the highest of high-needs schools, as noted by the following school demographic data:
  - Disproportionately higher than state average dropout rates
  - Disproportionately higher than state average economically disadvantaged student population
  - Highly challenged school accreditation context, based on low standardized test scores

RTR TEACHERS ARE LESS EXPENSIVE TO HIRE AND COST LESS TO REPLACE THAN NON-RTR TEACHERS.

The report provides numerous tables comparing various costs associated with recruitment and retention of RTR and non-RTR teachers. Findings show that RPS benefits from hiring RTR-prepared teachers. The costs associated with recruitment, training, hiring, and retaining RTR teachers are less than those associated with non-RTR teachers. Retention rates of beginning teachers differ for RTR and non-RTR teachers, which leads to greater savings for RPS when RTR teachers are hired. While the study does provide evidence that long-term retention rates do not widely differ between RTR and non-RTR teachers, costs associated with re-staffing the RTR vacated positions are lower than those associated with re-staffing the non-RTR vacated positions. Specific findings include:

- The cost of hiring an RTR teacher is less than the cost of hiring a non-RTR teacher for RPS. The hiring cost of an RTR teacher is $8,020, which is less than half of a non-RTR teacher ($17,574).
- Operational costs such as salaries of personnel responsible for recruitment and training of teachers are substantially lower for RPS when RTR teachers are hired. The operational cost for RPS over a five-year period would be $3.97 million if only non-RTR teachers were hired, versus a $0 operational cost if only RTR teachers were hired.
- Considering the on-the-job training component, the overall recruitment cost to hire and maintain a pool of 300 non-RTR teachers is estimated to be around $8.28 million, which is more than double the recruitment cost for a similar pool of RTR teachers.
- Estimates developed using the data from the RTR program show retention rates as high as 100% in the first year, 97% in the second year, and 92% in the third year. The retention rates, however, fall sharply to 59% in the fourth year and to 56% in the fifth year. In comparison, non-RTR teacher retention rates are as high as 80% in the first year, 69% in the second year, 55% in the third year, and 47% and 43% in the fourth and the fifth year respectively.
- Even though the 4th and 5th year retention rates are comparable between the two samples, the cost of maintaining a pool of 300 RTR teachers for five years ($5.1 million) is still about one-third of the cost of maintaining a pool of non-RTR teachers ($15.5 million).
- Non-RTR teachers cost RPS more money to replace when they leave their positions. It is more costly when non-RTR teachers leave given the time and money RPS has invested to recruit, hire, and train them, costs that they do not bear for RTR teachers. Non-RTR teachers leave at greater rates during the first several years of their teaching career therefore requiring more substitute teachers to take over their classes.

Overall, the evidence presented in the benefit-cost analysis report indicates that RTR is a successful program in terms of providing RPS with a more highly qualified, diverse pool of teachers at a lower cost to the school system than their traditional recruitment methods. RPS faces a teacher turnover rate that is more than double the state average. RTR has established a means of engaging multiple stakeholders in a public-private partnership which financially supports the preparation of new teachers desiring to teach in this urban school district. As of 2018, RTR recruited about 13% of new teachers hired by RPS every year. The RTR program has helped the school district save time and money in recruiting, hiring, and training these new teachers. Evidence presented in the report indicates that the program is poised to continue garnering external support in the future, which will allow it to maintain and even increase its preparation of highly qualified teachers ready to begin their career in the RPS school district.

INTRODUCTION

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INTRODUCTION

RTR, formerly known as the Richmond Teacher Residency program, began as a partnership between the Virginia Commonwealth University (VCU) School of Education and Richmond Public Schools (RPS) to recruit, prepare, support, and retain highly-effective teachers and teacher leaders who have a long-term commitment to the students of RPS. Many economically disadvantaged urban school systems in Virginia have experienced higher rates of teacher turnover than more affluent suburban schools (JLARC, 2014), and RPS is no exception to that trend. This is costly in many ways. The hiring of teachers, providing on-the-job training, processing separations, and managing substitutes are expensive administrative tasks that create an unnecessary financial burden to resource-strapped urban schools (Barnes, Crowe, & Schaefer, 2007). Further, when students are continuously exposed to new, inexperienced teachers, it negatively impacts their academic performance, attendance, and in-class behavior (Hakanen, Bakker, & Schaufeli, 2005; Neito, 2003). A long-term solution to addressing teacher shortages in Virginia's urban schools is to recruit through a dedicated pipeline of qualified teachers, and provide appropriate incentives and support services to retain them longer (JLARC, 2014).

Most accreditation and ranking agencies consider Standards of Learning (SOL) standardized test scores, attendance, and dropouts as key elements of a school's performance. Many urban schools struggle to achieve performance scores on par with their suburban counterparts. Some find themselves at risk of losing accreditation. This generates a cycle where new teachers prioritize employment opportunities in suburban schools, and already-employed teachers tend to stay in urban schools for a brief period until they find other opportunities. Teacher shortages and reduced retention have been found to impact urban schools that have been classified as high-needs or low-performing (Borland & Howsen, 1999).

BACKGROUND

As noted above, school systems throughout the United States have trouble retaining new and experienced teachers (Garcia & Weiss, 2019). The problem is attributed to two major factors: teacher pay and school characteristics. Teaching offers relatively low wages in comparison to other jobs that require the same amount of schooling (Buckley, Schneider, & Shang, 2004). Not only do teachers leave the profession at a higher rate than other professions, higher-paying non-teaching jobs attract some of the most academically gifted teachers. Academically gifted teachers, as measured by math SAT scores, leave the profession at a higher rate to earn more money in another profession (Buckley, Schneider, & Shang, 2004). The other major factor in teacher attrition is school characteristics. School characteristics are extrinsic factors that impact a teacher's perception of their working environment and their ability to teach and work within a school system. School characteristics are often a reflection of the societal conditions and complex histories of the localities school divisions are in. For example, school divisions in large urban areas with a high number of economically disadvantaged and minority students see the greatest rates of turnover. Research suggests teachers may accept lower pay to work at a school or school division with better working conditions (Buckley, Schneider, & Shang, 2004). This leaves many urban school divisions struggling to fill vacant teaching positions.

These high rates of teacher turnover impact student outcomes such as academic achievement. This phenomenon has a stronger effect on schools with fewer resources (Ronfeldt, Loeb, & Wyckoff, 2012), such as those found in high-needs urban school divisions. Departing teachers are often replaced by teachers with less experience or fewer qualifications. Research indicates that teachers with higher achievement scores and more experience leave less frequently; however, when those teachers depart a school system, their replacements often do not fill the gaps in achievement or experience that remain.

High teacher turnover has a disruptive effect throughout a school system. It leads to lower staff cohesion and community, which has been proven to worsen student learning outcomes (Ronfeldt, Loeb, & Wyckoff, 2012). High turnover also puts a financial strain on school systems. The costs of new teacher recruitment and hiring can drain money from other efforts that improve school programs, resources, or working conditions. New hires,

especially those that are inexperienced, cost schools more money than retaining experienced teachers because new hires require more training and guidance (Ronfeldt, Loeb, & Wyckoff, 2012). Due to already having fewer resources and more inexperienced teachers, high-needs school see an even greater impact from teacher shortages and turnover.

These trends are true in Virginia. Schools in the state face a major equity problem. On average, minority students and those who come from low income families are taught by less experienced and unprepared teachers. Teacher quality is among the most important factors in student achievement (Boston Teacher Residency, 2010). In Richmond, 17% of teachers are considered inexperienced and 15% of teachers are only provisionally licensed. Those rates are more than double the state average for inexperienced teachers in high poverty areas (7.2%) and the state average for provisionally licensed teachers (7.2%) (Virginia Department of Education, 2019).

Statewide, 935 teacher positions were unfilled at the start of the 2017-2018 school year. This teacher shortage is more acute in schools located in high poverty communities. The No Child Left Behind Act defines a school as high needs if 30% of the student population comes from families living below the poverty line. Every school in Richmond except for the REAL Alternative High School is considered high needs by the state definition.

RPS is a high-needs urban school division facing significant headwinds in improving student achievement. In the 2018-2019 school year, 89% of the students were minorities, and 66% of the division was economically disadvantaged, meaning they qualified for free/reduced lunch, received TANF, or Medicaid (Virginia Department of Education, 2019). In classrooms serving economically disadvantaged students, student engagement and academic performance are often lower than classrooms serving students from middle- and upper-class homes (Jensen, 2013). This, coupled with the fact that RPS offers similar pay as neighboring suburban divisions such as Henrico and Chesterfield, makes it hard for RPS to recruit and retain teachers. Teachers at high-needs schools inside of RPS face behavior challenges, classroom management issues, and students with difficult home lives. One career coach in an interview with CURA explained, "Teachers leave urban high-needs schools because of the stress of the job, not knowing what they have gotten into. Some of the things the teachers have gone through is nothing compared to what these inner-city kids have gone through."

One way to combat the high rates of teacher turnover in high-needs urban school divisions is an alternative teacher preparation model known as a teacher residency program. These models prepare pre-service teachers to work in specific high-needs divisions. As of 2016, there were at least 50 teacher residency programs across the nation. Research increasingly points to positive impacts of such programs, with residency programs appearing to improve teacher retention rates. On average, schools retain 70% to 80% of teachers in their first five years. That number drops to 50% at high-needs schools. Schools and divisions with residency programs see retention rates as high as 90% after 3 years and 70% after 5 years (Guha, Hyler, & Darling-Hammond, 2016). Research also suggests residency programs may increase teacher diversity and student performance. In a meta-analysis of research on teacher residency programs, as of the 2015-2016 school year, 45% of residents were persons of color, while the national average for new teachers was about 19% (Guha, Hyler, & Darling-Hammond, 2016). Given the challenges faced by RPS in recruiting and retaining teachers, a residency program was created to meet the division's needs. Part III provides an overview of this program.

AN OVERVIEW OF RTR

RTR is part of the VCU School of Education and was designed to address the problems of recruitment, teacher quality, and retention. The program was created in 2010 through a $5.8 million grant from the U.S Department of Education. RTR is a 13-month program that places residents in schools in the RPS system to give them a full year of experience in an urban teaching environment. Each resident is paired with an experienced teacher who serves as a clinical resident coach (CRC). Prior to being paired with a resident, the CRC attends training to learn how to effectively mentor and evaluate residents in the program. Residents will spend an entire school year in the CRC's classroom and will gradually take over teaching responsibilities throughout the year. While traditional teacher preparation programs typically involve a four-month student teaching internship, the year-long RTR placement affords residents the opportunity to experience the full range of responsibilities of a classroom teacher, such as setting up the classroom at the beginning of the year and interacting with parents and administrators.

In Virginia, any person with a bachelor's degree can become a teacher and may be given a provisional license for up to three years as they work to satisfy the education and teaching course requirements for full licensure. There is a much larger number of provisionally licensed teachers in high-needs schools due to struggles with recruiting talent. This is likely a factor in the poor teacher retention rates of high-needs schools. Teachers who are provisionally licensed face extra course requirements, and the added challenges of working in a high-needs school may make the licensure process increasingly difficult.

The RTR program provides a means for those with bachelor's degrees who are interested in teaching to complete the coursework and obtain a teaching license through a supportive, year-long program. Residents complete 18-21 graduate credit hours in the summer and continue master's level coursework during the first year. They then implement what they learn in their respective classrooms. The RTR program is a cohort style program where residents are able to discuss and solve problems within the cohort through structured weekly meetings. The cohort provides a secure and understanding environment where members face similar experiences as pre-service teachers in the urban teaching environment. Additionally, program leaders provide residents with the information and assistance they need to complete the licensure process.

To ensure teacher quality, the RTR program has a methodical selection process which includes a formal individual interview and an extensive on-site interview. The on-site portion of the selection process requires applicants to teach a brief lesson in front of K-12 students. After the lesson, the K-12 students speak to whether they could see the applicant being a teacher. The second part of the on-site portion is a group problem-solving activity on an urban issue. The final portion is a writing sample in which the applicant reflects on how they would redesign their brief lesson from earlier in the day based on the feedback they received from those who watched the lesson. This last part is seen as necessary to gauge the coachability and the writing skills of applicants. Other requirements include a 3.0 GPA, written application, and completion of all Virginia teacher licensure assessments for their content area.

The overall goals of the program remain targeted at improving recruitment, retention rates, and teacher quality. The program has expanded into other area school divisions, including Chesterfield County in the 2017-2018 school year, Petersburg City in the 2018-2019 school year, and Henrico County in the 2019-2020 school year. The program has increased in size, and in its ninth year included 49 residents. RPS remains the focus of the program, with 34 of the 49 residents assigned to RPS, 9 to Petersburg, 2 to Chesterfield, and 4 to Henrico.

Since 2015, the program has started recruiting residents from the communities in which they will teach. Residents who teach in their own communities tend to stay longer due to a commitment to the community. For example, in a study done on New York state teachers, 88% of teachers whose hometown is an urban division first taught in an urban division. Between 1999-2003 over 90% of teaching graduates from New York City went on to teach in New York City (Boyd, Lankford, Loeb, & Wyckoff, 2005).

Recruiting teachers from Richmond's neighborhoods has also led to an increase in racial diversity among teachers. Racial diversity of the residents in the program has gone from 24% on average in 2012-15 to 41% in 2017-18. Many minority teachers say they teach in minority communities because they feel a calling to do so and that they feel connected to the community. Most teachers also have a desire to work close to their hometown. Students taught by teachers of their own race have shown an increased academic performance. The literature suggests multiple reasons; minority teachers can serve as role models thus raising the motivation level and personal expectations of the students. Teachers from the same ethnicity can reduce stereotype threat where a student perceives themselves to be viewed negatively by a teacher of another race (Egalite, Kisida, & Winters, 2015; Carver-Thomas, 2018). This reduced stereotype threat then leads to greater academic engagement and achievement.

PART 1

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PART 1. METHODOLOGY

This report uses a mix of quantitative and qualitative methods to evaluate the outcomes of the RTR program and compares the outcomes with those achieved by teachers hired through the conventional hiring protocol of the RPS system. The research method focuses on two major elements of the study – analysis of program outcomes, and benefit-cost comparison. Program outcomes are measured in terms of teacher retention rates, teacher quality, and student performance outcomes. Each of these elements are compared between a sample of RTR-trained teachers and a comparable sample of traditionally hired teachers within RPS.

The sample data for RTR-trained teachers was obtained from VCU School of Education's RTR program office. The sample included 144 RTR graduates hired in various RPS schools from 2012 to 2018. The RTR program keeps track of every teacher trained and hired since the inception of the program. This report uses their data to estimate retention rates over the five-year period. A comparable sample of conventionally hired teachers (referenced in this report as non-RTR teachers) has been developed based on the data obtained from the human resources department of RPS. The non-RTR sample includes all 1,370 non-RTR teachers hired between 2012 and 2018 in selected RPS schools (i.e., schools that have hired one or more RTR teachers during the same time period). The list of schools considered for sampling of teachers is provided in Appendix-A.

Retention estimates for both RTR and non-RTR teachers have been calculated for years 1 through 5. The year when the cohort was hired is considered Year 0. The RTR program is fairly new and supplies only a fraction of the teachers hired by the selected RPS schools. Due to the large variation in sample sizes between RTR (144) and non-RTR (1,370), it is not appropriate to directly compare retention/attrition ratios between the two groups. The report uses the sample data to estimate an acceptable range of retention proportions for the population at 95 percent confidence interval using the sample proportion and corresponding standard errors as shown below:

> Let p_n and $\hat{p}_n$ represent the population and sample retention proportion respectively at the end of year n (where, n = 1,2,3,4, and 5) and let N represent the aggregate number of teachers hired during the respective time horizon. Then the estimated standard error (se) of the sample proportion $\hat{p}_n$ is:
>
> $$se = \sqrt{\left\{\frac{\hat{p}_n(1-\hat{p}_n)}{N}\right\}}$$
>
> And a 95% confidence interval for p_n is $\hat{p}_n \pm 1.96\ (se)$. This gives the upper and lower bound of population retention estimates for both RTR and non-RTR teachers.

Initial preparedness refers to the classroom-readiness of the teachers, mostly focused on the knowledge of subject matter, preparation of course materials, and the ability to control the class on the first day (or first week) of hiring. This information was collected through interviews with school principals and career coaches. We asked them to grade the initial preparedness of RTR and non-RTR teachers they have supervised on a scale from 0 to 10 with 0 being the least prepared and 10 being the most prepared.

We estimated the unit costs of hiring RTR and non-RTR teachers by aggregating costs incurred at various stages of their hiring process. We interviewed the director and program coordinator of the RTR program and inquired about the different stages of the training and placement program and cost of hiring different experts and other personnel involved in the process. RTR provided an itemized cost estimate for their 2017-2018 cohort. The estimate included fixed annual costs for personnel, training venue, software, and other costs that vary by the number of selected applicants, such as career coaches and resident stipends. Similarly, the unit cost for non-RTR teachers have been estimated from the data on annual hiring expenses collected through interview and email data requests to RPS human resources personnel.

Student performance data have been provided to us by RPS via the client for students taught by each cohort of the RTR teachers and non-RTR teachers. The database includes final grades and current and prior year SOL scores for English, science, mathematics, and social studies for each student taught by RTR cohorts 1 through 6 and their non-RTR counterparts. Final grades and scores averaged by the group of students taught by RTR and non-RTR teachers are used as a comparison of student performance between the two groups.

Finally, this report concludes with the qualitative analysis of the RTR program by compiling viewpoints of various stakeholders such as school principals, career coaches, and parents on recruitment, quality, retention, student performance, and overall impact to the schools at which they are hired.

PART 2

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PART 2: FINDINGS

The following sections present the findings of this study. Section 1 presents descriptive data about the overall RTR program as well as RPS schools and students. Section 2 presents a comparison of recruitment and preparedness of RTR and non-RTR teachers. Section 3 provides the benefit-cost analysis. Section 4 presents student achievement data. Finally, Section 5 provides qualitative findings from stakeholder input.

SECTION 1: DESCRIPTIVE DATA

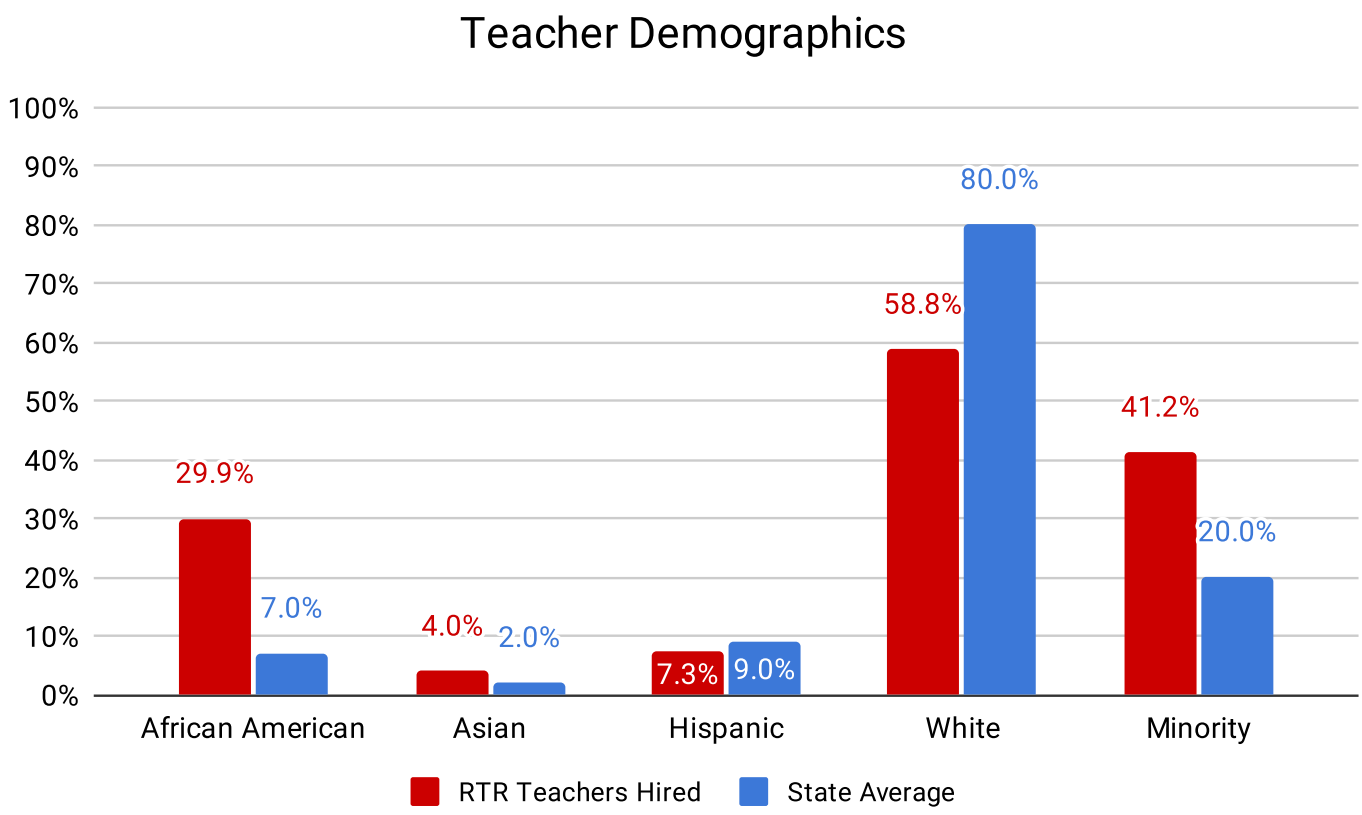
This section presents descriptive findings regarding demographics of RTR teachers and the students with whom they work. Additionally, school characteristics, including dropout rates and SOL test pass rates, are presented.

RTR PROGRAM BY THE NUMBERS

This section presents descriptive statistics of the program since its inception (including expansion to other jurisdictions, institutional framework, and funding sources). This section provides a comprehensive overview of the program and a review of relevant metrics, including the number of graduates since the inception of the program, types of school-ready training they receive, and differences from conventional teacher training programs.

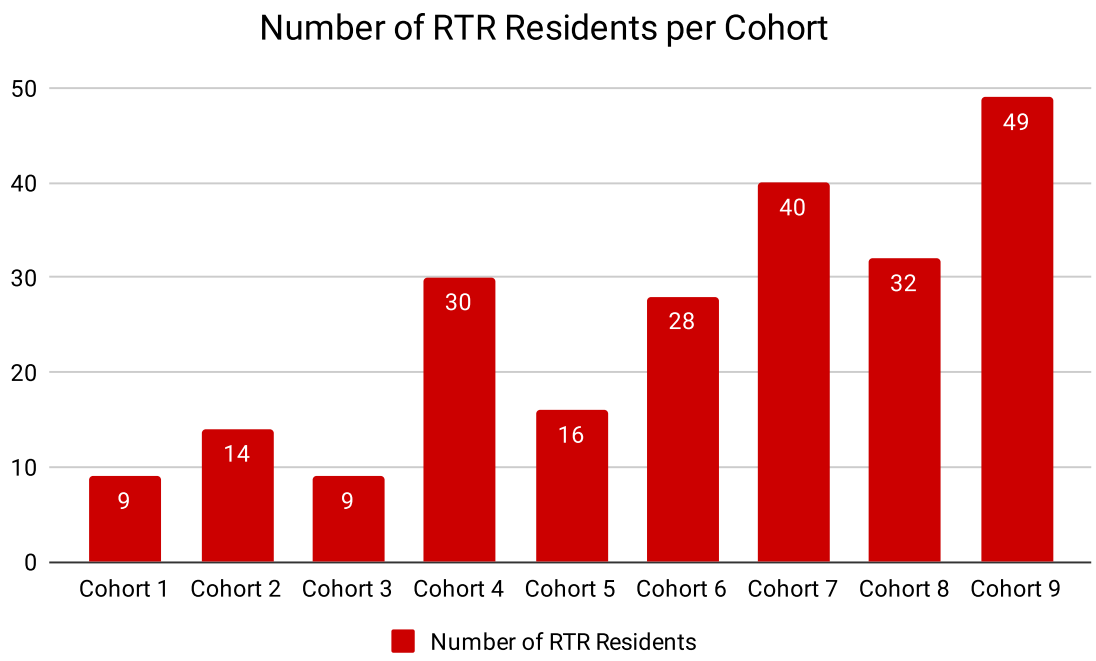
The teaching profession in the United States is dominated by White teachers. In the 2015-2016 school year, nearly 80% of teachers in the United States were White (Guha, Hyler, & Darling-Hammond, 2016). This is not the case with RTR teachers. Over 41% of RTR teachers hired have been non-White, more than double the national average in minority hiring (Guha, Hyler, & Darling-Hammond, 2016). About 30% of RTR teachers are African American and are more representative of the majority-Black RPS student body. Figure 1 shows the comparison of RTR teacher demographics and those of teachers in the state of Virginia.

FIGURE 1: COMPARISON OF TEACHER DEMOGRAPHICS BETWEEN RTR TEACHERS AND ALL OF THE STATE



The RTR program began its inaugural year with nine residents and averaged ten residents annually for the subsequent three years. In a more recent three-year time frame (2017-2019), the program averaged approximately 40.5 residents per year. This increased capacity was made possible through an addition of two additional curricular tracks (special education and elementary education), made possible through additional state funding. In the most recently completed school year, 2019-2020, the program had its largest cohort of residents, with 49 residents participating in cohort 9 of the program, as shown in Figure 2 below.

FIGURE 2: NUMBER OF RTR RESIDENTS PER COHORT

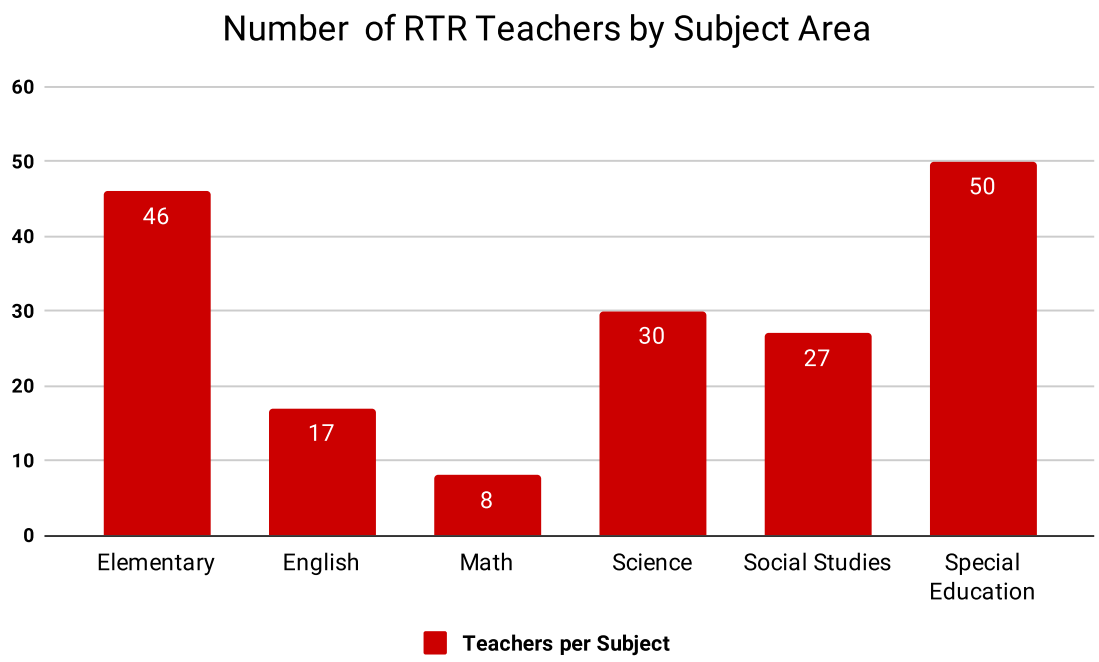


A Virginia Department of Education survey of school divisions identified special education and elementary education positions to be the most difficult to recruit. RTR teachers have chosen these subjects areas above all others. Of the 172 hired RTR teachers, 50 have gone on to teach special education, and 46 have gone on to teach elementary education. Figure 3 shows the breakdown of subject areas taught by RTR teachers.

SCHOOL CHARACTERISTICS AND PERFORMANCE METRICS

This subsection includes a breakdown of school characteristics including racial composition, poverty rates, dropout rates, and test scores. The RTR program now reaches four school divisions: Richmond Public Schools, Petersburg City Public Schools, Chesterfield County Schools, and Henrico County Schools. The sample is comprised of schools that have or have had at least one RTR teacher since the inception of the program. We broke down the RTR data into 2 samples: the Petersburg area and the greater Richmond area. This was done due to the significant demographic, size, and economic differences between the City of Petersburg and the greater Richmond area. The greater Richmond area, in this analysis, consists of the City of Richmond, Chesterfield County, and Henrico County.

FIGURE 3: NUMBER OF RTR TEACHERS BY SUBJECT AREA

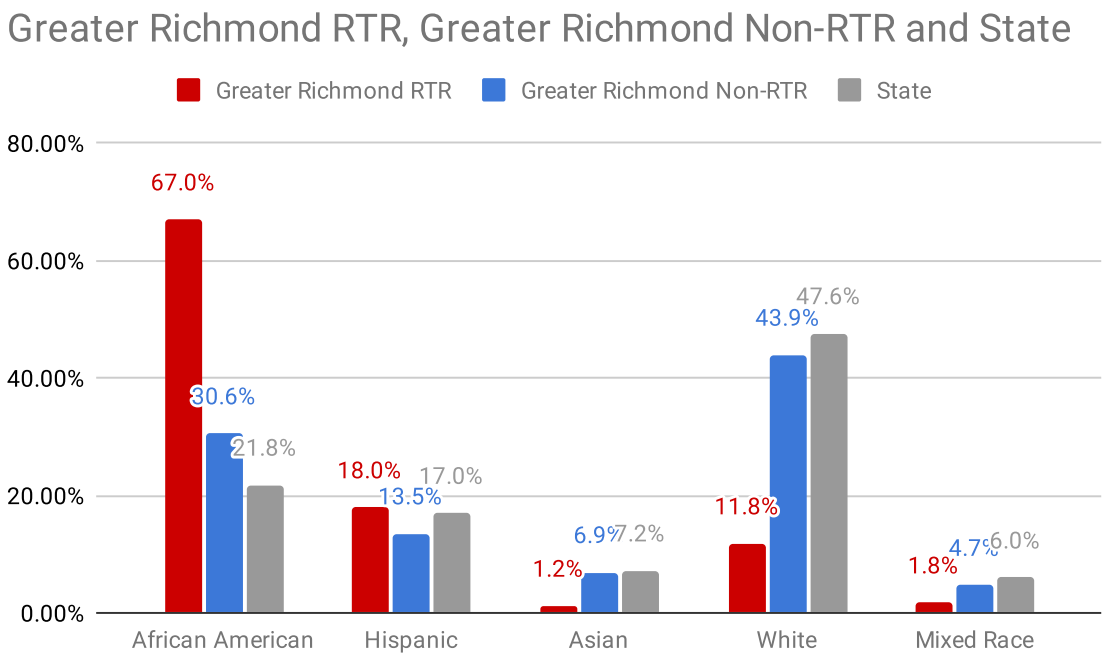


RACIAL COMPOSITION

RTR teachers have been hired to teach in urban schools with disproportionately higher percentages of students belonging to minority races and ethnicities. RTR teachers that went on to teach in greater Richmond schools taught a student population that was 67% African American, 18% Hispanic, 12% White, 2% two or more races, 1% Asian, less than 1% American Indian, and less than 1% Pacific Islander. In comparison, other schools in the greater Richmond area that have not had a single RTR teacher have much different student demographics: 31% are African American, 14% Hispanic, 44% White, 7% Asian, 5% two or more races, less than 1% American Indian, and less than 1% Pacific Islander.

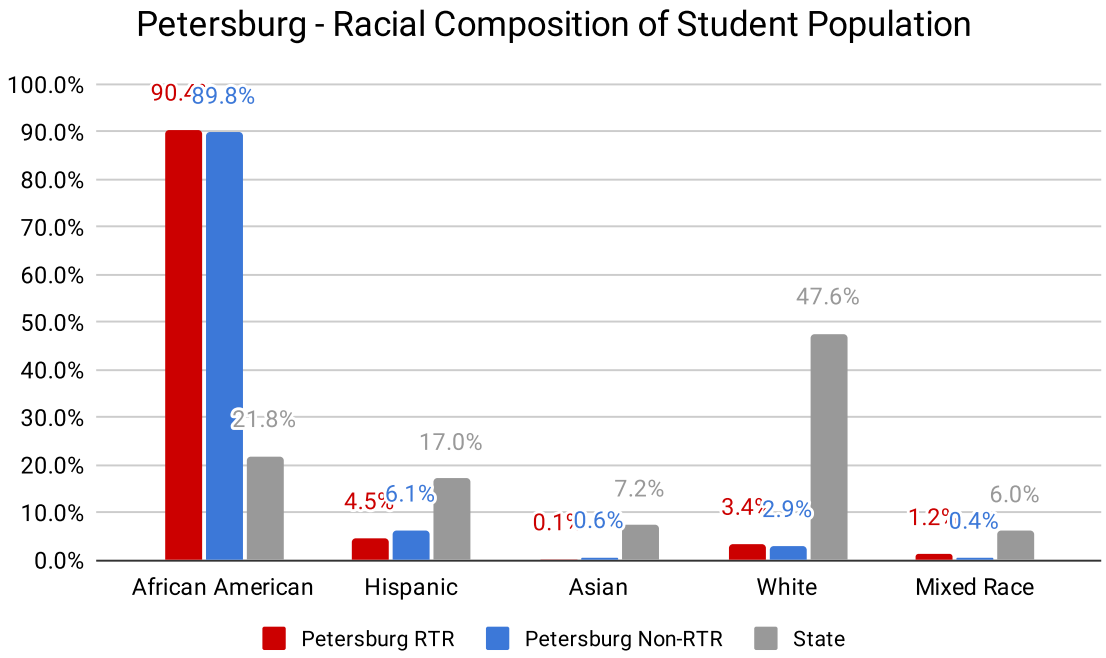
The aggregated racial composition in public schools in the greater Richmond area closely matches the aggregate composition across the Commonwealth. Virginia student demographics are 21% African American, 17% Hispanic, 48% White, 7% two or more races, 7% Asian, less than 1% American Indian, and less than 1% Pacific Islander. Figure 4 presents student demographics in greater Richmond schools employing RTR teachers, those not employing RTR teachers, and average student demographics from all schools in Virginia.

FIGURE 4: RACIAL COMPOSITION OF STUDENTS COMPARED BETWEEN SCHOOLS HIRING RTR TEACHERS, ALL OTHER SCHOOLS IN RICHMOND METRO AREA, AND THE AVERAGE SCHOOL POPULATION OF THE COMMONWEALTH



Similar to those teaching in the greater Richmond area, RTR teachers working in Petersburg City Public Schools teach at schools with 90% African American students, 5% Hispanic, 3% White, and 1% two or more races. Unlike greater Richmond area schools, Petersburg schools without RTR teachers have similar student demographics to those with RTR teachers. Figure 5 presents student racial demographics in Petersburg City schools.

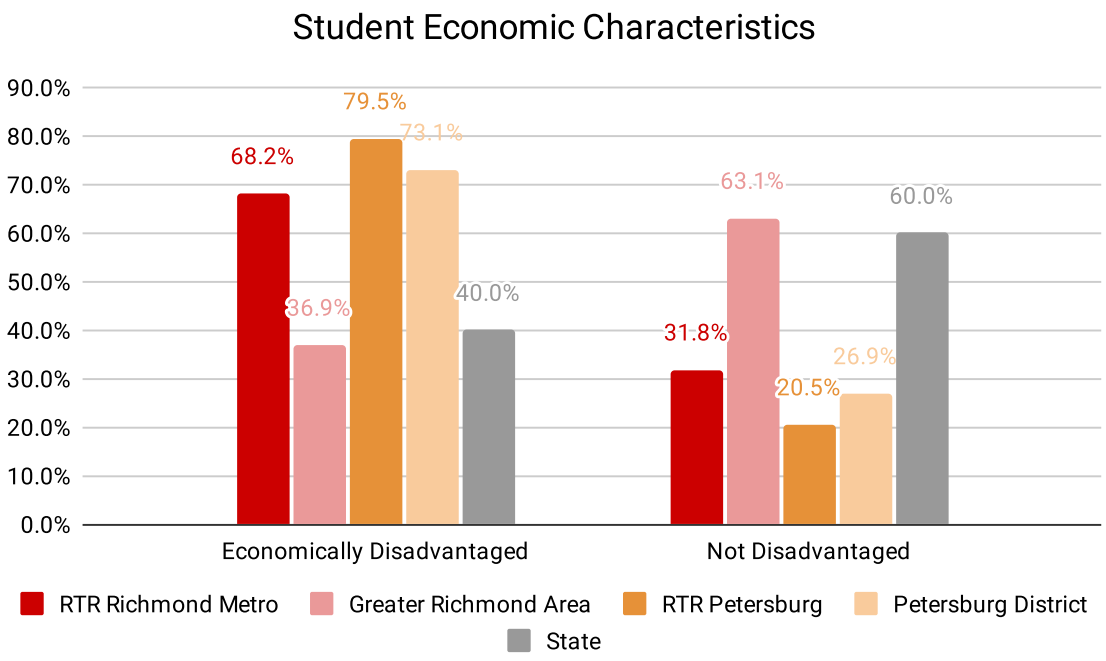
FIGURE 5: RACIAL COMPOSITION OF STUDENTS COMPARED BETWEEN PETERSBURG SCHOOLS HIRING



POVERTY

RTR teachers have also been hired to teach in schools with a greater number of economically disadvantaged students. In the greater Richmond area schools that have at least one RTR teacher, 68% of the students are considered to be economically disadvantaged, meaning they qualify for free/reduced lunch, receive TANF, or participate in the Medicaid program (Virginia Department of Education, 2019). At schools in the greater Richmond area that have not had an RTR teacher, only 37% of students are considered to be economically disadvantaged. In Petersburg schools that have had an RTR teacher, 80% of the students are considered to be economically disadvantaged. At schools that have not had an RTR teacher 73% of students are considered to be economically disadvantaged. Schools employing RTR teachers in the greater Richmond area and in Petersburg have greater numbers of economically disadvantaged students than the state average. In Virginia, 40% of students are considered to be economically disadvantaged. Figure 6 presents student economic characteristics for the state overall, greater Richmond area schools in which RTR teachers work, the greater Richmond area schools overall, Petersburg schools in which RTR teachers work, and Petersburg schools overall.

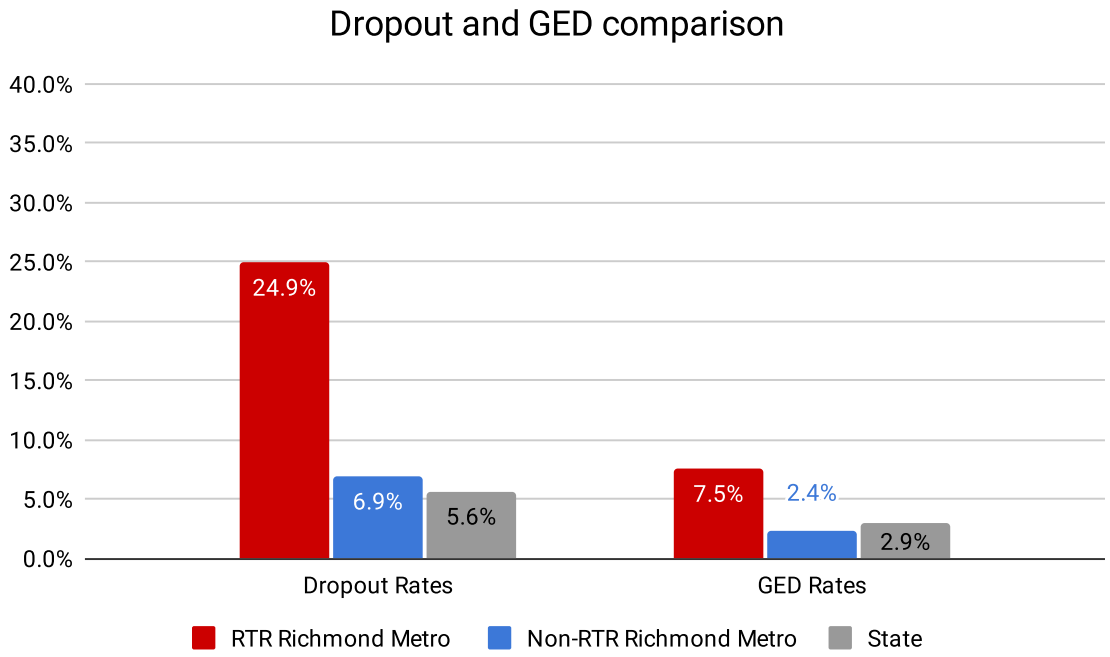
FIGURE 6: ECONOMIC CHARACTERISTICS OF STUDENTS FROM SCHOOLS HIRING RTR TEACHERS COMPARED WITH THE DIVISION AND THE STATE AVERAGE



DROPOUT RATES

In addition to RTR teachers working in schools that serve a disproportionate number of racial minority and economically disadvantaged students, they also work in schools with high dropout rates. At the 10 high schools in the greater Richmond area that have had an RTR graduate, the student dropout rate is 25% and the GED rate is 8%. The dropout rate for the greater Richmond area is 7%, and the GED rate is 2%. Greater Richmond area schools without RTR teachers look very similar to the state average; the dropout rate for the Commonwealth of Virginia is 5.6% and the GED rate is 3%. Currently a comparison cannot be done for Petersburg, as the RTR graduates in the area are working in Petersburg elementary schools only. Figure 7 provides a graphic depicting the comparison of dropout and GED rates.

FIGURE 7: COMPARISON OF DROPOUT AND NUMBER OF STUDENTS PASSING WITH A GED CERTIFICATE BETWEEN RTR SCHOOLS, REMAINING SCHOOLS IN THE REGION, AND THE STATE



SOL SCORES

The RTR program was created with a focus of developing quality teachers invested in remaining in high-needs urban public schools. The nature of the program leads to RTR teachers being hired in underperforming schools with lower SOL test scores. We compared the proficiency level of students in five core subject areas: reading, writing, math, science, and history among public schools in the greater Richmond area. We measured proficiency as student scores at or above average in a given subject SOL for their grade level. We found that 58% of students are proficient in reading, 52 % are proficient in writing, 58% are proficient in math, 60% are proficient in science, and 54% of students are proficient in history. In comparison, the state proficiency percentages are 78% in reading, 76% in writing, 82% in math, 81% in science, and 80% in history.

A further breakdown by school level was completed to display average test scores between RTR and non-RTR schools at the elementary, middle, and secondary levels. Figures 8, 9, and 10 present these findings. Across all levels, RTR teachers work at schools with substantially lower SOL pass rates than their non-RTR peers. At the elementary level, the average SOL pass rate overall for non-RTR schools is 80%, while the average pass rate for RTR schools is about 59%. At the middle school level, the average SOL pass rate for non-RTR schools is about 76%; the RTR school pass rate is about 48%. At the high school level, non-RTR schools have an average pass rate of about 83%; RTR schools have an average pass rate of 60%.

FIGURE 8: COMPARISON OF ELEMENTARY SCHOOL STANDARDIZED SCORES BETWEEN SCHOOLS HIRING RTR TEACHERS AND THOSE NOT HIRING RTR TEACHERS IN THE GREATER RICHMOND AREA

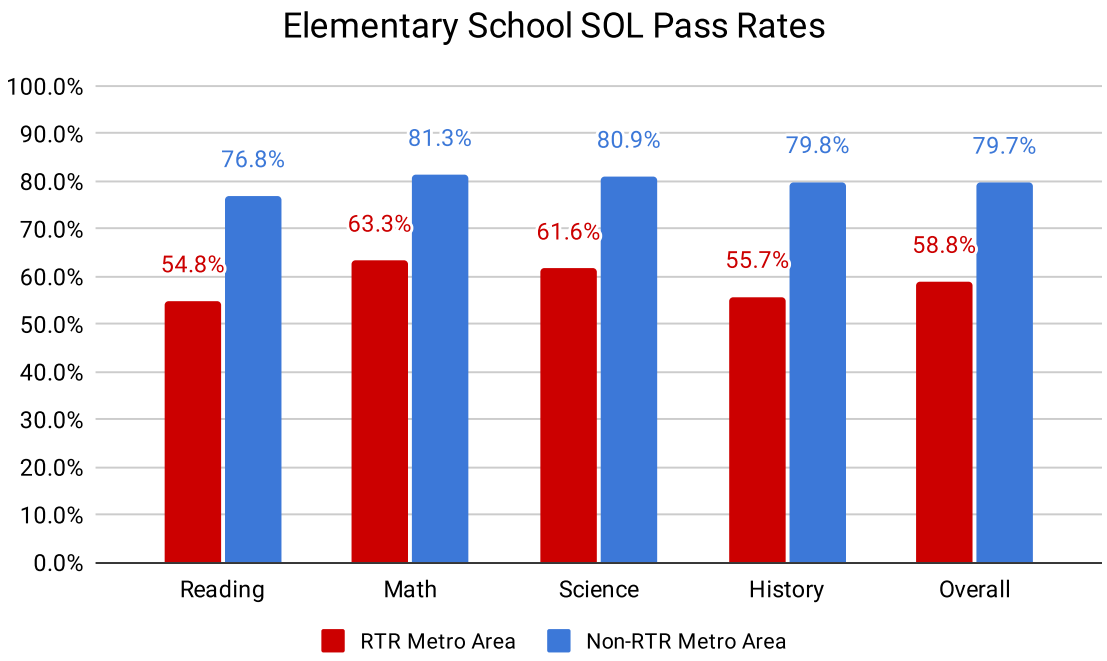


FIGURE 9: COMPARISON OF MIDDLE SCHOOL STANDARDIZED SCORES BETWEEN SCHOOLS HIRING RTR TEACHERS AND THOSE NOT HIRING RTR TEACHERS IN THE GREATER RICHMOND AREA

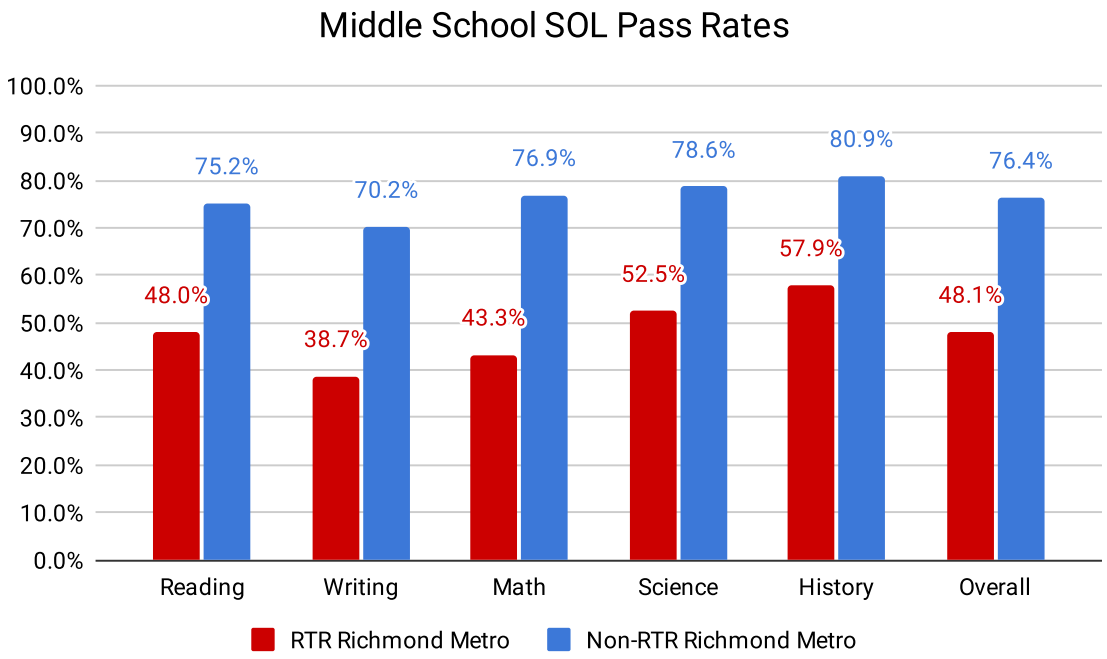
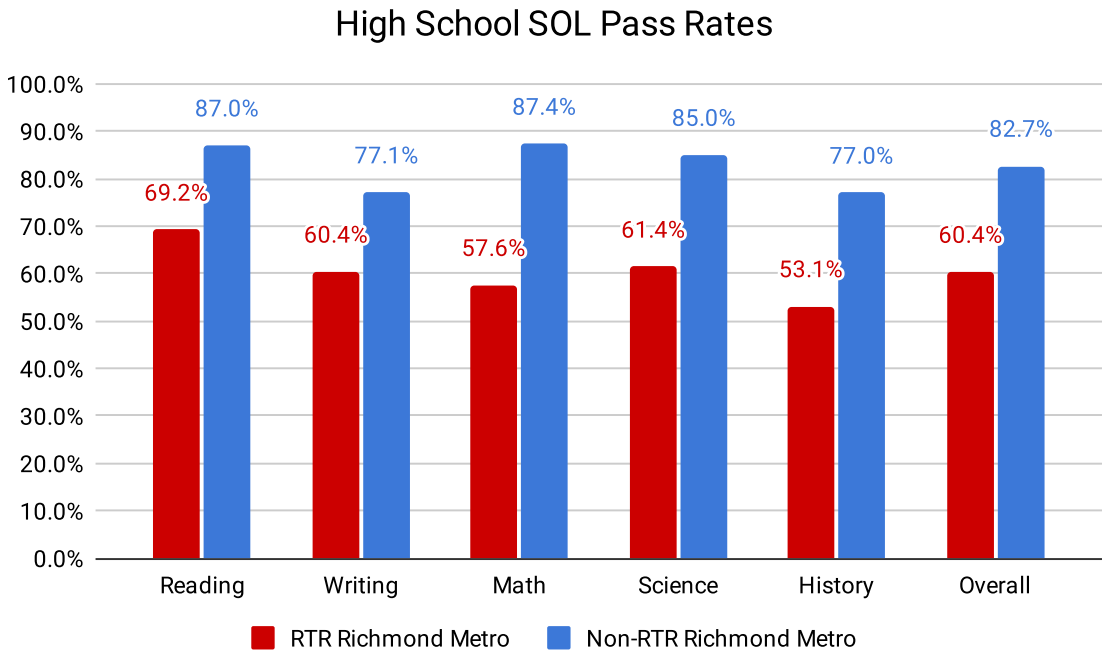


FIGURE 10: COMPARISON OF HIGH SCHOOL STANDARDIZED SCORES BETWEEN SCHOOLS HIRING RTR TEACHERS AND THOSE NOT HIRING RTR TEACHERS IN THE GREATER RICHMOND AREA



As presented above, RTR teachers work in schools with greater percentages of minority and economically disadvantaged students. Additionally, the schools hiring RTR teachers have higher dropout and GED rates and lower SOL test pass rates. As RTR's capacity has increased through the expansion of curricular tracks beyond secondary education, the program has seen an increasing number of residents. The percentage of minority residents has also increased, leading to RTR teachers who share racial and ethnic demographics with the students they teach. The RTR program has also benefitted the school systems through recruiting and developing large numbers of teachers for hard-to-staff positions in elementary and special education.

SECTION 2: RTR VS NON-RTR TEACHERS RECRUITMENT AND RETENTION – METRICS COMPARISON

The following subsections present findings comparing recruitment and retention of RTR and non-RTR teachers. Included in this section of findings is detailed information about the costs associated with hiring new employees. Costs to RPS were determined by analyzing and interpreting data provided by the school system; we attempted to use the lens RPS may have used when determining costs associated with hiring and training new teachers.

TEACHER RECRUITMENT AND INITIAL PREPAREDNESS

This section describes the recruitment efforts for both RTR and non-RTR teachers. Tables highlighting the costs associated with recruitment efforts of each group are provided. Additionally, this subsection provides a comparison of the preparedness of RTR and non-RTR teachers when they initially began teaching.

RTR RECRUITMENT

Teacher recruitment involves identifying appropriate candidates, verifying documentation, providing appropriate trainings and orientations, and installing them as teachers of record in various RPS schools. The recruitment process for the RTR program is substantially different from that of non-RTR teachers hired by RPS. The recruit-

ment process for RTR is a highly selective one in which the candidates are thoroughly vetted for their academic readiness and commitment to the rigorous teacher preparation program. It is important to select the right candidate for the training program for two major reasons. First, training every candidate involves significant cost, and second, the program has a narrow objective of providing high-quality teachers who are ready to stay long-term in high-needs and low-performing urban schools. The conventional teacher recruiting process of RPS is mostly focused on identifying a pool of candidates that fulfill certain selection criteria and matching them for interviews with the respective school representatives.

The RTR recruitment process begins with recruiters vetting the applicants for their educational background to determine general eligibility and appropriate track options for each candidate. Candidates are classified into the elementary track (kindergarten through grade 5), the secondary track (focused on content areas such as biology, chemistry, earth science, physics, English, math, and social studies at the middle and high school levels), or the special education track, which includes both elementary and secondary levels. The recruitment process also prioritizes applicants who are from the local communities and demonstrate an interest in serving high-needs schools.

The candidates then undergo intensive coursework during the summer prior to the start of the K-12 residency placement which, in addition to traditional topics such as classroom management, curriculum development and educational psychology, includes instruction in culturally sustaining pedagogies, trauma-informed care, and restorative practices. The remainder of the year-long training (clinical preparation) is a mix of theory and practice in which the candidates complete master's level coursework on content-specific methods in the evenings and on Fridays while also experiencing classroom-based teaching in RPS schools throughout the week. While they take over teaching responsibilities in the classroom, the residents also receive mentor services through the CRCs with whom they are paired. Additionally, during their first and second years of teaching, RTR teachers receive content-specific career coaching.

It should be noted that the RTR program is supported through various federal and state grants as well as financial support from local businesses and stakeholders, including RPS. Table 1 below provides a cost breakdown between the RPS system and the RTR program for RTR recruitment and training based on 2017-2018 expenditures.

The RTR program preparation and hiring costs, as obtained from the RTR program's fiscal unit, have been classified into fixed and variable costs. Fixed costs such as the share of salaries for the director, program coordinators, administrators, and fiscal managers remain largely unchanged year after year, regardless of the number of candidates recruited. It is estimated that the director and three track-specific curriculum coordinators spend 50 percent of their time on program-related tasks, and three residency coordinators spend 75 percent of their time on program-related tasks. According to the estimate provided to us, the fixed annual cost to run the RTR program for the 2017-2018 year was $585,302. All of these fixed costs are borne by the RTR program through grants supported by federal and state agencies, and local businesses and foundations. At the moment, the RPS system does not contribute to the fixed annual costs of the RTR program.

Variable costs such as resident stipends, number of career coaches and their stipends, and selection day costs such as food and parking depend upon the number of applicants hired every year. The number of CRCs varies depending upon the number of residents enrolled in the program. For the 2017-2018 year, the total CRC stipend per resident was estimated to be around $3,500. Beginning in the academic year 2018-19, RPS started bearing the cost of the CRCs. Additionally, RPS also began paying for the salary and benefits of the career coaches, which is estimated to be equivalent to $4,520 per resident. The RTR program provided a $24,000 stipend to each candidate during the 2017-2018 residency year. Because the stipend is funded through external grants, the dollar amount of the actual stipend varies from year to year. Including other miscellaneous costs incurred during the recruiting process, the total variable cost per candidate per year adds up to $32,591 out of which about $8,000 is currently borne by RPS. In total, the RTR program costs about $47,599 per resident, out of which about $8,000 comes from the RPS system; the remainder is funded by various external grants.

It is difficult to directly compare per-candidate cost between the RTR program and the conventional (non-RTR) recruitment administered by the RPS human resources department. The strength of the RTR program is in its

clinical training components which prepares candidates to become high-quality urban teachers. On the other hand, conventional non-RTR hiring through the RPS human resources department is focused primarily on filling up the vacant teacher positions and does not actively seek to improve teacher quality. However, considering that both of the methods end up in hiring and installing teachers in RPS schools, it is still worthwhile to compare costs of hiring new teachers to the RPS system through the two methods and compare the outcome in terms of retention and student performance over time.

TABLE 1: RTR PREPARATION AND HIRING COSTS BORNE BY THE RTR PROGRAM AND THE RPS SYSTEM

	Cost to RTR		Cost to RPS	
Items	**RTR Fixed Costs**	**RTR Variable Costs/ Resident**	**RPS Fixed Costs**	**RPS Variable Costs/ Resident**
General personnel costs (Director, Recruiter & Admissions, Fiscal and Office Management)	$244,945	-	$0	-
Curriculum Coordinators	$141,245	-	$0	-
Residency Coordinators	$199,112	-	$0	-
Miscellaneous Expenses (incl. selection day food and parking costs, NCTR Membership, Recruitment Day Costs, Applitrak-application tracking system)		$571	-	$0
Mentor a.k.a. Clinical Resident Coach (CRC) Stipend @ $3,500 per person		$0	-	$3,500[1]
Resident Stipend		$24,000	-	$0
Career coach salary and benefits		$0	-	$4,520[2]
Total	**$585,302**	**$24,571**	**$0**	**$8,020**
Per resident fixed costs (for 39 residents in 2017-18)	**$15,008**		**$0**	
Total per resident (fixed and variable costs)	**$39,579**		**$8,020**	

NON-RTR RECRUITMENT

Out of about 300 new teachers hired by the RPS system in the 2017-2018 school year, 39 were hired through the RTR program. The remaining teachers were hired through the conventional human resources method. The conventional method recruits, and if necessary, licenses teacher candidates, but it does not have the training component as that of the RTR program. RPS's conventional hiring process includes publishing advertisements through popular outlets, setting up booths at job fairs at various colleges and universities, and attending community career fairs in Richmond and Northern Virginia. Once the applications are received, the talent acquisition team reviews their credentials for academic eligibility and teacher licenses. The team is overseen by the director of human resources and is led by a talent acquisition director (grade 133). The team is supported by an executive associate (grade 116), two human resources associates (grade 114), three human resources specialists (grade 115), and two senior human resources specialists (grade 124). The talent acquisition director and the executive

1 In addition, the RTR program charges their partner school divisions for the cost of the initial training for first year CRCs ($1,460), and the 2-day training cost for veteran CRCs of $365 per year, and the annual monthly mentor cost of $1,000. The total cost for the year 2017-18 was skewed because of all new CRCs in the newly introduced elementary track. Due to lack of consistency in standardization, these costs are not considered in the table calculations. However it is noteworthy that the current cost of these trainings, that are borne by the school divisions, have been considerably reduced (1st year CRC training is now $910, cost of veteran training is $90, and CRC mentor forums are $675).

2 The RTR program charges their partner school divisions a total sum of $3,080 as a per resident share of the career coach salary and benefits which includes a total of 36 visits each about 1.5 hour long with an hourly rate of $30, one hour per week for communication and documentation, participation in monthly meetings for six months, and mileage pay equivalent to $200 per resident. The career coach cost for a second-year graduate is calculated at $1,440 per resident as career coaches work with second-year graduates every other week. Assuming that a resident remains in the program for both of the years, total career coach cost per graduate per year is estimated to be $4,520.

office associate are engaged full-time in recruitment and management of new hires, whereas the rest of the support staff contributes about 50% to 80% of their time on tasks related to new recruitment. The cost of hiring new teachers by the RPS human resources department is summarized in Table 2 below.

TABLE 2: NON-RTR HIRING COSTS (TO RPS)

Cost Items	Annual Fixed Costs	Variable cost per teacher per year
General personnel costs (Talent acquisition team including the director, executive associate, HR associates, HR specialists, and senior specialists)	$574,776	
Advertisement, application management, and recruitment	$39,200	
New teacher licensing (Licensing specialist)	$38,800	
Professional Development and Certification		$5,000
In-service training (@ 10 staff for 3 days)	$8,788	
Preparedness training and mentorship[3] - lesson planning, classroom management, grading, teacher workshops, etc. as a part of school-run training)		$10,000
Total	**$661,564**	**$15,000**
Per teacher cost	**$2,574**	**$15,000**
Total per teacher	**$17,574**	

After verifying credentials, the team forwards relevant applications to the schools and also helps schedule interviews. Once the school makes a recommendation, the recruiting team extends an offer. Once selected, all new hires go through an in-service training for the first three days, which costs the human resources department an average of $8,788. According to RPS human resources, the line item budget allocated for job advertisement through various print and electronic media averages $30,500, and an additional $8,700 is spent on advertising for underserved subject areas and for critical shortage teacher vacancies, resulting into a total advertisement cost per year to $39,200.

RPS human resources has a licensing specialist who dedicates about 70% of their time to tasks related to assisting non-licensed new hires obtain their licenses. Hence, out of an annual salary of $55,428, about $38,800 can be attributed to aiding non-RTR teachers in becoming licensed.

Variable costs incurred in hiring a non-RTR teacher include an estimated $5,000 per year spent on professional development and certifications. Similarly, the school principals and coaches we interviewed for the study provided an estimate of about $10,000 spent by the school on average on each candidate per year, providing them with content specific training as well as training in lesson planning and classroom management. There is also additional professional time spent in teacher workshops. In aggregate, the estimated total costs - fixed and variable - per person for a non-RTR teacher is about $17,574, which is substantially higher than the $8,020 that RPS spends on hiring an RTR teacher.

INITIAL PREPAREDNESS

Initial preparedness is defined in this report as a measure of the level of subject matter expertise, classroom experience, and capability to manage difficult classroom environments at the time of initial hire. Even though there is no established method to quantitatively measure preparedness, we asked school principals and career coaches to estimate using a Likert scale to compare between the RTR and non-RTR teachers they have supervised.

The RTR-trained teachers were found to be more prepared in the classroom compared to their non-RTR counterparts. On average on a scale from 0 to 10, RTR teachers were ranked at 8.0 compared to a 4.5 for non-RTR teachers. Career coaches and principals pointed to specific reasons for their given scores, which included effective classroom management, lesson planning, teaching style, understanding of the school culture, and their

3 Includes the cost of providing a mentor to the newly hired teachers

ability to work with the school administration. RTR teachers were seen to handle behavioral problems better and have a better control of the classroom. Their teaching style was also much more participatory than lecture, which helped to further engage the students in the learning process.

TEACHER RETENTION

This section estimates retention rates for RTR and comparable non-RTR teachers based on the data obtained from the RTR program and the RPS human resources department. The first cohort of RTR graduates was hired in 2012, and the data continues through cohort 7, which was hired in 2018. The teacher hiring and retention data obtained from RPS human resources spans the five years from 2014 to 2019, with historical information going back to 2012 and beyond. To make sure that the RTR and non-RTR data sets were comparable, only the sub sample of non-RTR teachers hired during the 2012-2018 period (the study period) in RPS schools that have also hired one or more RTR teachers during the period have been selected. A complete list of schools hiring RTR teachers during this period and the number of RTRs hired by each are provided in the Appendix A at the end of this document.

During the study period, a total of 144 RTR teachers were hired in various RPS schools. In comparison, the non-RTR new hires in those schools during the same period totaled 1,370. The two significantly different sample sizes make ratios (such as percentage of teacher leavers in subsequent years) incomparable between samples. To avoid this inconsistency, we calculated standard errors in each sample and used it to estimate maximum and minimum retention ratios for the population.

RTR RETENTION RATE ESTIMATES

Table 3 presents the number of RTR teachers hired in RPS schools from 2012 to 2018 and the retention numbers of each cohort. Cohorts 1 and 2 (hired in years 2012 and 2013) have sufficient data to consider for a 5-year retention analysis. Similarly, data for cohorts 1 through 5 (hire year 2012 through 2016) can be used for the three-year retention estimates, while all cohorts (1 through 7) provide data for one-year retention estimates.

TABLE 3: RTR TEACHER RETENTION RATES FROM SELECTED SAMPLE

HireYear	Hired	Y1	Y2	Y3	Y4	Y5	% Retained
2012-13	8	8	6	6	4	3	
2013-14	14	14	14	12	7	5	
2014-15	9	9	8	6	2	--	
2015-16	30	28	27	26	--	--	
2016-17	16	15	14	--	--	--	
2017-18	28	27	27	--	--	--	
2018-19	39	39	--	--	--	--	
Retention Ratio							
Year-1	**144**	**140**					**97%**
Year-2	**105**		**96**				**91%**
Year-3	**61**			**50**			**82%**
Year-4	**31**				**13**		**42%**
Year-5	**22**					**8**	**36%**

The first section of the table represents the total number of RTR teachers hired every year from 2012 to 2018, and the number that stayed up to five years following their hire. For example, in the school year 2012-2013, a total of 8 RTR teachers were hired in various RPS schools. All of them persisted in their jobs during the first year (Y1), two of them left by the second year (Y2), two more left by the end of fourth year (Y4), and one more left at the end of the fifth year. Hence, for the cohort hired in 2012, the first-year retention rate was 100%, the second- and third-year rates were both 75%, the fourth-year rate was 50%, and the fifth-year retention rate was 37.5%.

The bottom portion of the table represents the aggregated retention rates at the end of each subsequent year after hire. The first, second, and third-year retention rates for RTR teachers are 97%, 91%, and 82% respectively. After the third year (which also marks the completion of their three-year contract with the RTR program), the retention rate drops to about 42%, followed by 36% retention in the fifth year. Table 4 below presents the population estimates of RTR retention rates at a 95% confidence interval.

TABLE 4: POPULATION ESTIMATE OF RTR RETENTION RATES WITH ERROR MARGINS

RTR	Year-1 (Y1)	Year-2 (Y2)	Year-3 (Y3)	Year-4 (Y4)	Year-5 (Y5)
Aggregated Hire (N)	144	105	61	31	22
Teachers Retained (Y)	140	96	50	13	8
Sample Retention Ratio (Rs)	0.972	0.914	0.820	0.419	0.364
1-Rs	0.028	0.086	0.180	0.581	0.636
Standard Error (SE)	0.014	0.027	0.049	0.089	0.103
Estimated Retention Ratio in the Population (Rp) with 95% Confidence Interval					
Rp_max (Rs + 1.96*SE)	**1.00**	**0.97**	**0.92**	**0.59**	**0.56**
Rp_min (Rs - 1.96*SE)	**0.95**	**0.86**	**0.72**	**0.25**	**0.16**

Based on the available data, the minimum first-year retention rate for RTR teachers is estimated to be no less than 95%. Similarly, the second-year retention rate is estimated to be between 97% in the best case and 87% in the worst-case scenario. The third-year retention rate also stays above 72% and below 92%. The fourth- and fifth-year estimates spread across a large range (a difference of up to 40 percentage points), which is mostly due to a very small sample size. As mentioned earlier, only the first and second cohorts have data from five years, and as the sample size gets smaller, the margin of error in estimates becomes larger. In any case, it is estimated that the fourth-year retention rate cannot be more than 59% and the fifth-year not more than 56%.

NON-RTR RETENTION RATE ESTIMATES

Table 5 presents the retention rates for our non-RTR sample over the study period. Some data points were missing for the first and second cohorts (missing years 1 and 2 for the 2012 cohort and year 1 for the 2013 cohort). Hence, data from 2014 onwards have been used to calculate the year-1 and year-2 retention rates.

According to the data obtained from the RPS human resources department, over the last three years RPS has hired an average of 303 new teachers per year. The school system has an average first-year attrition rate around 15% (retention rate of 85%). However, in the subset of schools selected for this study, which are mostly underperforming or high-needs urban schools, the first-year attrition rate is 22% (retention rate of 78%), which is seven percent points higher than the system-wide estimates.

TABLE 5: NON-RTR RETENTION RATES FROM SELECTED SAMPLE

HireYear	Hire	Y1	Y2	Y3	Y4	Y5	% Retained
2012-13	67	--	--	49	40	37	
2013-14	130	--	109	72	56	46	
2014-15	215	172	134	102	86	73	
2015-16	218	178	141	109	92	--	
2016-17	216	174	143	106	--	--	
2017-18	245	191	149	--	--	--	
2018-19	279	197	--	--	--	--	
Retention Ratio (missing value removed)							
Year-1	**1173**	**912**					**78%**
Year-2	**1024**		**676**				**66%**
Year-3	**846**			**438**			**52%**
Year-4	**630**				**274**		**43%**
Year-5	**412**					**156**	**38%**

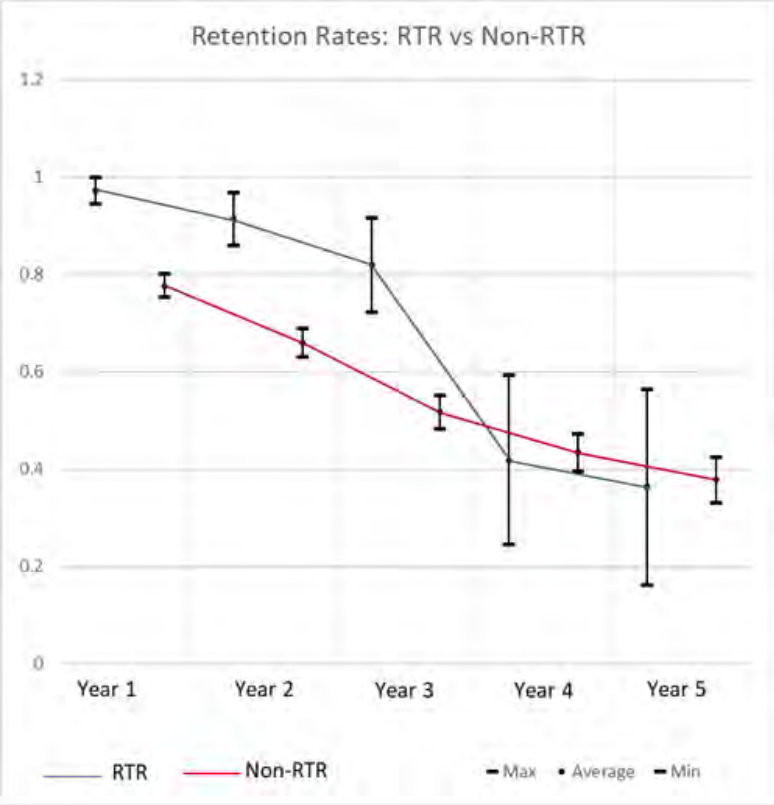
Between 2012 and 2018, a total of 1,370 new non-RTR teachers were hired in the selected schools (schools that hired at least one RTR teacher during the study period). On average, about 78% of newly hired non-RTR teachers persisted in their job at the end of the first year, which is roughly equivalent to an attrition rate of 22%. Similarly, the retention rates for non-RTR teachers for the second and third years were 66% and 52%, respectively. Hence, by the third year, about half of the newly hired teachers had left their jobs. The average retention rates for the fourth and fifth years were 43% and 38%, respectively. Table 6 below presents the population estimates of retention rates at a 95% confidence interval.

TABLE 6: POPULATION ESTIMATE OF NON-RTR RETENTION RATES WITH ERROR MARGINS

Non-RTR	Y1	Y2	Y3	Y4	Y5
Aggregated Hire (N)	1173	1024	846	630	412
Teachers Retained (Y)	912	676	438	274	156
Sample Retention Ratio (Rs)	0.777	0.660	0.518	0.435	0.379
1-Rs	0.223	0.340	0.482	0.565	0.621
Standard Error (SE)	0.012	0.015	0.017	0.020	0.024
Estimated Retention Ratio in the Population (Rp) with 95% Confidence Interval					
Rp_max (Rs + 1.96*SE)	**0.80**	**0.69**	**0.55**	**0.47**	**0.43**
Rp_min (Rs - 1.96*SE)	**0.75**	**0.63**	**0.48**	**0.40**	**0.33**

The estimated first-year retention rate for the non-RTR teachers ranges from 75% to 80%. This means that the maximum estimated retention rate of 80% is still five percentage points less than the minimum estimated retention rate for the RTR teachers. Similarly, non-RTR second year retention is no more than 69%, and the third-year rate is less than 55%. This is considerably lower than the RTR rates which hover around 90% and 80% for the second and third years, respectively. RTR retention data clearly pulls ahead for the first three years in comparison to the non-RTR retention rates. However, the retention rates for the fourth and fifth years are comparable between the two groups. While non-RTR fourth-year retention rates hover between 40% and 47%, the rate for RTR stays around 42% (although the range is too large due to a very small sample size). Figure 11 is a graphical representation of how retention rates and the estimated ranges compare between the two groups.

FIGURE 11: RETENTION RATES COMPARISON BETWEEN RTR AND NON-RTR: YEARS 1 THROUGH 5



The RTR retention rates during the first three years (training and contract period) are substantially higher than that of non-RTR teachers. However, beyond the three years of mandatory service, retention rates follow a trend comparable to that of the non-RTR teachers. These are early estimates based on a very small data sample (limited due to the short history of the RTR program). As the pool of the RTR teachers trained every year becomes larger, the error margins will get smaller, and we will see more accurate differences between the two sample trends.

SECTION 3: BENEFIT – COST ANALYSIS

The RTR program has two primary objectives - to provide preparatory training to improve the academic quality of new teachers, and to improve retention of trained teachers through incentives and mentoring support. In this regard, RTR supports RPS by creating an alternative pipeline for hiring new teachers. As of 2018, RTR recruited about 13% of new teachers hired by RPS every year. This suggests that the remaining 87% of positions needed to be filled through RPS's conventional hiring system. The following section provides a cost-to-cost comparison of hiring a new RTR teacher against a new teacher hired through the conventional hiring process (non-RTR). We attempted to analyze the data through the lens RPS would use when comparing the costs associated with hiring teachers from each pool of candidates. The difference between the two costs is the net benefit of hiring one over the other. The cost categories were aggregated based on interviews with the RTR administrators, the RPS talent acquisition team, and recent articles published in national and international journals.

Watlingtonn, Shockley, Guglielmino, and Felsher (2010) provide a comprehensive account of the literature focused on estimating teacher turnover costs in the country. Most of the articles discussed estimate the costs by aggregating fiscal data for common expenditures such as separation costs, replacement costs, hiring costs, and training and professional development costs. Levy, Fields, and Jablonksi (2012) suggest considering the salary gap between veteran teachers and newly hired teachers. Similarly, Milanowski and Odden (2007) suggest including an estimate for the value of lost productivity as a component when calculating teacher turnover costs. In an ideal situation where detailed and high quality data is available, it would be possible to estimate all of the comprehensive cost components. To the extent that the data available from the RTR program and the RPS hu-

man resources department allowed, this study used the following core cost components when conducting the benefit-cost analysis.

COST COMPONENTS AND ASSUMPTIONS

1. Recruitment and administrative costs
   Recruitment costs include expenditures on pre-hiring activities such as advertising, participating in career fairs, collecting applications, verifying eligibility, shortlisting and conducting interviews and demonstration lectures, conducting background checks, extending offers, and conducting orientations for new employees. These are mostly fixed costs accounting for the share of salaries of staff involved in running the day-to-day activities of the hiring institution. We have chosen to report these costs in aggregate for both RPS and RTR rather than converting it to a per-teacher unit. This is because RPS, being a large and established institution, is able to reap the benefits of economies of scale as they hire upwards of 300 new teachers every year. RTR, being a relatively new program, has not achieved the scale economy yet, and as of now there is no way to estimate how many RTR candidates per year can be successfully processed by the current team.

2. Temporary Replacement costs
   Temporary replacement is necessary when a teacher of record leaves the school / school system in the middle of the school year or fails to report at the beginning of the following school year. In such circumstances, the school administration needs to put a replacement teacher in the class immediately. This is where the schools generally make use of their pool of substitute teachers. The cost model assumes that after the teacher of record leaves their job, it takes about half of the academic year to go through the hiring process and hire a new full-time teacher. Hence, the replacement cost of each teacher leaver is half the annual salary of a long-term substitute teacher.

3. Training and professional development costs
   Both of our comparison groups, RTR and non-RTR, receive some form of training before they are hired and also during their service. The difference is that the non-RTR teachers receive a basic three-day training as a part of their orientation, whereas the RTR teachers go through a year-long clinical training comprised of customized in-class lectures and practical experience in the classroom. RTR teachers receive in-service career coaching during their first and second year as teachers of record. Similar mentorship is also available to the non-RTR teachers in selected schools.

SCENARIO BUILDING

RPS currently hires approximately 300 new teachers every year (based on the last three years of hiring data provided to us). Assuming that RPS hires 300 non-RTR teachers in year 0 (current year), we calculate the attrition of this sample over a five-year period using the estimates calculated in Section 2. As the numbers deplete, we assume that they are replenished the following year with more non-RTR teachers so as to sustain the seed value of 300. The process is repeated for five consecutive years and the total number of non-RTR teachers needed to maintain the initial hire is tallied at the end. Assuming that re-hiring does not happen immediately, we consider the depleted positions to be fulfilled by long-term substitute teachers for at least half a year. The scenario is repeated with the same number of RTR teachers using corresponding attrition rates and substitution requirements. Finally, cost components are applied to the total number of teachers each year - including fixed costs, variable costs, and substitution costs - and cumulative totals are compared between the groups. The scenario is compared for both maximum and minimum retention estimates. Tables 7 and 8 present the retention model for RTR and non-RTR teachers using the maximum estimated (best case scenario) retention rates.

The estimated maximum retention rate for RTR teachers in the first year is 100%. Hence, all of the 300 RTR teachers hired in year-0 will persist in year-1. By the second year only 290 (97%) of RTR teachers will persist, thus requiring 10 substitute teachers to replace them immediately, as well as initiate hiring of 10 new RTR teachers (assuming there is sufficient supply of RTR teachers each year to meet the demand). Similarly, 15 additional RTR teachers will leave at the end of the third year. Those positions will need immediate replacement and new hires. Simulated over the course of 5 years, using the best-case retention rates, it is estimated that a total of 432 RTR

teachers will be hired to maintain the needed pool of 300 teachers. A total of 132 long-term substitute teachers will be hired to make up for the absence of permanent teachers.

TABLE 7: RTR TEACHERS NEEDED IN 5 YEARS TO MEET THE CURRENT LEVEL OF DEMAND USING MAXIMUM RETENTION RATES (BEST CASE SCENARIO)

RTR (Maximum retention)	Teachers hired (cumulative)	Y1	Y2	Y3	Y4	Y5	Substitutes
Year - 0	300	300	290	275	178	169	0
Year - 1 (Add 0)	300	0	0	0	0	0	0
Year - 2 (Add 10)	310		10	10	10	9	10
Year - 3 (Add 15)	325			15	15	15	15
Year - 4 (Add 97)	422				97	97	97
Year - 5 (Add 10)	432					10	10
Total	**432**	300	300	300	300	300	**132**

Similarly, under the best-case scenario, of the 300 non-RTR teachers hired in year-0, only 240 persist by the end of the first year, thereby creating a need to hire 60 additional teachers to meet the demand. By the third year the 300 hired in year-0 is depleted to 165, the 60 hired in year-1 is depleted to 41, and the additional 45 hired in year-2 is depleted to 36. By the end of the fifth year a total of 552 non-RTR teachers are needed to maintain the originally hired 300 teachers, and a total of 252 substitute teachers will be hired for immediate replacement during the period.

TABLE 8: NON- RTR TEACHERS NEEDED IN 5 YEARS TO MEET THE CURRENT LEVEL OF DEMAND USING MAXIMUM RETENTION RATES (BEST CASE SCENARIO)

Non-RTR (Maximum retention)	Teachers hired (cumulative)	Y1	Y2	Y3	Y4	Y5	Substitutes
Year - 0	300	240	207	165	142	128	0
Year - 1 (Add 60)	360	60	48	41	33	28	60
Year - 2 (Add 45)	405		45	36	31	25	45
Year - 3 (Add 58)	463			58	46	40	58
Year - 4 (Add 48)	511				48	38	48
Year - 5 (Add 41)	552					41	41
Total	**552**	300	300	300	300	300	**252**

It is notable that only 25 additional RTR teachers are needed as compared to 163 new non-RTR teachers by the end of the third year. However, the RTR numbers substantially drop in the fourth year, requiring 97 new hires to maintain the pool (compared to only 48 non-RTR in the same year). As noted earlier, the fourth- and fifth-year retention estimates for RTR have a substantially wide margin of error due to the small sample size, but it does not change the fact that RTR teachers leave their jobs at the end of the third year at a rate comparable with their non-RTR counterparts.

Tables 9 and 10 represent the retention scenario using the minimum retention rates (worst case) for both groups.

TABLE 9: RTR TEACHERS NEEDED IN 5 YEARS TO MEET THE CURRENT LEVEL OF DEMAND USING MINIMUM RETENTION RATES (WORST CASE SCENARIO)

RTR (Minimum retention)	Teachers hired (cumulative)	Y1	Y2	Y3	Y4	Y5	Substitutes
Year - 0	300	284	258	217	74	49	0
Year - 1 (Add 16)	316	16	15	14	12	4	16
Year - 2 (Add 27)	343		27	26	23	20	27
Year - 3 (Add 43)	386			43	41	37	43
Year - 4 (Add 150)	536				150	142	150
Year - 5 (Add 48)	584					48	48
Total	**584**	300	300	300	300	300	**284**

TABLE 10: NON-RTR TEACHERS NEEDED IN 5 YEARS TO MEET THE CURRENT LEVEL OF DEMAND USING MINIMUM RETENTION RATES (WORST CASE SCENARIO)

Non-RTR (Minimum retention)	Teachers hired (cumulative)	Y1	Y2	Y3	Y4	Y5	Substitutes
Year - 0	300	226	189	145	119	100	0
Year - 1 (Add 74)	374	74	56	47	36	29	74
Year - 2 (Add 55)	429		55	41	35	27	55
Year - 3 (Add 67)	496			67	50	42	67
Year - 4 (Add 60)	556				60	45	60
Year - 5 (Add 57)	613					57	57
Total	**613**	300	300	300	300	300	**313**

Considering the scenario with the minimum retention rates for both groups, 584 RTR teachers or 613 non-RTR teachers are required over a period of five years to maintain a pool of 300 teachers in RPS. If the demand is met by hiring RTR teachers, a total of 284 substitute teachers will be hired during the period as compared to 313 substitutes when non-RTR teachers are hired to fill those 300 positions.

RPS COST COMPARISON

The core cost components selected for comparison between the groups are operational cost, recruitment cost, and replacement cost (including both short-term replacements using substitute teachers and permanent replacement with new hires). Operational cost includes salaries of permanent staff needed to run the systems and are considered fixed costs since they remain mostly unchanged regardless of marginal variations in the number of teachers hired every year. Currently, the RPS system contributes to some of the recruitment costs of the RTR program but not its operational costs. Table 11 presents the cost to the RPS system compared between RTR and non-RTR hires considering the maximum estimated retention scenario.

TABLE 11: RTR AND NON-RTR 5-YEAR COST COMPARISON AT THE MAXIMUM ESTIMATED RETENTION RATIOS

Year	RTR					Non-RTR				
	RTR Hired	Recruitment Cost	Substitution Cost	Operational Cost	Cumulative Total	Non-RTR Hired	Recruitment Cost	Substitution Cost	Operational Cost	Cumulative Total
Year-0	300	$1,728,000	$0	$0	**$1,728,000**	300	$4,500,000	0	$661,564	**$5,161,564**
Year-1	0	$0	$0	$0	**$1,728,000**	60	$900,000	$783,000	$661,564	**$7,506,128**
Year-2	10	$57,600	$130,500	$0	**$1,916,100**	45	$675,000	$587,250	$661,564	**$9,429,942**
Year-3	15	$86,400	$195,750	$0	**$2,198,250**	58	$870,000	$756,900	$661,564	**$11,718,406**
Year-4	97	$558,720	$1,265,850	$0	**$4,022,820**	48	$720,000	$626,400	$661,564	**$13,726,370**
Year-5	10	$57,600	$130,500	$0	**$4,210,920**	41	$615,000	$535,050	$661,564	**$15,537,983**
TOTAL	432	$2,488,320	$1,722,600	$0		552	$8,280,000	$3,288,600	$3,969,383	

As shown in the table above, the operational cost for RPS over a five-year period would be $3.97 million if only non-RTR teachers were hired, versus a $0 operational cost if only RTR teachers were hired. According to the data provided to us by the RTR program coordinator and RPS human resources personnel, as well as salary information published in RPS fiscal reports, the annual cost to operate the RTR program - which mostly includes the share of staff salaries - is $585,302. However, RTR's operational costs are currently being covered through grant funding. Hence, through the lens of RPS, the cost to run the RTR program is zero. On the other hand, the staffing cost at RPS that is dedicated to recruiting and hiring new teachers through conventional hiring methods is $661,564 per year. The total operational cost for the RPS system to hire an equivalent of 300 non-RTR teachers over the five-year simulation period is estimated to be around $3.97 million.

At the time of data analysis, RTR teacher recruitment costs included the resident stipend of $24,000, the CRC stipend of $3,500, and the career coach salary and benefits equivalent to $4,520 per resident. Beginning in the 2018-2019 school year, the CRC and career coach stipends were paid by RPS, whereas the resident stipends were paid through the RTR program's external grant funding. The share of the recruitment costs for the RPS system to hire one RTR resident is only about $8,020 (after removing the costs covered by external grants). Considering the maximum retention rates for RTR teachers, the total recruitment cost to the RPS system to maintain a pool of 300 RTR teachers for a five-year period is $3.46 million.

There are also additional costs borne by the RPS system to train the non-RTR / conventionally hired teachers. RPS spends about $8000 per year per non-RTR teacher candidate on professional development and certifications. Additionally, based on the information collected during interviews conducted by CURA with school principals and career coaches, the schools also provide additional on-the-job training to the non-RTR teachers. We asked the interviewees to estimate the number of training hours or expenses needed to train a non-RTR teacher to improve their classroom preparedness skills such as lesson planning, classroom management, grading, etc. After gathering the information from six different respondents from various RPS schools, we estimated the cost to be equivalent to 40 hours of intensive training by subject experts and coaches, which roughly equates to around $10,000 per person. Considering the on-the-job training component, the overall recruitment cost to hire and maintain a pool of 300 non-RTR teachers is estimated to be around $8.28 million, which is about four times the recruitment cost for a similar pool of RTR teachers.

Another cost category in which the RTR program comes out ahead is the cost savings from higher retention rates and reduced use of substitute teachers. Over the five-year simulation period, hiring only from the pool of RTR would require RPS to spend about $1.72 million on substitute teachers, whereas hiring only from the pool of non-RTR would increase the substitute teacher cost to $3.28 million. The benefits of improved student outcomes that result from having permanent teachers in place rather than temporary substitutes might add more to tip the scale in favor of the RTR program, but such cost modeling has not been done in this study due to lack of sufficient data.

The cumulative cost column in Table 11 represents the sum of all three cost categories cumulated over the

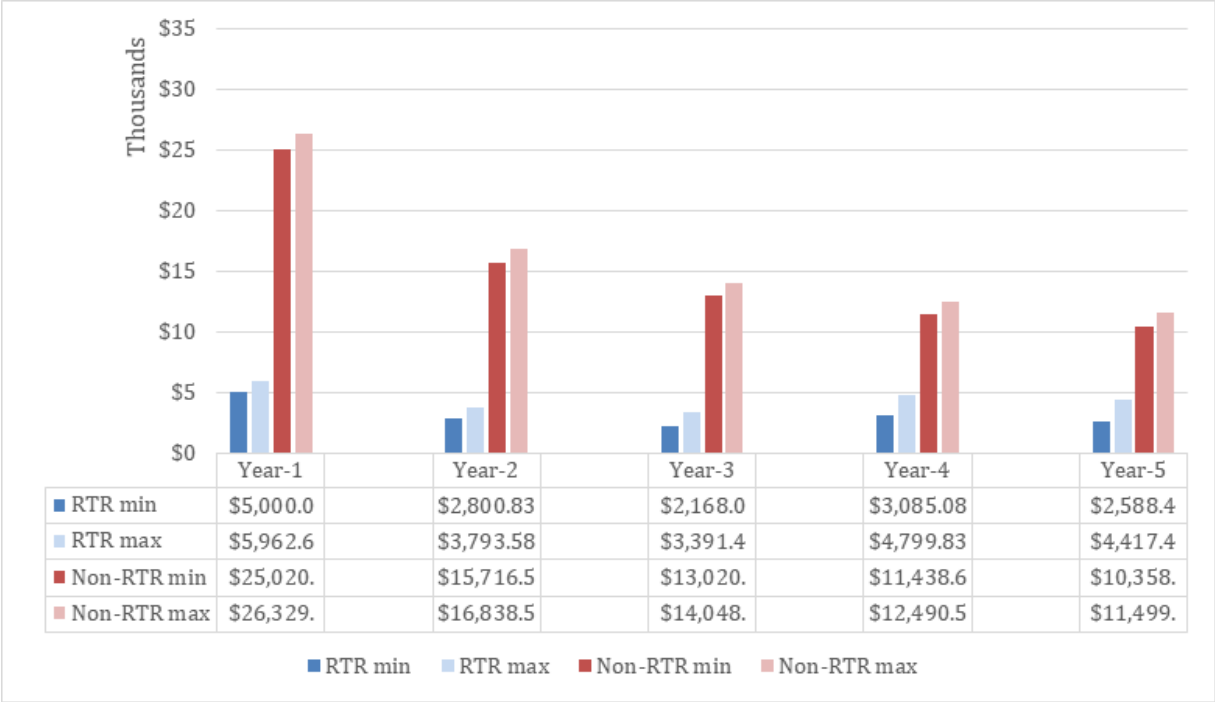
five-year period. ***It is notable that the total initial cost to the RPS system when hiring 300 RTR-teachers is $2.4 million, which is about half of the cost of hiring the same number of non-RTR teachers.*** By the end of three years, the total cost to maintain a pool of 300 RTR teachers is about $2.9 million which is about a quarter of the total cost to hire and maintain a pool of 300 non-RTR teachers ($11.7 million). The difference is mostly due to RTR's higher three-year retention rate and low use of substitute teachers, and availability of external grant funding to pay for RTR's operational costs and the cost of resident stipends. Even though the 4th and 5th year retention rates are comparable between the two samples, the cost of maintaining a pool of 300 RTR teachers for five years (about $5.2 million) is still about one-third of the cost of maintaining a pool of non-RTR teachers ($15.5 million).

Table 12 presents the cost scenario based on the minimum retention estimates, where the cumulative three-year cost of hiring RTR teachers for the pool of 300 positions is $4.2 million which is about a third of the cost of hiring and maintaining a pool of 300 non-RTR teachers (estimated to cost about $12.64 million). Similarly, the five-year cumulative cost to hire and maintain 300 RTR teachers is $8.38 million. For non-RTR teachers, the five-year cumulative cost to hire and maintain the same number is $17.24 million. Even with the lowest retention ratios, it costs about $8.8 million less for the RPS system over a five-year period to hire RTR teachers in place of non-RTR teachers. Figure 12 represents the graphical comparison of the cost per position per year for both RTR and non-RTR teachers for a five-year simulated period.

TABLE 12: RTR AND NON-RTR 5-YEAR COST COMPARISON AT THE MINIMUM ESTIMATED RETENTION RATIOS

Year	RTR					Non-RTR				
	RTR Hired	Recruitment Cost	Substitution Cost	Operational Cost	Cumulative Total	Non-RTR Hired	Recruitment Cost	Substitution Cost	Operational Cost	Cumulative Total
Year-0	300	$1,728,000	$0	$0	**$1,728,000**	300	$4,500,000	0	$661,564	**$5,161,564**
Year-1	16	$92,160	$208,800	$0	**$2,028,960**	74	$1,110,000	$965,700	$661,564	**$7,898,828**
Year-2	27	$155,520	$352,350	$0	**$2,536,830**	55	$825,000	$717,750	$661,564	**$10,103,142**
Year-3	43	$247,680	$561,150	$0	**$3,345,660**	67	$1,005,000	$874,350	$661,564	**$12,644,056**
Year-4	150	$864,000	$1,957,500	$0	**$6,167,160**	60	$900,000	$783,000	$661,564	**$14,988,620**
Year-5	48	$276,480	$626,400	$0	**$7,070,040**	57	$855,000	$743,850	$661,564	**$17,249,033**
TOTAL	584	$3,363,840	$3,706,200	$0		613	$9,195,000	$4,084,650	$3,969,383	

FIGURE 12: COST PER TEACHER PER YEAR TO FILL AND MAINTAIN 300 TEACHING POSITIONS



	Year-1	Year-2	Year-3	Year-4	Year-5
RTR min	$5,000.0	$2,800.83	$2,168.0	$3,085.08	$2,588.4
RTR max	$5,962.6	$3,793.58	$3,391.4	$4,799.83	$4,417.4
Non-RTR min	$25,020.	$15,716.5	$13,020.	$11,438.6	$10,358.
Non-RTR max	$26,329.	$16,838.5	$14,048.	$12,490.5	$11,499.

In summary, under the current cost-sharing scenario, RPS is estimated to save between $8.8 to $10.3 million by hiring and maintaining a pool of 300 RTR-trained teachers compared to non-RTR teachers over the course of five years. ***This is equivalent to a savings of $29,530 to $34,502 per teacher position.***

SECTION 4: RTR AND NON-RTR LED CLASSROOM ACHIEVEMENTS – METRICS COMPARISON

RTR's effort to improve teacher quality and increase retention rates has one ultimate goal – to provide quality education to the students of Richmond's urban schools in a cost-effective manner. In the earlier sections, we highlighted the improvement in teacher retention rates and cost savings to the school division resulting from the program. In the following section, we examine if the RTR initiative is producing any tangible improvement in student's academic achievement in the RTR partner schools. We explore answers to two research questions:

(1) Is there any difference in student performance, as measured through SOL test scores, between the students taught by RTR teachers and non-RTR teachers?

(2) If yes, how much of that improvement can be attributed to the RTR program?[4]

ABOUT THE STUDENT PERFORMANCE DATA AND METHODS

The student performance data for the school year 2017-18 was obtained from the RPS system. The data contained student SOL scores disaggregated by subject area, grade level, school, and teacher. The RTR and non-RTR teachers were identified in the dataset. As far as the data allowed, we paired student cohorts taught by RTR and non-RTR teachers in the same subject areas and schools. If a school did not have comparable RTR and non-RTR teachers, we removed the case from the analysis. The resulting dataset included 1,307 student records from 13 RPS schools, of which 763 were middle school students and 544 were high school students. The data contained 338 student records for English, 99 for Math, 410 for Science, and 460 for Social Studies. These students were taught by 22 RTR and 14 non-RTR teachers.

We used school-provided SOL scores as a standardized measure to compare between the two groups – students taught by RTR teachers and non-RTR teachers. In order to correct the variation between the quality of students across various RPS schools, we used the students' prior-year SOL scores as controlling parameters. The objective is to compare between the effects of RTR and non-RTR student test scores without confounding effects due to already present achievement differences. Additionally, teaching experience has also been used as a controlling parameter to account for the impact of veteran teachers in both RTR and non-RTR groups. The data sample has been limited to only those cases for which all three data points – SOL scores, teacher experience, and prior-year SOL scores – are valid, and all missing data have been removed listwise. We then compared the difference between the median SOL, first and third quartile, and the maxima and minima between the two groups. We then compared the SOL scores across various performance bins using histograms to examine signs of improvement across students of all achievement levels. Further, we developed a simple regression model to evaluate the impact of RTR teachers on SOL scores with corrections put in place to remove noise due to experience of the teacher and prior academic standing of the students. Table 13 presents a summary of the data.

4 Please note, a comprehensive study solely focused on evaluating student performance between RTR and non-RTR teachers using advanced statistical methods was produced by previously acknowledged VCU researchers and provided to RTR program leaders. Although, the current report and the study referenced here use slightly different methods and data samples, the broad findings are comparable. With the permission of the authors, a summary of the statistical findings is presented in Appendix 2 of this report.

TABLE 13: A SUMMARY OF TEACHER CHARACTERISTICS AND STUDENT PERFORMANCE DATA 2017-18

		RTR	Non-RTR
Number of Teachers		22	14
Average Experience (number of years)		3	5
Number of Student records		797	510
Median Student's SOL score		410	377
Median Prior Year SOL score		407	364
By subject areas			
English	Number of teachers	6	5
	Avg. Experience (yr)	7	3
	Median SOL	415	404
	Median Prior Year SOL	426	420
Math	Total Number	1	2
	Avg. Experience (yr)	1	1
	Median SOL	378	387
	Median Prior Year SOL	408	385
Science	Total Number	7	3
	Avg. Experience (yr)	2	11
	Median SOL	413	357
	Median Prior Year SOL	420	349
Social Studies	Total Number	8	4
	Avg. Experience (yr)	2	1
	Median SOL	411	377
	Median Prior Year SOL	373	346

Source: Richmond Public School

Table 13 presents a snapshot of the sample from 2017-18 school year prepared using comparable groups of students taught by 22 RTR and 14 non-RTR teachers across 4 subject areas in 13 Richmond schools. On average, the non-RTR teachers in the sample have slightly more teaching experience - 5 years compared to 3 years for the RTR teachers. The median SOL score of all students taught by RTR teachers is 410 which is about 33 points higher than those taught by non-RTR teachers. However, the students taught by RTR teachers had an average prior-year SOL score of 407 which is 43 points higher than that of the non-RTR students.

In the four subject areas evaluated, median scores of students taught by RTR teachers are generally higher than those taught by non-RTR teachers – 11 points in English, 56 points in science, and 34 points in Social Studies. However, there is an exception in math where the median score is 9 points lower in RTR taught students. It should be noted that math is the smallest sub-sample in the dataset with only 99 students taught by 1 RTR and 2 non-RTR teachers.

Table 14 below presents the comparison of median SOL scores across the four subject areas in the selected RPS schools. Some cells in the table do not contain data. That is because the schools did not have an RTR teacher in those subject areas or the data provided by RPS did not include a comparable non-RTR teacher. The student records where there are no comparable RTR and non-RTR teachers were removed from the comparison of averages and the regression models below.

TABLE 14: COMPARISON OF MEDIAN SOL SCORES BETWEEN RTR AND NON-RTR TEACHER-LED COURSES

Median SOL by School	English		Math		Science		Social Studies	
	Non-RTR	RTR	Non-RTR	RTR	Non-RTR	RTR	Non-RTR	RTR
Albert Hill Middle School	413	425	--	--	--	422	--	442
Armstrong High School	--	395	368	389	--	387	368	389
Binford Middle School	371	403	--	--	371	403	371	403
Boushall Middle School	419	--	--	--	--	--	419	419
Elkhardt Thompson Middle School	--	380	378	380	378	380	378	380
Franklin Military Academy	442	404	--	--	442	404	466	--
George Wythe High School	419	--	371	--	400	385	400	385
Henderson Middle School	382	--	--	--	--	--	392	397
Huguenot High School	402	407	402	407	--	--	402	407
John Marshall High School	411	411	416	--	399	--	411	411
Lucille M. Brown Middle School	323	--	--	373	417	472	510	--
Martin Luther King Jr Middle School	357	362	354	--	357	362	357	362
Thomas H Henderson Middle School	369	--	376	407	360	--	376	407

Source: Richmond Public School

The difference in median SOL scores in four subject categories across a majority of selected RPS schools show that the students taught by RTR teachers generally score higher than those taught by non-RTR teachers. The differences are substantial in many cases and marginal in others. For example, Binford Middle School reports a difference of 21 points in math and social studies, Armstrong High School reports a difference of 32 points in English, science, and social studies, and Lucille Brown Middle School reports 55 points difference in science when the students are taught by an RTR teacher. However, there are a few schools where non-RTR taught students have performed substantially better than RTR taught students. Franklin Military Academy reports a reduction of 38 points in English and science, and George Wythe High reports a 15 point reduction in science and social studies. The comparison of median SOL scores indicates that some differences exist between the two groups, but in order to examine if the differences are meaningful and worthy of causal modeling, we further examined the data using cluster boxplots and frequency histograms.

The boxplot diagram presented in Figure 13 is a visual comparison of the median value, first and third quartile ranges, and the maxima and minima including notable outliers. The summary of SOL scores from the students taught by RTR teachers are represented by red boxes and comparable data of non-RTR taught students by blue boxes. The horizontal line in the middle of the box represents the median value, the top and bottom extent of the colored box represents the third quartile and first quartile range (where 75 percent of the cases fall), and the whiskers represent maximum and minimum extent of the data.

The SOL scores in science, social studies, and English are higher in RTR taught students than their non-RTR taught counterparts. There are three elements that can be concurrently evaluated using the box and whiskers. First, we look at the location of the median line where higher is better. We then look at the size of the 3rd quartile (the area of the box above the median line); a larger box suggests that more students are scoring at the upper range. We then look at the movement of the maximum and minimum whiskers; in both cases, upward movement is better. The entire box and whiskers representing RTR teachers' science scores moves upward compared to non-RTR, while also showing substantial increase in the 3rd quartile box size. This suggests that not only have the median scores improved, but the scores have improved for a larger number of students with a majority scoring in the 3rd quartile (400-500) category. Similarly, English and social studies show marginal improvement in the RTR group, whereas math fares negative in terms of overall group performance but shows improvement in the 1st quartile (lower box) performance. The difference is further explored using frequency histograms as presented in Figure 14.

FIGURE 13: CLUSTERED BOXPLOT COMPARISON OF SOL SCORE BY SUBJECT AREAS

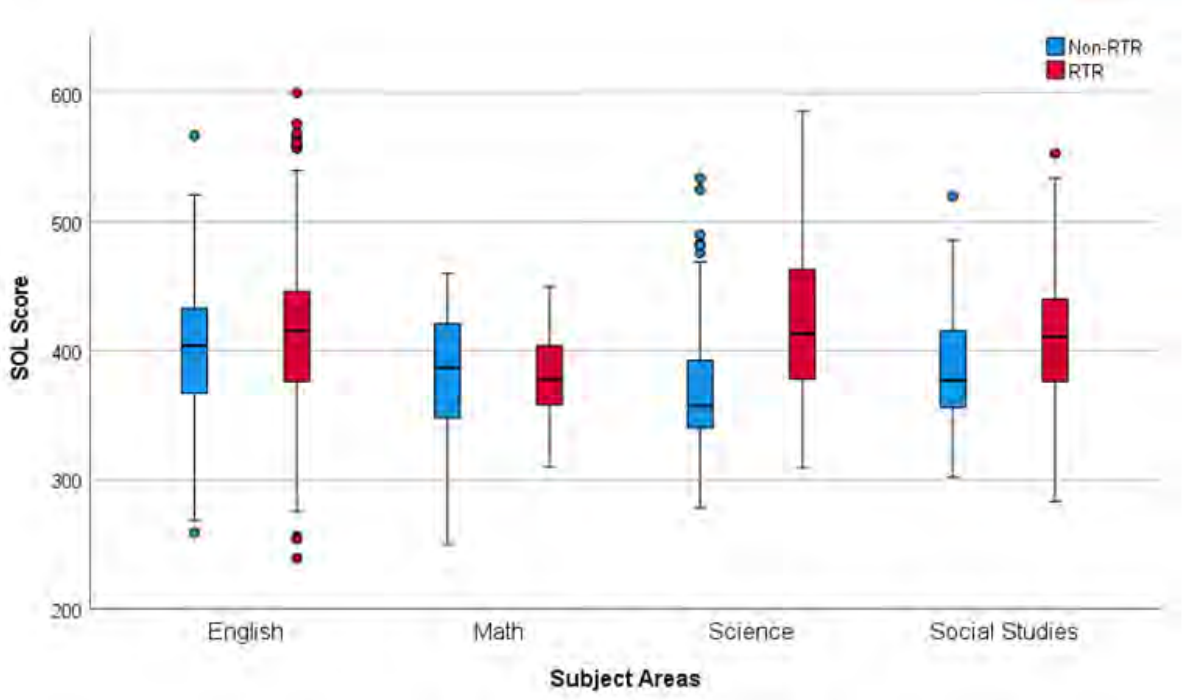
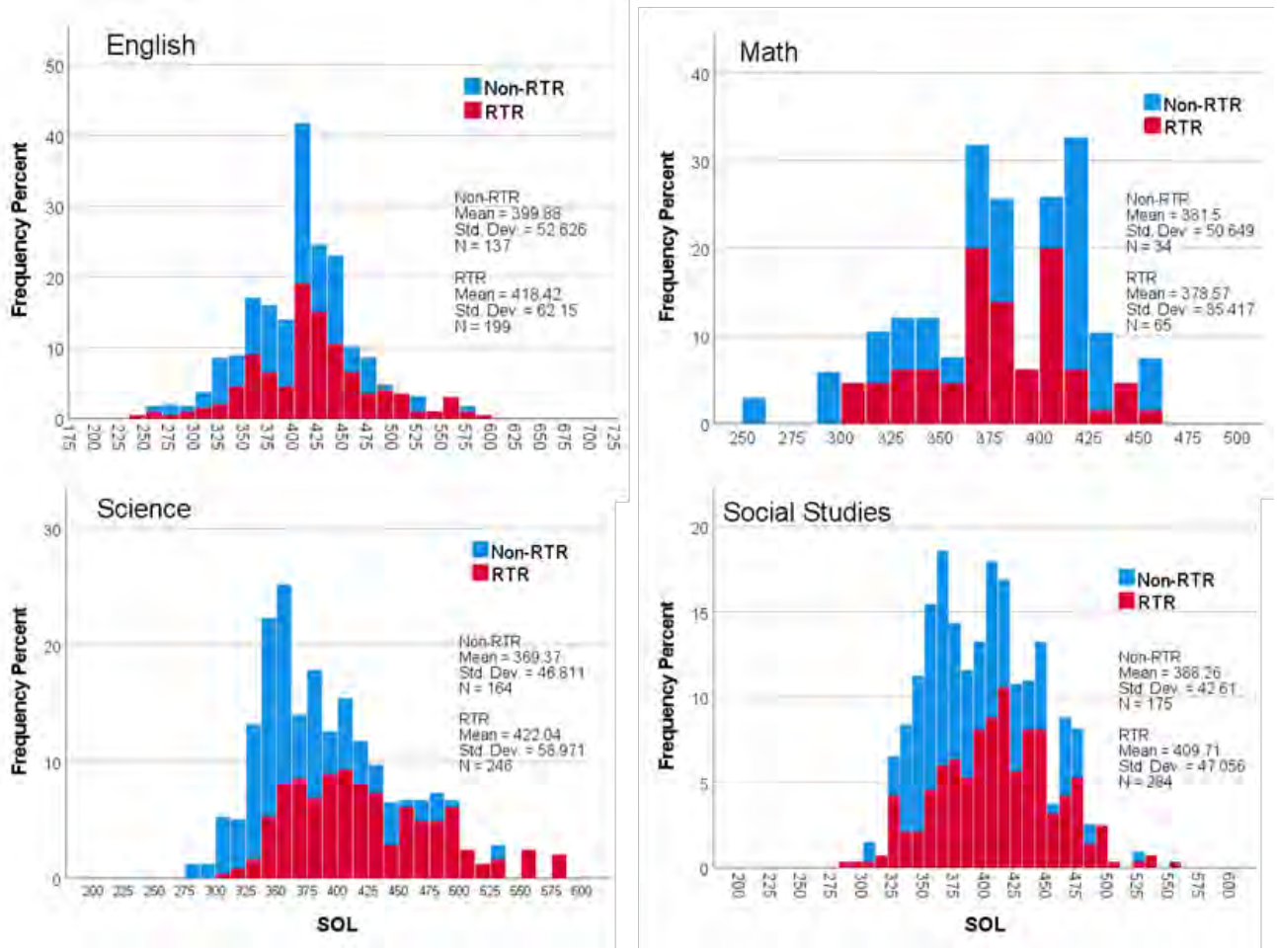


FIGURE 14: HISTOGRAM COMPARISON OF SOL BY SUBJECT AREAS BETWEEN RTR AND NON-RTR



The stacked histogram shows the percentage of students scoring within a certain SOL bin for both groups – RTR taught students represented in red and non-RTR in blue. We would typically expect to see normally distributed scores, with a majority of students scoring in the middle and few students on the far left (low score) or on the

far right (high score). The scores are considered to be improved if the distribution overall shifts to the right, or it skews (leans toward) the right side of the graph suggesting that fewer students are scoring in the lower side of the spectrum. In all of the above graphs except for math, the RTR bars are seen to have skewed toward the right side – there are more blue vertical bars on the left side than red. This suggests that fewer students taught by RTR teachers are scoring on the lower end of the SOL spectrum. As we move toward the right side of the graphs (higher SOL scores) the bars start to show a higher proportion of RTR trained students. The histograms suggest that RTR taught students have greater scores across all achievement levels.

Further, we examine the causal effect of RTR teachers on student performance using the following simple linear regression model:

$$y = ax_1 + b_n x_n + e$$

where,

y is the dependent variable representing the measure of student performance (SOL score)

x_1 is the dummy variable coded (1) for RTR teacher and (0) for Non-RTR teacher

x_n are control variables – years of experience and prior-year SOL score both coded as interval variables.

TABLE 15: EFFECT OF RTR TEACHER ON STUDENT PERFORMANCE

	Model-1	Model-2	Model-3	Model-4	Model-5
	DV = SOL IV = RTR Teacher Control = Years of Experience	Model-1 + Row Filter = English	Model-1 + Row Filter = Math	Model-1 + Row Filter = Science	Model-1 + Row Filter = Social Studies
Intercept	286.19***	270.43***	227.56***	185.6***	365.36***
RTR Teacher (Dummy, 1,0)	22.97*** (.20)	3.43* (.02)	5.37* (.06)	33.1*** (.26)	22.7*** (.24)
Years of teaching experience (Control)	.84*** (.08)	3.65*** (.37)	44.9*** (.58)	.661 (.06)	-2.81 (-.08)
Prior Year SOL (Control)	.25*** (.41)	.285*** (.39)	.242*** (.35)	.485*** (.63)	.067*** (.15)
R-Squared	.25	.455	.424	.515	.086
Adjusted R-Squared	.249	.449	.403	.542	.079
Standard error	47.7	44.12	31.74	41.13	44.36

Statistical significance notation: *p < .05. ***p < .001.

We first examined the causality between RTR teacher and improved student performance for the entire sample (Model 1) controlling for the confounding effects of prior student achievement and years of teaching experience. The r-squared value suggests that the model explains about 25% of the variation in the SOL scores. Even though all three variables produce coefficients significant at a 99% confidence interval, prior-year SOL score primarily dominates the model with a large t-statistic and standardized coefficient. About 20% of the variation in SOL scores is attributed to having an RTR teacher. The unstandardized coefficient for the dummy variable RTR suggests that compared to a non-RTR teacher, student SOL score increases by about 23 points when they are taught by an RTR teacher. In the full model, the years of experience of the teacher shows minimal impact on SOL score.

Next, we split the model by subject categories separately. We did not include controls for all subject categories in the same model because the sample membership is not the same across all subjects. In other words, the same group of students is not taught by RTR teachers across all subject categories. Three of the four split-mod-

els report sufficiently higher r-squared values – Model 2 (English) at .45, Model 3 (math) at .42, and Model 4 (science) at .51. The model for social studies did not show a good fit with the data.

Model 2 shows that when English is taught by an RTR teacher the student SOL score marginally increases by about 2 percent compared to the students taught by a non-RTR teacher. This difference is negligible and insignificant. However, years of teaching experience shows substantial impact on SOL score. The standardized coefficient of .37 suggest that one standard deviation increase in teaching experience (which is 5.9 years within the English teacher subset) increases the student SOL score in English by 21.8 points (37 percent of 59.0 - the standard deviation of English SOL scores).

Model 3 shows that RTR teachers have a marginal impact on math scores. The model's coefficient of determination (r-squared) is 0.42. The beta coefficient for the dummy variable representing RTR teachers is significant at a 90% confidence level and not statistically reliable. However, similar to English, years of experience of the math teacher has a strong correlation with the student's SOL score. The standardized coefficient of .58 which is statistically significant at a 99.9% confidence interval suggests that an increase in one standard deviation in teacher experience (about one year) is found to improve math SOL scores by 24 points (.58 x standard deviation).

Model 4 has a relatively high adjusted r-squared value of 0.54. This model shows that when science is taught by an RTR teacher, the SOL score improves by about 15.6 points (0.26 x 60.2, the standard deviation), compared to the students taught by a non-RTR teacher. Teacher experience is not a significant predictor of higher SOL in science.

Even though Model 5 shows a positive correlation between RTR teacher and SOL score in social studies, the model's coefficient of determination is too small to consider worthy for discussion. There could be other variables aside from RTR teacher and years of experience that are impacting SOL scores. Although we have seen SOL scores in social studies improve in RTR taught students compared to non-RTR taught students, we could not find any causal relationships between the two in our limited dataset.

In general, having an RTR teaching a class is found to improve student academic performance when compared to having a non-RTR teaching a class, controlling for confounding effects of years of experience and students' prior achievement. The data used for this analysis was only a small one-year sample of the test scores from specific schools in within RPS. The results might not be generalizable and scalable, but it was never the intent of this exercise. We wanted to find if having an RTR teacher leads to improved academic performance. We generally found the hypothesis to be true especially for English and science. We found a similar positive relationship in social studies student scores, but the model was not statistically reliable. We also found that teacher experience on the job is a strong predictor of higher student achievement.

We acknowledge that sample size is a limitation in the quantitative analysis. To overcome this limitation, we also employed qualitative methods to assess the benefits that come from hiring an RTR teacher. The following section highlights some of the recurring themes identified during our interactions with school principals, career coaches, human resources coordinators, and the parents of the children taught by RTR and non-RTR teachers.

SECTION 5: QUALITATIVE ASSESSMENT OF THE RTR PROGRAM

In the seven years between 2012 and 2018, RTR prepared approximately 144 teachers to begin working in RPS classrooms. The earlier cohorts were smaller, with 8 to 15 candidates per year, while the most recent cohorts consisted of 30 to 40 candidates per year. On average, 20 RTR teachers per year were hired in RPS over the last seven years. These teachers accounted for about 6% of new hires each year and about 1% of the total number of teachers in the RPS system at any given time. Hence, it is difficult to compare benefits solely on the basis of quantitative information. Furthermore, RTR teachers are hired in hard-to-staff schools and positions facing greater behavior challenges and lower academic achievement. Evidence of outstanding results become normalized

in aggregated quantitative studies. This section explores the impact of RTR teachers at a more granular level through interviews with school principals and career coaches who work with them on a regular basis, as well as interviews with the parents who are able to speak to their children's performance in school.

With help from RTR program coordinators, we interviewed two school principals, three career coaches in various subject areas, three parents of students taught by RTR teachers, two human resource staff members, and two representatives from various local foundations who have supported the program in the past. We made sure that the school principals and the career coaches recruited for the interviews had worked alongside the RTR teachers for a sufficient length of time and that they were informed enough to provide substantive comparisons. The respondents were asked to compare RTR and non-RTR teachers on various aspects of RTR training, initial preparedness of teachers, cost difference of hiring RTR over non-RTR teachers, and the impact on student performance. Some of the highlights and recurring themes in the data are presented below.

RTR'S STRENGTH IS ITS SELECTIVE RECRUITMENT AND CLINICAL RESIDENCY

The most recurring theme in our interviews with principals and career coaches was the effectiveness of selective recruiting and clinical residency. School principals and career coaches believed that the success of this program results in large part from the residents teaching for a full year before joining as a full-time teacher. This experience prepares them for the rigorous teaching environments in Richmond's urban schools. This period also allows them to become more comfortable with the school culture and administration. The residency provides them the opportunity to cycle through different activities throughout the academic year, such as planning lessons and developing teaching materials in the beginning of the year and conducting evaluations and tracking student performance in the latter half of the year.

The RTR residents are routinely evaluated and mentored by their CRCs. This is an essential part of the program that allows for growth and learning for the RTR resident. The coaching during the year-long residency prepares RTR teachers to be proficient in lesson planning, classroom management, and pedagogical content knowledge. Through observance of the more veteran teachers, they are also able to visualize what practices do and do not work in a classroom. Their coaches and other teachers in the building also help them develop a greater understanding of how to interact with the school's administration and the school system itself. This has been identified as something that normally takes non-RTR teachers an entire year to learn. One of the principals we interviewed estimated that each RTR teacher saves the school about $10,000 in training and mentoring costs.

LEVEL OF INITIAL PREPAREDNESS IS HIGH IN RTR TEACHERS

School principals and career coaches believe that the RTR teachers have higher levels of initial quality in terms of subject matter expertise, lesson planning, instructional delivery, classroom management, and responsiveness to student needs compared to their non-RTR counterparts. When the respondents were asked to rate the two groups of teachers on a scale from 0 to 10 on initial preparedness and teaching related skills, RTR teachers received an average score of 8 compared to an average of 4.5 received by the non-RTR teachers. The RTR teachers often utilized creative methods, delivered more interactive lessons, and displayed higher levels of comfort while interacting with the students.

RTR TEACHERS BENEFIT FROM THE SUPPORT SERVICES

The RTR program is a cohort style program. The cohort model of the program allows residents to feel comfortable discussing classroom problems and acts as a safety net for those who are feeling overwhelmed. There is an urban teaching seminar each week that is only part of the RTR curriculum. In this seminar, residents discuss and receive feedback on the problems they are facing in the urban classroom. Due to the cohesiveness of the cohort model they also often work together outside of the classroom. Non-RTR teachers may not have a supportive network such as this and thus may struggle more when faced with challenges in the classroom.

MIX OF THEORY AND PRACTICE

The RTR program prides itself on combining theory and practice throughout the entirety of the program. Residents often talk about how the theories they learn in their coursework relate to what they see in the classroom.

They are able to use what they learn and test out what does and does not work for them. One of the career coaches we interviewed recounted her experience where a non-RTR student in one of her theory classes was having difficulty connecting the theoretical lessons learned during coaching with lived experience in the classroom. An RTR resident proceeded to use a classroom example they had recently experienced to explain how the theory could be seen in practice. The yearlong residency experience allows the residents to develop a deeper understanding of the theories that will guide their teaching throughout their careers before they begin work as a teacher of record.

FOCUS ON THE ISSUES OF HIGH-NEED URBAN SCHOOLS

The college coursework taken by both RTR and non-RTR students is very similar. Each group of pre-service teachers takes courses in content, teaching methods, and educational psychology. In addition to the shared coursework, residents in the RTR program take an additional seminar course focused on teaching in the urban school environment. One of the major issues discussed throughout by interviewees was that many teachers begin teaching in RPS having only been prepared to teach suburban children. This seminar course discussing the challenges faced in urban schools is essential to the success of RTR graduates and better prepares them for teaching in RPS schools.

PREFERRED CANDIDATES

All three principals interviewed for the study said they preferred to hire RTR-trained teachers when recruiting for an unfilled position. The principals stated that RTR teachers in their schools have a proven track record of student success. RTR teachers make it easier to fill high-needs positions more quickly. RTR teachers tend to stay at the schools where they were a resident, making it easier to plan for the upcoming year's recruitment and lowering the overall burden on the school; the residents begin their teaching careers understanding the culture and climate of the schools in which they work. School principals believed that they would get a higher quality teacher with the potential to stay longer on the job by hiring an RTR teacher.

IMPROVED STUDENT PERFORMANCE

During their interviews, career coaches and parents mentioned multiple examples of improved student performance and overall happiness from the students. One career coach mentioned that students have gone into an RTR classroom two grade levels behind in a given subject and completed the year on grade level. One parent found that her son was much more excited for a class with an RTR teacher and deemed this RTR teacher his favorite teacher he has ever had. Similarly, one of the principals we interviewed highlighted a 23% improvement in math SOL scores when an RTR teacher was hired to replace a position vacated by a non-RTR teacher.

CONCLUSION

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CONCLUSION

This study grew out of the need to understand the outcomes of the RTR program's efforts to recruit and retain highly skilled and qualified teachers in Richmond's high-need urban schools. The study used a mix of quantitative and qualitative methods to evaluate the outcomes of the RTR-trained teachers and compare these with non-RTR teachers in a selected sample of RPS schools. The study also compares the overall cost of hiring RTR teachers and non-RTR teachers. A summary of major findings from the study is presented below.

THE RTR PROGRAM PROVIDES A PIPELINE OF DIVERSE TEACHERS FOR HIGH-NEEDS URBAN SCHOOLS

With the RPS average one-year teacher attrition rate of 22% in high-needs, hard-to-staff schools, the RTR program provides a designated pipeline of high-quality teachers who have been trained to teach in these specific schools, supplying 13% of RPS new teachers in the 2017-2018 year that was the focus of this study. Elementary and special education have been noted as areas in which school divisions struggle to recruit teachers. RTR prepares the majority of residents in the program to teach in these two areas. Additionally, while there is a lack of minority teachers in the United States (Guba, Hyler, & Darling-Hammond, 2016), this is not the case in RTR. The ratio of minority residents has been consistently increasing over the years of the program. The program has contributed to increasing racial diversity as well as equity in Richmond urban schools by not only hiring teachers of minority races, but also by increasing the number of residents hired from within the community itself. These residents come in with a greater understanding of the challenges faced by students attending RPS schools. Additionally, having a minority teacher has also been associated with greater student achievement, particularly for minority students (Egalite, Kisida, & Winters, 2015), which are disproportionately represented in the schools in which RTR teachers work. The individuals prepared through the RTR program also become teachers of record at schools serving a greater number of economically disadvantaged students, with lower rates of academic achievement when compared with their non-RTR peers. The diverse teachers prepared through the RTR program are filling the teaching positions in RPS that are the most difficult to staff.

RIGOROUS PREPARATION LEADS TO HIGHER QUALITY TEACHERS

The RTR program has a highly robust selection process that verifies the candidates' academic records and requires them to prepare and teach a mini-lesson, followed by a written reflection on how they could change their lesson given the feedback they received. Rather than accepting all interested candidates as more traditional programs do, RTR selects those individuals who are reflective, coachable, and have a true interest in teaching in RPS. Following the robust selection process, the RTR program has a rigorous clinical residency component, which provides the residents with in-depth, practical pre-service teacher training. While they are attending college classes and learning about educational theories that will guide their work, the residents are able to experience the theories in action as they participate in their year-long clinical residencies. This extensive training leads to greater initial preparedness than traditionally prepared new teachers, with RPS principals seeking to hire RTR trained teachers.

STUDENT PERFORMANCE OUTCOMES ARE CONSIDERED GENERALLY BETTER

All of the interviewees recruited for this study provided glowing reviews about the in-class performance of RTR teachers and corresponding outcomes in student achievement. The SOL test scores analyzed for this report also indicate that RTR teachers are helping their students achieve academic success. There were, however, some exceptions to this trend in the quantitative data. Math is the academic area in which students of non-RTR teachers outperformed students of RTR teachers. Additionally, there were some instances of lower SOL pass rates for RTR teachers in a couple of the schools included in the analysis. As noted previously, the sample size is a limitation. For example, in the case of the math SOL scores, only one RTR teacher was included in the data. Based on the anecdotal information collected through interviews, we conclude that RTR teachers are able to perform on par with or better than the average new hire in the selected schools. Generally, RTR teachers have been reported to use creative and interactive teaching methods in the class, and all of the parents consulted during the study reported their children were more interested in the relevant courses and more enthusiastic to

attend their schools when being taught by RTR teachers.

RETENTION RATES VARY WITH NUMBER OF YEARS TEACHING

The study found a near-perfect retention rate (97%) in the first year for RTR teachers, and an above average retention of 91% and 82% in the second and third years, respectively. These rates are 20 to 30 percentage points higher than those of the non-RTR teachers. However, fourth year retention of RTR teachers drops suddenly to 42%, suggesting that about half of the RTR teachers leave after they have fulfilled their contracted three years of teaching, as required by the RTR program. By the end of the fifth year, only about one-third of the total RTR teachers hired from the cohort remain on the job. Fourth- and fifth-year retention rates are comparable between RTR and non-RTR teachers.

RTR TEACHERS ARE LESS EXPENSIVE TO HIRE THAN NON-RTR TEACHERS AND COST LESS TO REPLACE

The analysis of hiring costs incurred by RPS shows the large difference in hiring an RTR teacher versus a non-RTR teacher. RPS would bear a cost of about $8,000 to hire an RTR teacher. Compared to the $17,574 cost associated with hiring a non-RTR teacher, hiring an RTR teacher is a more cost-effective move. This would save the school division almost $10,000 per new hire. While the retention rates of RTR teachers do not differ that greatly from those of non-RTR teachers over time, there is still less cost associated with attrition of RTR teachers. Based on the rates of attrition presented in the study's findings, when factoring in the cost of hiring a substitute to fill a vacant position and spending money to recruit, hire, and train a new teacher, hiring RTR teachers versus non-RTR teachers could potentially save the school division around $35,000 per teacher. Considering the maximum retention rate estimates for both the groups, hiring and retaining one RTR teacher over three years costs four times less than hiring one Non-RTR teacher.

THE RTR PROGRAM FUNNELS FEDERAL, STATE, AND LOCAL BUSINESS AND NON-PROFIT FUNDS INTO RICHMOND'S HIGH-NEED URBAN SCHOOLS

As of the 2017-2018 school year, it cost around $47,599 per resident to recruit and prepare RTR-teachers, out of which about $8,020 or (roughly 17%) was contributed by RPS. The remaining 83% of RTR's funding comes in the form of federal and state grants and contributions from local businesses and non-profits. Indirectly, the RTR program funnels external funding into Richmond's economy, and especially into the RPS system. The program has been running for more than nine years, and during its course it has consistently increased the number of residents as well as the amount of external funding to support the program. Considering the success of the program in terms of improving teacher retention and pedagogical quality at high-needs urban schools, as well as the historical trend in its ability to engage multiple stakeholders in an exemplary public-private partnership to financially sustain the program, it is evident that the program will keep garnering external support in the future.

RTR AS A BRAND AND SOUGHT-AFTER CERTIFICATION

Three important findings from the study indicate that the RTR training itself is slowly turning into a brand name. First, there is an increasing trend, at least in Richmond and surrounding areas, in which schools prefer to hire an RTR-trained teacher in place of a traditionally trained teacher. Second, over the last five years, RTR recruitment has significantly increased, suggesting improving popularity of the training model. And, finally, reduction in retention rates after the three-year commitment period points towards a tendency to exit the program for other opportunities, some of which might be in other positions in the field of education. However, the program does not track its candidates once they exit from the program; there is no way to say with certainty where individuals go upon their exit from the program. The increasing popularity of RTR could result in more funding for the program. It could also result in improved teacher quality due to increased competition for selection.

CLOSING REMARKS

A number of conventional teacher training models focus on improving teaching skills through short yet intensive trainings and seminars. The areas in which RTR's training model stands out from traditional teacher training and other alternative training programs are the selective local recruitment and full-year clinical residency. The findings suggest that RTR teachers are generally better trained and can be hired by RPS at a lower cost than non-RTR teachers. Additionally, since the teachers are committed to at least one year of residency and three years of service, it brings much needed teacher stability in Richmond's high-needs and difficult-to-staff urban schools.

This teacher stability leads to greater student performance and improved school culture. The program's teachers are also more diverse than the traditionally prepared pool of teacher candidates. This increased diversity of the teacher workforce in RPS schools benefits the students. Having teachers with the same racial and ethnic demographics can lead to better outcomes for students.

The program does face some of the same problems that many other incentive-based teacher training programs face all over the country: reduced retention beyond the mandatory service period. While this is the case, there is ultimately no greater cost incurred by RPS in attrition of RTR teachers. Indeed, even with attrition rates of RTR and non-RTR teachers being similar in years four and five, the cost associated with replacing RTR teachers is far less than that of non-RTR teachers.

As of now, a substantial portion of the budget to support the program comes from external grants. The grant support has been increasing over the past few years and many private businesses and local non-profits have also begun contributing to the program. This is a clear indication that the program has been successful in addressing the core issue of teacher retention and quality in Richmond's urban schools. Looking at the current and past trends, the program is expected to garner more public and private support. As the cost of the training per resident reduces with increasing enrollment, the RTR program can become a dedicated pipeline for providing quality teachers to high-need urban schools in Richmond and the surrounding areas.

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APPENDIX-A

SUMMARY OF STUDENT PERFORMANCE ANALYSIS

MULTILEVEL ANALYSIS OF SOL DATA FOR RTR – PREPARED BY M. BRODA, 11/4/19

2017-2018 ANALYSIS, WITH STUDENT BACKGROUND INFORMATION AND PRIOR ACHIEVEMENT

To improve the predictive quality of our models and increase the available power to detect significant group differences, we requested additional student background information from RPS, including students' reported race/ethnicity, disability status, and gender. In addition, we also requested a prior measure of academic achievement for each student. To minimize missing data, we chose 8th grade English SOL scores. The objective of this request was to include these demographic and academic characteristics at the student level of our nested model in an effort to explain additional level-1 variance and level-2 variance (and thereby increase the power to detect an association between RTR and student achievement).

The sample for this analysis included 1,686 students clustered within 53 teachers (26 RTR, 19 non-RTR/ non-veteran, and 8 non-RTR/ veteran), and included fixed effects for school assignment to more precisely account for unobserved confounding variables at the school level. A null model was used to estimate an intraclass correlation for both school and teacher. The ICC was determined to be .25 at the teacher level, which means that 25% of the total variance in SOL scores occurred within school, between teachers. The school-level ICC was determined to be .13, which means that 13% of the variance in SOL scores occurred between schools. Both of these ICCs are well above the minimum threshold of .05, providing strong justification for the use of nested models that account for student, teacher, and school context.

Full model results can be found in Table 1. A total of six models were ran. Model 1 compares RTR teachers to all non-RTR teachers, while the following five models all compare RTR teachers with two comparison groups, 1) non-RTR teachers with less than five years of experience, and 2) non-RTR teachers with more than five years of experience (described below as veteran teachers). These models represent an overall comparison of RTR teachers with their matched controls, after accounting for school fixed effects and the vector of student background and demographic characteristics described above.

Models 1-3 examine the impact of RTR teachers without accounting for subject area or cohort year. Thus, these are aggregate impact models that demonstrate the difference between all RTR teachers and all non-RTR teachers, regardless of cohort or subject. In all cases, RTR teachers were associated with higher predicted student SOL scores than their matched non-RTR, non-veteran counterparts. The coefficient for RTR ranged from 13 to 16 SOL points depending on the model specification and was consistently significant with all ps < .001. Model 1 compares RTR teachers to all non-RTR teachers (regardless of veteran status), while model 2 compares RTR teachers to all non-veteran RTR teachers, with a separate estimate comparing non-RTR, veteran teachers to non-RTR, non-veteran teachers. Here, we see that veteran, non-RTR teachers are also associated with higher SOLC scores than non-veteran, non-RTR teachers, by a difference of about 46 SOL points (p <.001).[1] Model 3 adds student background variables as additional controls, with the same main predictors as Model 2. These variables increased the overall predictive power of the model (Adjusted R2 increased from .30 to .55), but the magnitude

1 A nonlinear comparison between RTR and veteran, non-RTR teachers showed that veteran, non-RTR teachers also were associated with higher SOL scores than RTR teachers (p < .01).

and significance of the RTR and veteran, non-RTR estimates remained unchanged.

Models 4-6 move from main effects of RTR to effects by subgroup, in this case subject-specific (Model 4), cohort-specific (Model 5), and subject-by-cohort-specific (Model 6) RTR estimates. All three of these models again included school-specific fixed effects and student background variables as controls.

Model 4 examines the role of subject area on estimates of RTR impact. We see mixed effects, with RTR teachers associated with lower SOL scores (8 points) in Science, but higher SOL scores in Social Studies (24 points), English (18 points), and Math (35 points) compared to non-RTR, non-veteran teachers. Veteran teachers again scored higher than both RTR (45 points) and non-RTR, non-veteran teachers (37 points) in Science.[2]

Model 5 examines the role of cohort year on estimates of RTR impact. We see positive effects for RTR teachers in Cohort 1 (31 points), and negative effects for RTR teachers in Cohorts 3 (42 points), 4 (27 points), and 5 (20 points), compared to non-RTR, non-veteran teachers. No significant differences were found between RTR and non-RTR teachers in Cohorts 2 and 6. Model 6 examines the simultaneous contribution of cohort year and subject on estimates of RTR impact. We see very similar results in magnitude and significance to the separate Models 4 and 5.

We also conducted an exploratory analysis to test for a possible nonlinear relationship between students' prior achievement and the impact of RTR teachers. We find some evidence of a positive interaction ($p < .05$), which suggests that RTR teachers may be more impactful for students who start at higher levels. A figure illustrating this relationship can be found below.

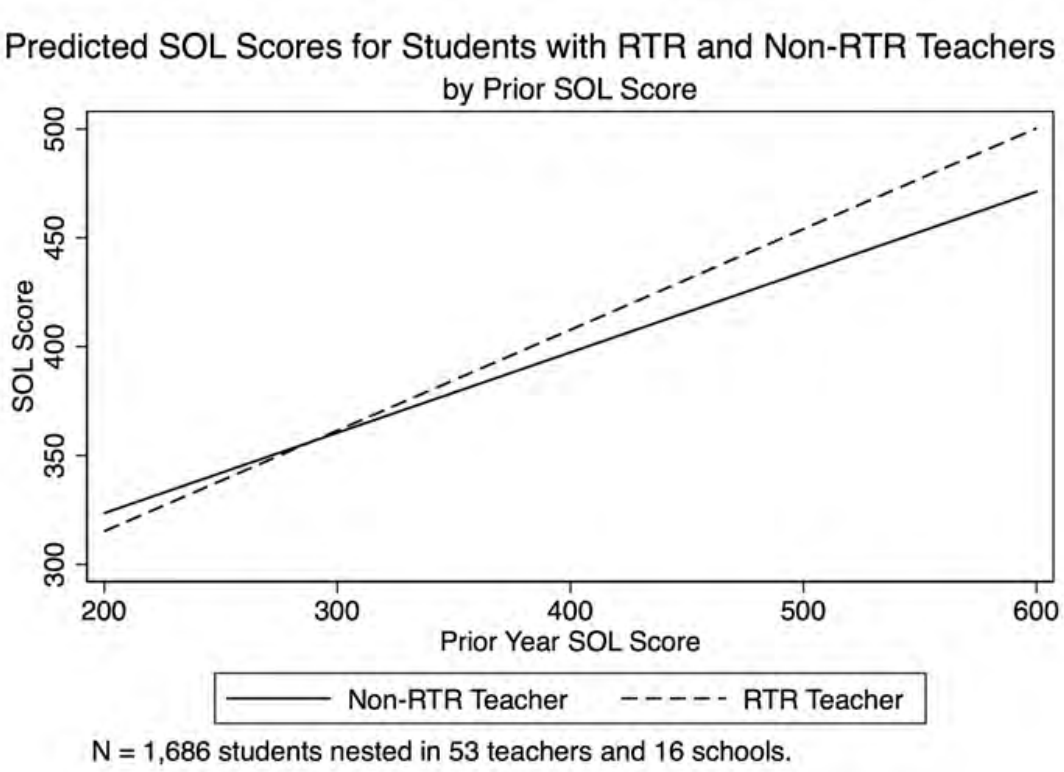
In sum, when taken as a whole, we see consistent positive main effects for teachers prepared via RTR compared to a matched control group of non-RTR, non-veteran teachers. We do see evidence that on average, veteran, non-RTR teachers may be associated with higher scores than RTR teachers, although this difference does not consistently hold when comparing teachers within specific subject areas or within specific cohorts. By subject, we see that RTR teachers are associated with higher scores in English, Social Studies, and Math, and lower scores in Science, compared to non-RTR, non-veteran teachers. By cohort, we see positive effects for RTR teachers in Cohort 1, and negative effects in Cohorts 3, 4, and 5.

Model Results Comparing SOL Scores for RTR vs. Non-RTR Teachers						
Outcome: SOL Scores	**Model 1: RTR Only**	**Model 2: RTR + Vet**	**Model 3: RTT, Vet, and Student BG**	**Model 4: Subject Area Only**	**Model 5: Cohort Only**	**Model 6: Subject + Cohort**
Teacher Type: (Reference is non-RTR, non-vet)						
RTR	13.427***	14.990***	16.057***	-8.805*	31.027***	4.644
	(3.116)	(3.105)	(2.512)	(4.453)	(8.192)	(9.180)
Veteran		46.288***	42.193***	37.041***	12.113	4.261
		(8.744)	(7.072)	(7.309)	(14.363)	(13.974)
Subject Area: (Reference is Science)						
Social Studies				2.574		-3.028
				(3.389)		(3.876)
English				-11.913**		-33.187***
				(4.252)		(5.421)
Math				-34.884***		-52.561***
				(6.535)		(7.625)

Model Results Comparing SOL Scores for RTR vs. Non-RTR Teachers						
Outcome: SOL Scores	**Model 1: RTR Only**	**Model 2: RTR + Vet**	**Model 3: RTT, Vet, and Student BG**	**Model 4: Subject Area Only**	**Model 5: Cohort Only**	**Model 6: Subject + Cohort**
Cohort: (Reference is Cohort 1)						
Cohort 2					26.599***	37.719***
					(7.064)	(7.580)
Cohort 3					53.613**	51.268**
					(17.918)	(17.594)
Cohort 4					13.612*	28.115***
					(5.528)	(6.013)
Cohort 5					9.027	2.464
					(5.200)	(5.080)
Cohort 6					6.152	.756
					(5.582)	(5.678)
RTR x Subject Interactions						
RTR x Social Studies				24.336***		23.788***
				(5.434)		(6.130)
RTR x English				18.145**		30.615***
				(6.478)		(7.980)
RTR x Math				35.442*		45.167*
				(17.578)		(17.819)
RTR x Cohort Interactions						
RTR x Cohort 2					-23.198	-41.147**
					(11.933)	(12.923)
RTR x Cohort 3					-42.480*	-47.413*
					(19.417)	(18.890)
RTR x Cohort 4					-27.302**	-35.638***
					(9.252)	(9.636)
RTR x Cohort 5					-19.994*	-21.437*
					(9.267)	(9.411)
RTR x Cohort 6					-8.324	-16.295

Model Results Comparing SOL Scores for RTR vs. Non-RTR Teachers						
Outcome: SOL Scores	**Model 1: RTR Only**	**Model 2: RTR + Vet**	**Model 3: RTT, Vet, and Student BG**	**Model 4: Subject Area Only**	**Model 5: Cohort Only**	**Model 6: Subject + Cohort**
					(9.388)	(9.749)
Additional Controls:						
School Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
Student BG Characteristics?	No	No	Yes	Yes	Yes	Yes
Observations	1,703	1,703	1,686	1,686	1,686	1,686
R2	.290	.302	.549	.574	.560	.590
Adjusted R2	.284	.295	.542	.566	.551	.579
Residual Std. Error	44.951 (df = 1686)	44.595 (df = 1685)	35.975 (df = 1659)	35.028 (df = 1653)	35.630 (df = 1649)	34.482 (df = 1643)

Notes.
*p < .05. **p < .01. ***p < .001.



APPENDIX B

INTERVIEW QUESTIONS

SCHOOL PRINCIPALS / ADMINISTRATORS

QUALITATIVE ASSESSMENT

1. What have been some major challenges in hiring and retaining qualified teachers in this school? What has been the role of the RTR program in improving pedagogical quality at the school?
2. Any specific subject areas that are difficult to fill?
3. What are some of the important reasons to leave?

RECRUITING AND ONBOARDING

1. On average how many vacancies per year did you have in the last three years? [Numerical Estimate]
2. On average over the last three years what percentage of your vacancies remained unfilled? [Numerical Estimate]
3. On average how big has been the applicant pool - number of prospective applicants per position? [Numerical Estimate]
4. What percentage of the applicants met your expected criteria of educational requirements and training? [Percentage Estimate]
    a. Break down by RTR-trained candidate vs Non-RTR
5. What percentage of the applicants have completed teacher certification programs?
    a. Break down by RTR-trained candidate vs Non-RTR
6. What percentage of your vacancies were filled by unlicensed and/or provisional teachers?
7. What is the cost of onboarding a teacher? [Dollar Estimate]
    a. What is the role of the school in onboarding a new teacher?
        i. How much staff time is allotted to those activities?
    b. Cost of running interviews and demonstration classes
    c. Orientation costs
    d. Cost of additional training (on average how many hours of training needed and what is average hourly training cost?)
    e. Cost of mentoring (on average how many hours of mentoring was provided to a new teacher and what is the hourly cost?)
    f. Performance evaluation costs, if any.
8. Are there any cost differences in hiring and onboarding a RTR-teacher compared to other applicants? If yes, what are they? [Qualitative]
9. Why has it been difficult to recruit and retain teachers in this school? [Qualitative]

LENGTH OF SERVICE / ATTRITION

1. How many Non-RTR teachers did the school hire in the last five years? [Number]
    a. How many of them stayed on the job for: 1 year, 2 years, 3 years, 4 years, 5 years.
2. How many RTR teachers did the school hire in the last five years? [Number]
    a. How many of them stayed on the job for: 1 year, 2 years, 3 years, 4 years*, 5 years*.
3. Among the Non-RTR leavers, how many were: (1) Fully certified. (2) Not fully certified?

4. How does the school compensate for vacant or unfilled positions? (e.g. substitute teachers or additional work load on existing teacher, etc.)
    a. What is the average cost of temporary replacement?

CAREER COACHES

QUALITATIVE ASSESSMENT

1. How many RTR and Non-RTR teachers have you coached in the last three years?
2. How would you compare career readiness and performance between RTR and Non-RTR teachers you have coached?
3. Are there measurable difference in the student outcomes between these two groups?
    a. If yes, what makes an RTR teacher more successful compared to Non-RTRs?

INITIAL PREPAREDNESS AND STUDENT PERFORMANCE

1. Do RTR-Teachers have better initial preparedness compared to Non-RTR teachers? [Likert Scale]
    a. If yes, how do they compare? [Qualitative]

2. To what extent do the students perform better if taught by an RTR teacher compared to a Non-RTR teacher? [Likert scale e.g. 1-no difference 2-slightly better 3-moderately better or 4-significantly better]

3. On average, how many more hours of training / mentoring do Non-RTR teachers need to be performing at the level of RTR-teachers?
    a. Hourly cost for such training

4. Do RTR-teachers need additional training and mentoring? If yes, how many hours on average?

PARENTS OF CHILDREN TAUGHT BY RTR TEACHERS

1. Are you generally satisfied with the quality of teachers in your child's school?
2. Are you aware of the RTR program and teachers at your child's school with RTR training?
3. Have you noticed any significant changes in your child's academic performance when taught by an RTR teacher (use name of the teacher corresponding to the school and grade)?
    a. How would you measure changes on your child's academic performance?
    b. Are there other noticeable improvements in other aspects of your child's overall personality?

Table 1. *Resident Mid-Year and End-of-Year NCTR Survey Responses*

Survey Items *Response scale is 1-4 with higher means values indicating greater levels of agreement, effectiveness and preparation.*	Mid-Year Average Response (n=42)	End-Year Average Response (n=33)	Change
At this point in the year, how prepared are you to teach next year as the teacher of record?	2.76	3.09	0.33
How likely is it that you would recommend this residency program to a friend or colleague looking to become a teacher?	8.86[1]	8.85[1]	0.00
I am provided sufficient opportunities by my program to plan, teach, and reflect on my instructional practice.	3.45	3.65	0.19
I feel supported by my program overall to succeed as a resident.	3.55	3.68	0.13
I have a manageable workload.	3.05	3.09	0.04
I know what I need to do in order to be successful in my program.	3.48	3.65	0.17
My coursework includes learning experiences that improve my instructional practice.	3.29	3.47	0.18
My coursework includes opportunities to prepare and/or practice key instructional practices before I apply them in my classroom.	3.31	3.53	0.22
My coursework is aligned to key instructional practices identified by my program.	3.26	3.38	0.12
My coursework is relevant to my school context and classroom.	3.19	3.41	0.22
My current or most recent classroom mentor challenges me to grow.	3.67	3.82	0.16
My current or most recent classroom mentor encourages me to develop my individual teaching style.	3.52	3.65	0.12
My current or most recent classroom mentor explains the rationale behind instructional decisions to me.	3.57	3.65	0.08
My current or most recent classroom mentor gives me feedback that is aligned to the feedback I receive from program staff.	3.62	3.74	0.12
My current or most recent classroom mentor gives me useful feedback on my lesson plans.	3.40	3.56	0.15
My current or most recent classroom mentor helps me apply what I am learning in my coursework.	3.17	3.50	0.33
My current or most recent classroom mentor identifies instructional goals and helps me develop realistic plans for achieving them.	3.48	3.71	0.23
My current or most recent classroom mentor is a good match for me.	3.60	3.68	0.08
My current or most recent classroom mentor is an effective coach.	3.67	3.68	0.01

My current or most recent classroom mentor is an effective teacher.	3.74	3.82	0.09
My current or most recent classroom mentor makes me feel comfortable approaching my classroom mentor with questions and concerns.	3.64	3.71	0.06
My current or most recent classroom mentor paces the release of teaching responsibilities in a way that improves my instructional practice.	3.57	3.59	0.02
My current or most recent classroom mentor provides me feedback in a way that values and affirms my full identity.	3.57	3.65	0.08
My current or most recent classroom mentor provides me feedback that improves my instructional practice.	3.60	3.68	0.08
My current or most recent classroom mentor provides me ongoing feedback on my instructional practice.	3.71	3.76	0.05
My current or most recent classroom mentor provides useful guidance on how to assess students informally on a daily basis.	3.40	3.71	0.30
My current or most recent classroom mentor shares lesson plans, assessments, and other instructional activities.	3.67	3.76	0.10
My current or most recent classroom mentor supports me to succeed as a resident.	3.67	3.76	0.10
My current or most recent classroom mentor works with me to identify teaching challenges and possible solutions.	3.64	3.71	0.06
My program is a good match for me.	3.55	3.56	0.01
My program is preparing me to be an effective teacher.	3.55	3.62	0.07
My program's assessment system accurately assesses my performance.	3.21	3.53	0.32
My program's assessment system fairly assesses my performance.	3.33	3.50	0.17
My program's assessment system has clear expectations.	3.26	3.35	0.09
My program's assessment system helps me to improve my instructional practice.	3.24	3.53	0.29
My program's recruitment process increased my desire to participate in the residency program.	3.31	3.29	-0.02
My program's selection process was competitive.	3.21	3.24	0.02
My roles and responsibilities as a resident were clearly defined.	3.45	3.59	0.14
My school leader gives me encouragement and moral support.	3.14	3.44	0.30
My school leader gives me useful feedback to improve my practice.	2.57	2.94	0.37
My school leader makes me feel comfortable approaching them with questions or concerns.	3.26	3.65	0.39
My school leader supports me to succeed as a resident.	3.14	3.41	0.27
My school's expectations for instructional practice align with the residency program's vision and expectations for effective teaching.	3.21	3.29	0.08
Program staff associated with my residency program provide me feedback in a way that values and affirms my full identity.	3.64	3.65	0.00

Program staff associated with my residency program provide me feedback that improves my instructional practice.	3.60	3.71	0.11
Program staff associated with my residency program provide me ongoing feedback on my instructional practice.	3.67	3.71	0.04
The roles and responsibilities of my mentor were clearly explained to me by the program.	3.33	3.44	0.11
The vision and expectations for effective mentoring/coaching are clearly defined.	3.40	3.38	-0.02
The vision and expectations for effective teaching are clearly defined.	3.43	3.62	0.19
What is your current level of preparedness to act as a teacher leader by positively contributing to the school's community and culture?	3.14	3.38	0.24
What is your current level of preparedness to adjust or differentiate instruction in real time?	3.14	3.41	0.27
What is your current level of preparedness to collaborate with other teachers and colleagues on curriculum, lesson planning, data analysis, and student issues?	3.02	3.50	0.48
What is your current level of preparedness to communicate with families about students' progress using data?	3.00	3.41	0.41
What is your current level of preparedness to demonstrate professionalism by being punctual and prepared, and having professional interactions with staff, students and families?	3.52	3.74	0.21
What is your current level of preparedness to demonstrate the content knowledge to teach subject matter?	3.12	3.47	0.35
What is your current level of preparedness to develop and implement consistent behavioral and academic expectations for students?	3.02	3.12	0.09
What is your current level of preparedness to elicit and interpret individual students' thinking?	2.95	3.41	0.46
What is your current level of preparedness to engage students by using technology in classroom instruction?	3.38	3.65	0.27
What is your current level of preparedness to establish a culture of respect, rapport, and trust among students and between students and the resident?	3.45	3.68	0.22
What is your current level of preparedness to handle a range of classroom management and discipline situations?	2.60	2.85	0.26
What is your current level of preparedness to incorporate routines and rituals throughout the day to maximize efficiency?	3.21	3.35	0.14
What is your current level of preparedness to meet the academic needs of high performing students?	2.81	3.29	0.48
What is your current level of preparedness to meet the academic needs of students identified as English Language learners?	2.17	2.68	0.51

What is your current level of preparedness to meet the academic needs of students receiving special education services?	2.48	3.00	0.52
What is your current level of preparedness to plan instruction based on student data?	2.76	3.32	0.56
What is your current level of preparedness to promote diversity and inclusion in the classroom?	3.43	3.50	0.07
What is your current level of preparedness to provide timely feedback to students about progress on standards?	2.95	3.32	0.37
What is your current level of preparedness to select and adapt curriculum and instructional materials to design lessons and units?	3.10	3.53	0.43
What is your current level of preparedness to understand how one's background knowledge and experiences influence one's perceptions and actions as a teacher?	3.43	3.76	0.34
What is your current level of preparedness to use assessments to track student performance and progress on standards?	2.86	3.32	0.47
What is your current level of preparedness to use knowledge of local history; community; and students' experiences and backgrounds to engage students?	2.83	3.18	0.34
What is your current level of preparedness to use questioning and discussion techniques?	3.38	3.56	0.18

1. Response options to this item ranged from 0 to 10 anchored by 0 = not at all likely and 10 = extremely likely.

Table 2. *CRC Mid-Year and End-of-Year NCTR Survey Responses*

Survey Items *Response scale is 1-4 with higher means values indicating greater levels of agreement, effectiveness and preparation.*	Mid-Year Average Response (n=38)	End-Year Average Response (n=34)	Change
At this moment in the year, how prepared do you feel for this role overall?	3.11	3.53	0.42
At this point in the year, how prepared is your resident to teach next year as the teacher of record?	2.71	3.29	0.58
Being a residency program mentor makes me a more effective teacher.	3.61	3.56	-0.05
Coursework instructors who partner with the residency program support me in my role as a mentor.	3.00	3.09	0.09
How effective has your residency program been at preparing you to co-plan instruction with your resident?	3.32	3.53	0.21
How effective has your residency program been at preparing you to co-teach with your resident?	3.39	3.50	0.11
How effective has your residency program been at preparing you to conduct meetings with your resident during dedicated meeting time?	3.29	3.27	-0.02
How effective has your residency program been at preparing you to examine feedback on your mentoring/coaching practice with fellow mentors?	3.13	3.26	0.13
How effective has your residency program been at preparing you to examine feedback on your mentoring/coaching practice with residency program staff?	3.29	3.45	0.17
How effective has your residency program been at preparing you to examine how to assess student progress with your resident?	2.97	3.26	0.29
How effective has your residency program been at preparing you to examine strategies for effective instruction with your resident?	3.11	3.21	0.10
How effective has your residency program been at preparing you to examine the progress of students in your class with your resident?	3.05	3.21	0.15
How effective has your residency program been at preparing you to examine with your resident how to adapt their teaching approach to meet students' learning needs/styles?	2.97	3.15	0.18
How effective has your residency program been at preparing you to examine with your resident strategies for classroom management?	3.11	2.97	-0.15
How effective has your residency program been at preparing you to examine with your resident strategies for effective student, family, and community engagement?	2.87	2.69	-0.18

How effective has your residency program been at preparing you to examine with your resident strategies to demonstrate professionalism and leadership?	3.16	3.12	-0.04
How effective has your residency program been at preparing you to release full responsibility for all aspects of classroom instruction to your resident?	3.26	3.50	0.24
How effective has your residency program been at preparing you to set specific mentoring/coaching improvement goals?	3.21	3.32	0.11
How effective has your residency program been at preparing you to support residents to use new instructional approaches?	3.14	3.15	0.01
How effective has your residency program been at preparing you to support your resident to observe your practice?	3.37	3.38	0.01
How effective has your residency program been at preparing you to support your resident to promote diversity and inclusion in the classroom?	3.29	3.12	-0.17
How effective has your residency program been at preparing you to use adult learning strategies to support residents?	3.32	3.03	-0.29
How effective has your residency program been at preparing you to use coaching strategies to support residents?	2.97	3.32	0.35
How effective has your residency program been at preparing you to use resident performance and effectiveness data to set instructional improvement goals with your resident?	3.00	3.44	0.44
How effective has your residency program been at preparing you to work with your resident to use multiple types of student data to inform planning and instruction?	2.76	3.24	0.47
How familiar are you with the coursework provided to residents by the residency program?	2.37	2.21	-0.16
How likely is it that you would recommend becoming a mentor teacher for this residency program to another teacher or colleague?	8.39	8.29	-0.10
I feel supported by my residency program.	3.63	3.53	-0.10
I have a manageable workload as a mentor.	2.92	3.12	0.20
I plan to return as a mentor for my residency program next year.	3.26	2.97	-0.29
If you do intend to continue teaching, please indicate your agreement with the following statement: My experience as a mentor in the residency program increased my desire to continue teaching.	NA	2.70	2.70
My experiences as a mentor have improved my abilities as a teacher leader.	3.66	3.59	-0.07
My residency program's selection process to become a mentor increased my desire to participate in the residency program.	3.05	3.06	0.01
My residency program's selection process to become a mentor was rigorous.	3.11	3.09	-0.02
My resident has a manageable workload.	2.97	3.09	0.11
My resident is a good match for me.	3.66	3.50	-0.16

My resident is provided sufficient opportunities by the program to plan, teach, and reflect on their instructional practice.	3.50	3.62	0.12
My roles and responsibilities as a mentor were clearly defined by my residency program.	3.39	3.41	0.02
My school leader provides me with timely and relevant feedback on my performance as a mentor.	3.08	2.91	-0.17
My school leader supports me in my role as a mentor.	3.47	3.41	-0.06
My school's expectations for instructional practice align with the residency program's vision and expectations for effective teaching.	3.26	3.29	0.03
My school/school district supports me in my role as a mentor by providing sufficient time to serve as a mentor.	3.21	3.12	-0.09
My school/school district/residency program supports me in my role as a mentor by providing a stipend that sufficiently compensates me for the time and effort I spend serving as a mentor.	3.37	3.26	-0.10
The coursework provided to residents by the residency program is relevant to my school context and classroom.	2.81	3.45	0.64
The release of teaching responsibilities from me to my resident is paced in a way that improves my resident's instructional practice.	3.42	3.38	-0.04
The residency program is preparing my resident to be an effective teacher.	3.50	3.50	0.00
The residency program provides me with timely and relevant feedback on my performance as a mentor.	3.55	3.44	-0.11
The support I receive from residency program staff improves my performance as a mentor.	3.58	3.56	-0.02
The vision and expectations for effective mentoring/coaching in the residency program are clearly defined.	3.45	3.41	-0.04
The vision and expectations for effective teaching in the residency program are clearly defined.	3.47	3.38	-0.09
What is your resident's current level of preparedness to act as a teacher leader by positively contributing to the school's community and culture?	3.16	3.26	0.11
What is your resident's current level of preparedness to adjust or differentiate instruction in real time?	2.82	3.06	0.24
What is your resident's current level of preparedness to collaborate with other teachers and colleagues on curriculum, lesson planning, data analysis, and student issues?	3.26	3.24	-0.03
What is your resident's current level of preparedness to communicate with families about students' progress using data?	3.00	3.41	0.41
What is your resident's current level of preparedness to demonstrate professionalism by being punctual and prepared, and having professional interactions with staff, students and families?	3.37	3.35	-0.02

What is your resident's current level of preparedness to demonstrate the content knowledge to teach subject matter?	3.16	3.44	0.28
What is your resident's current level of preparedness to develop and implement consistent behavioral and academic expectations for students?	2.95	3.03	0.08
What is your resident's current level of preparedness to elicit and interpret individual students' thinking?	3.08	3.26	0.19
What is your resident's current level of preparedness to engage students by using technology in classroom instruction?	3.61	3.74	0.13
What is your resident's current level of preparedness to establish a culture of respect, rapport, and trust among students and between students and the resident?	3.45	3.47	0.02
What is your resident's current level of preparedness to handle a range of classroom management and discipline situations?	2.47	2.44	-0.03
What is your resident's current level of preparedness to incorporate routines and rituals throughout the day to maximize efficiency?	3.16	3.24	0.08
What is your resident's current level of preparedness to meet the academic needs of high performing students?	3.00	3.29	0.29
What is your resident's current level of preparedness to meet the academic needs of students identified as English Language learners?	2.45	2.65	0.20
What is your resident's current level of preparedness to meet the academic needs of students receiving special education services?	2.53	2.85	0.33
What is your resident's current level of preparedness to plan instruction based on student data?	2.84	3.26	0.42
What is your resident's current level of preparedness to promote diversity and inclusion in the classroom?	3.45	3.53	0.08
What is your resident's current level of preparedness to provide timely feedback to students about progress on standards?	3.08	3.38	0.30
What is your resident's current level of preparedness to select and adapt curriculum and instructional materials to design lessons and units?	2.97	3.44	0.47
What is your resident's current level of preparedness to understand how one's background knowledge and experiences influence one's perceptions and actions as a teacher?	3.16	3.26	0.11
What is your resident's current level of preparedness to use assessments to track student performance and progress on standards?	2.79	3.15	0.36
What is your resident's current level of preparedness to use knowledge of local history; community; and students' experiences and backgrounds to engage students?	2.82	3.09	0.27

What is your resident's current level of preparedness to use questioning and discussion techniques?	3.18	3.35	0.17
When you first became a mentor to a resident, how prepared were you for this role?	2.37	2.38	0.01