

Rochester Citywide Teacher Pipeline Analysis

Partnering on Prep

November 2020

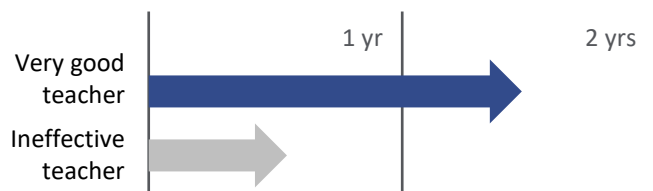


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Project Context

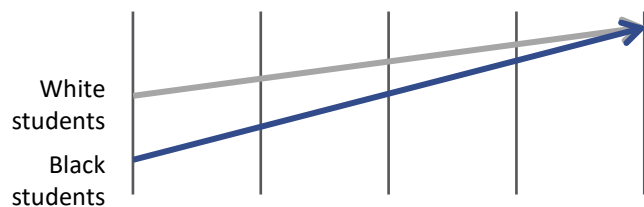
Teachers matter: Research clearly shows teachers have a greater impact on student outcomes than any other in-school factor



One extra year of learning

“The students of an ineffective teacher learn an average of half a year’s worth of material in one school year, while the students of a very good teacher learn 1.5 year’s worth—a difference of a year’s worth of learning in a single year.”

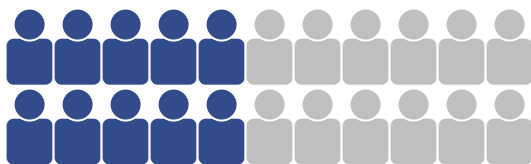
(Hanushek, 2010)



Gap-closing growth in 4 years

“Having a top-quartile teacher rather than a bottom-quartile teacher four years in a row could be enough to close the black-white test score gap.”

(Gordon, Kane and Staiger, 2006)



10-student class size reduction

“Changing teacher performance from mediocre to very good (25th to 75th percentile) has an effect equivalent to reducing class size by 10+ students in 4th grade, 13+ students in 5th grade, or an ‘implausible’ number in 6th grade.”

(Rivkin et al., 2005)

In Fall 2018, the Farash Foundation sought to understand the extent to which the teacher pipeline was producing teachers who could help Rochester students realize their full potential

Essential Question: How might we better serve students in Rochester by ensuring that the regional pipeline of teachers is meeting the needs of the city's K12 schools?

Our research suggests that students in Rochester would benefit from **leaders working together** across the education sector to **capitalize on Rochester's assets** and **address challenges in the pipeline**

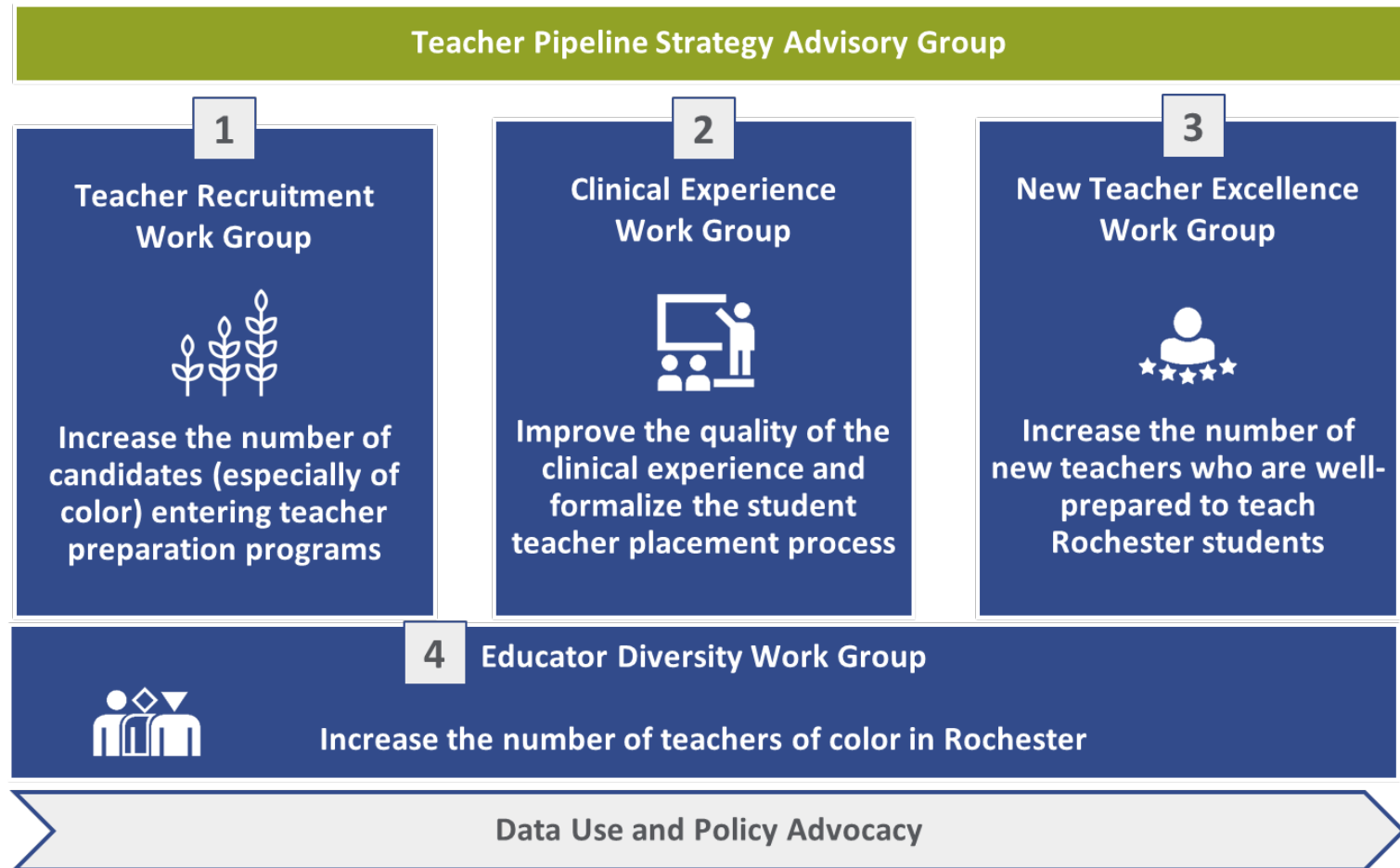
Assets and Opportunities

- The rich diversity of K12 students as well as the broader community in Rochester provides a local pool of potential teacher candidates of color
- The proximity of many teacher preparation programs to the city's schools provides an opportunity to give teacher candidates rich pre-service experiences in Rochester classrooms
- RSCD has robust human capital data from which to build an understanding of the teacher pipeline
- Some local teacher preparation programs have an explicit focus on urban education and innovative programs, such as the Teaching and Learning Institute at East High, inspire students to pursue a career in teaching

Challenges

- Collaboration between K12 schools and teacher preparation programs across the region is limited
- All Rochester K12 schools struggle to hire and retain a diverse teacher workforce, which research shows benefits all students, especially students of color
- Teacher candidates lack formal opportunities to gain the experience, perspective and mentorship they need to be successful in Rochester K12 schools
- The capacity to collect and analyze data within and across K12 and higher education institutions is limited, making it difficult to make informed decisions about the teacher pipeline
- Some policies at both the local and state level hinder teacher prep, hiring, transfer and placement

For the last 18 months, leaders from K12, Higher Ed and community organizations have worked together on a strategy aimed at meeting specific goals for the teacher pipeline



As part of the current strategy, Rochester education leaders sought a refresh of the 2018 citywide teacher pipeline analysis, with a focus on establishing effective partnerships

Partnerships are vital to creating an education system that serves all students, and data is an essential element of strong partnerships¹

PURPOSE

- To establish a **baseline by which to measure improvement** in the pipeline
- To encourage and help build **close, data-inspired partnerships** between Rochester's K12 school and local teacher preparation programs
- To inform a **collective approach to solving for challenges** with the pipeline

FOCUS

Given the goal of the analysis is to help foster and inform partnerships between K12 and Higher Ed, this report focuses on **new teachers and teacher preparation**

OUTCOMES

Stakeholders will **identify clear priorities** for addressing gaps in the pipeline, develop **strong partnerships grounded in data**, and **better communicate about needs** and opportunities related to students, teachers and teacher candidates

This report explores research questions at different points along the teacher pipeline

K12 DEVELOPMENT AND RECRUITMENT

1

- What is the profile of a K12 graduate in Rochester?
- How many paraprofessionals are employed in K12 schools?

TEACHER PREP

3

- Are there equity gaps in how candidates are recruited, admitted, developed, supported and placed?
- Where do candidates complete clinical experiences?

RETENTION

5

- What is the distribution of teachers by tenure?
- What are the retention rates?
- How many and which teachers are terminated?

HIGHER EDUCATION RECRUITMENT

2

- What are Rochester's human capital needs?
- How well are we recruiting teachers of color?

LICENSURE AND HIRING

4

- Where are completers hired?
- What grades and subjects are completers being hired to teach?
- How effective are completers in the classroom?

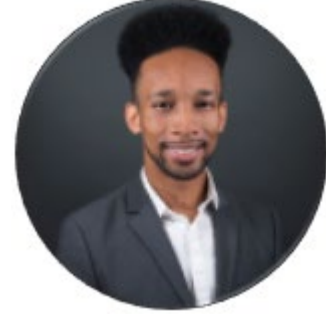
Education First brings extensive knowledge of and on-the-ground experience strengthening teacher pipelines



Bill Horwath
Principal
Project Lead



Kate Sullivan Frades
Senior Consultant
Project Manager



Andy Smith
Consultant
Lead Researcher



Aseal Tineh
Analyst
Researcher



Kirsten Barclay
Collaborator



Teacher Diversity

Rochester schools – including both RCSD and charter schools – primarily serve students of color...

Of 25,669 K12 students in Rochester City School District

90%

are students of color

56%

African American or Black

31%

Hispanic

10%

White

3%

Asian or Native Hawaiian/Other
Pacific Islander

Note: American Indian, Alaskan Native, and Multiracial students account for less than 0.005 percent of RCSD students.

Of 6,120 K12 students in Rochester charter schools

94%

are students of color

67%

African American or Black

24%

Hispanic

2%

Multiracial

6%

White

1%

Asian or Native Hawaiian/Other
Pacific Islander

Note: The following charters are included in this data – Discovery, Eugenio Maria De Hostos, Exploration Elementary, Genesee Community, Renaissance Academy, Rochester Academy, Rochester Prep, True North, True North – West Campus, University Preparatory, Urban Choice, Vertus and Young Women's College Preparatory charter schools.

...and students from low-income families

Of 25,669 students in **Rochester City School District**

86%

qualify for free or
reduced-price lunch

16%

are English language
learners

22%

Are students with
disabilities

Of 6,120 K12 students in **Rochester charter schools**

77%

qualify for free or
reduced-price lunch

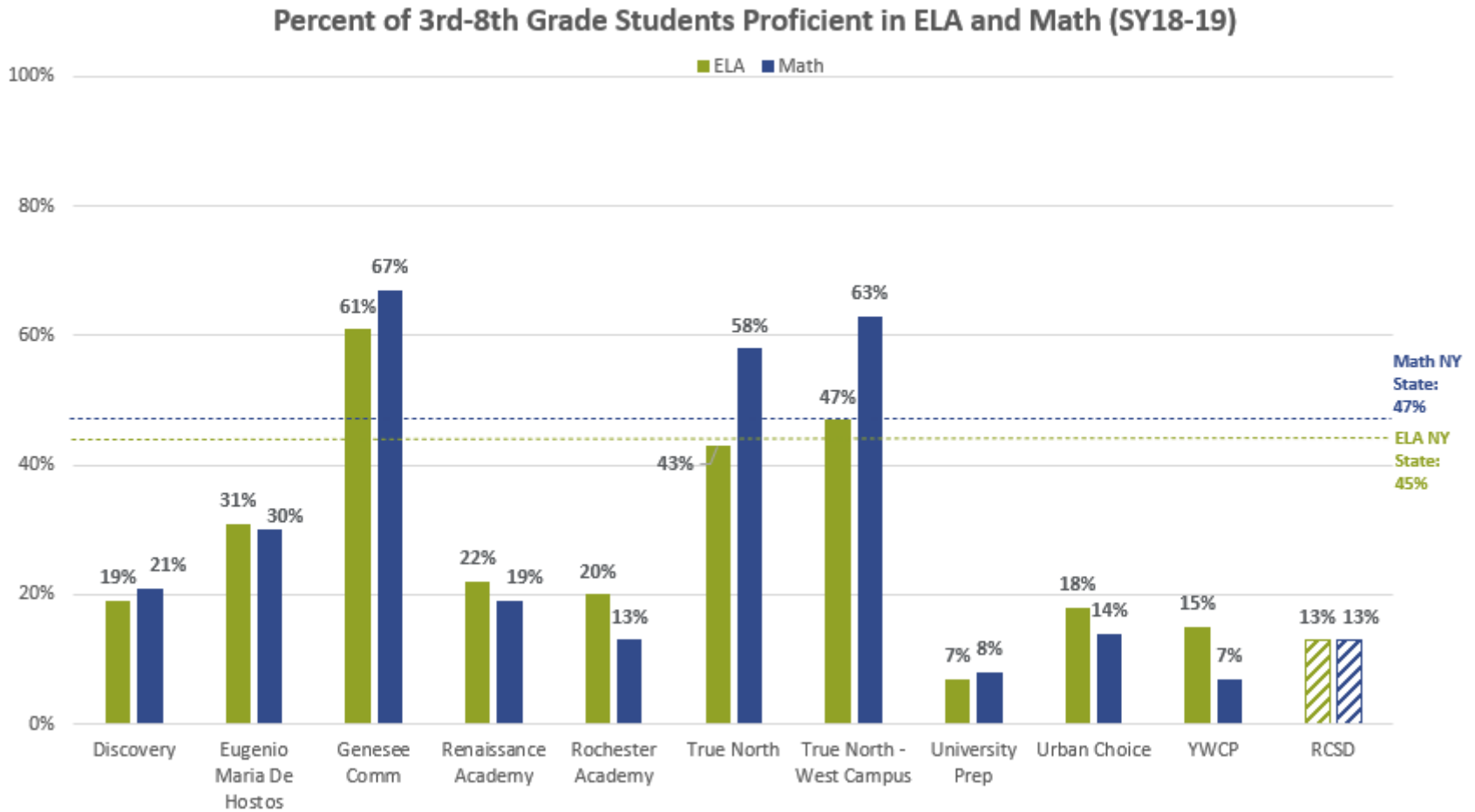
5%

are English language
learners

10%

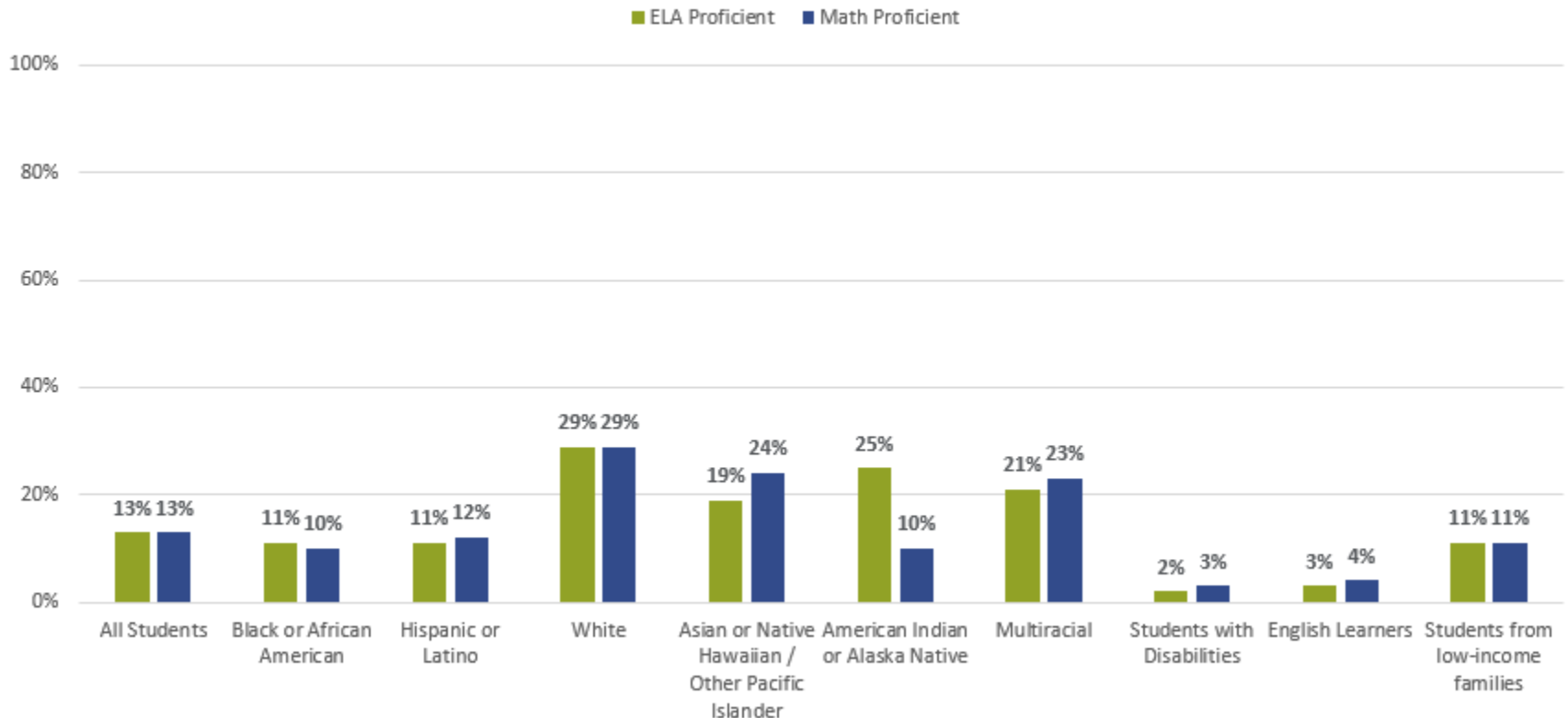
Are students with
disabilities

ELA and math proficiency rates at most K12 schools in Rochester are well below the state average

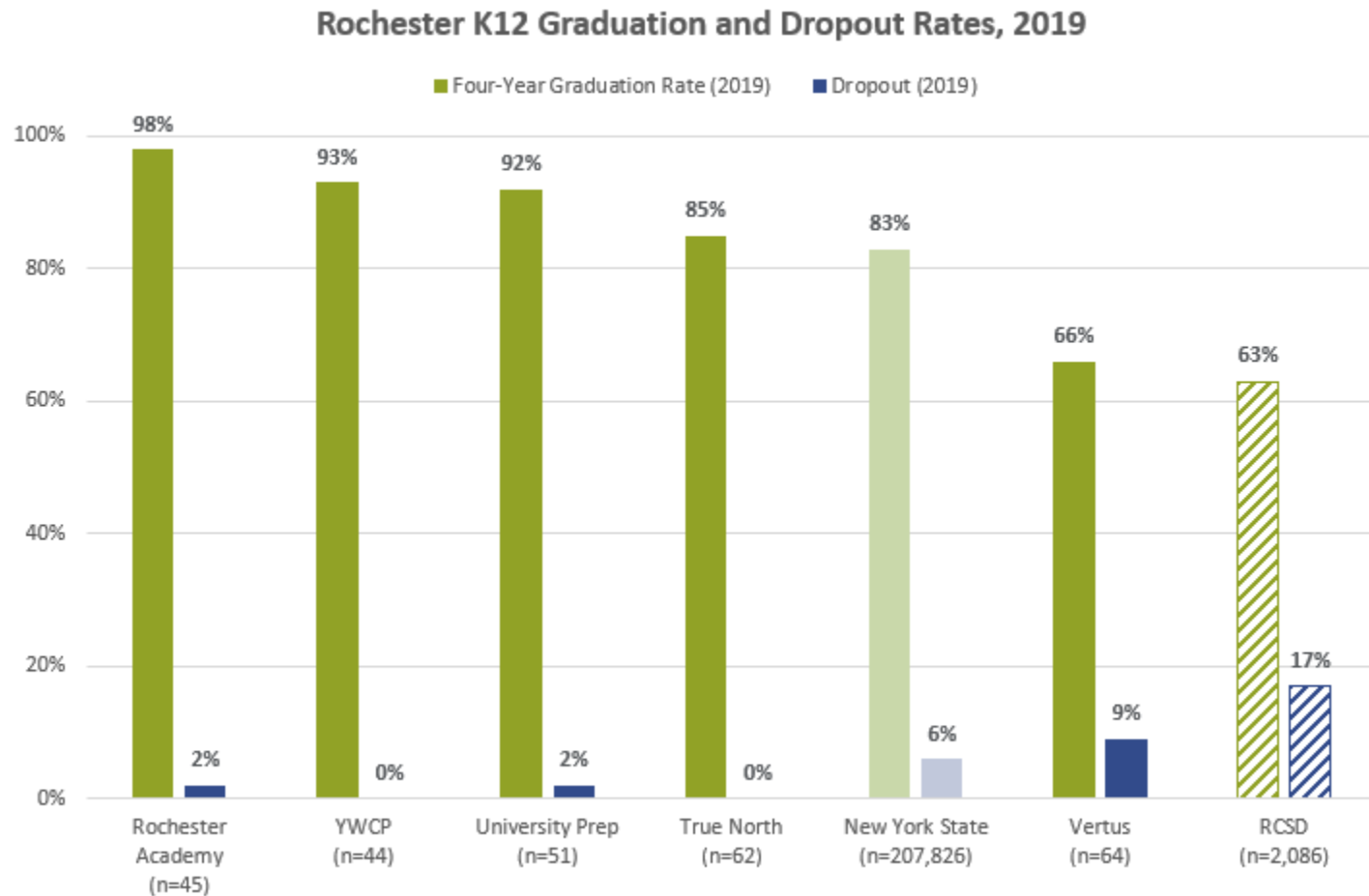


RCSD is getting its White students to proficiency at nearly three times the rate of Black and Hispanic students

Percent of RCSD 3rd-8th Grade Students Proficient in ELA and Math, SY18-19



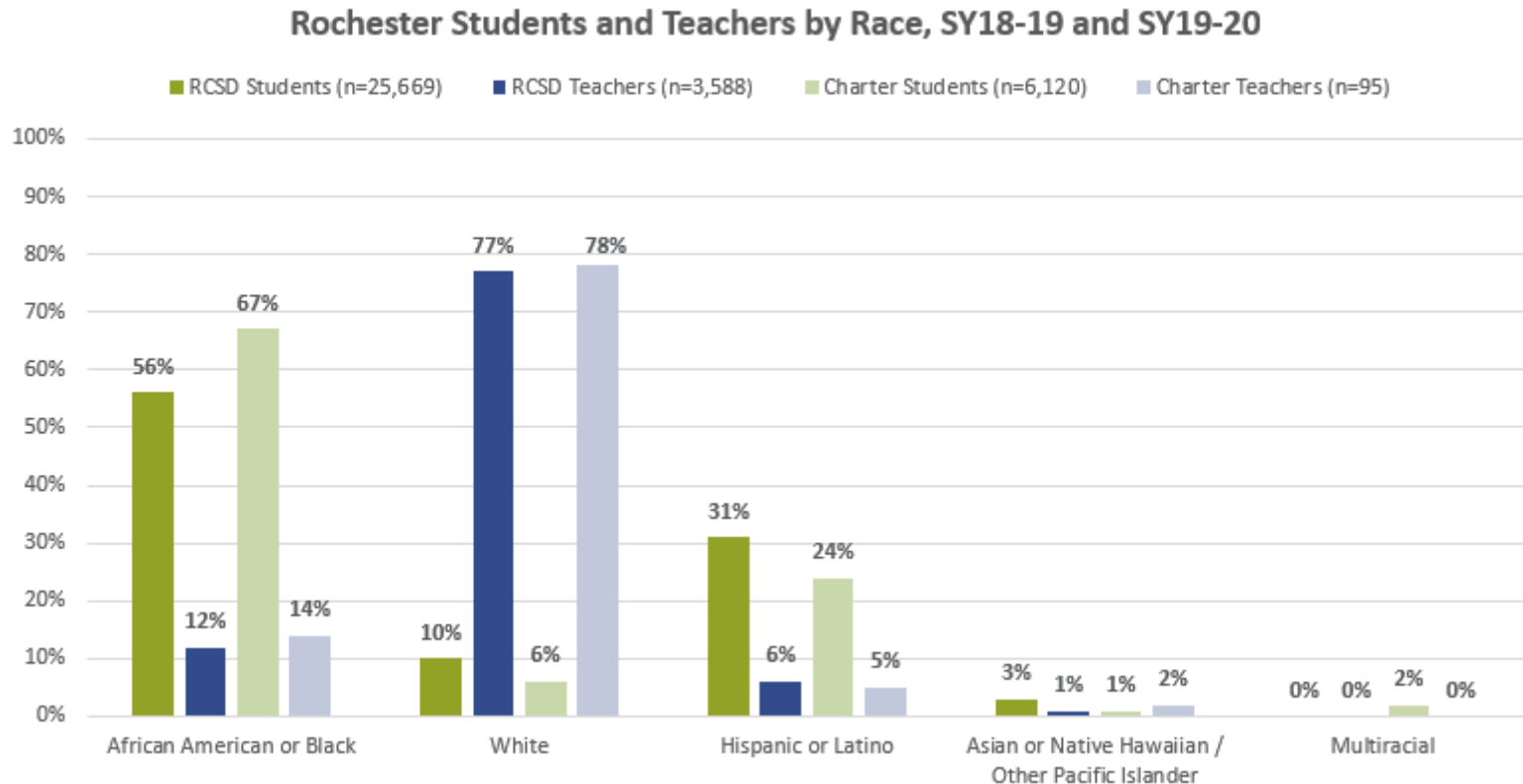
Graduation rates have been improving across Rochester, but a stronger and more diverse teacher pipeline demands an even bigger pool of K12 students from which to draw



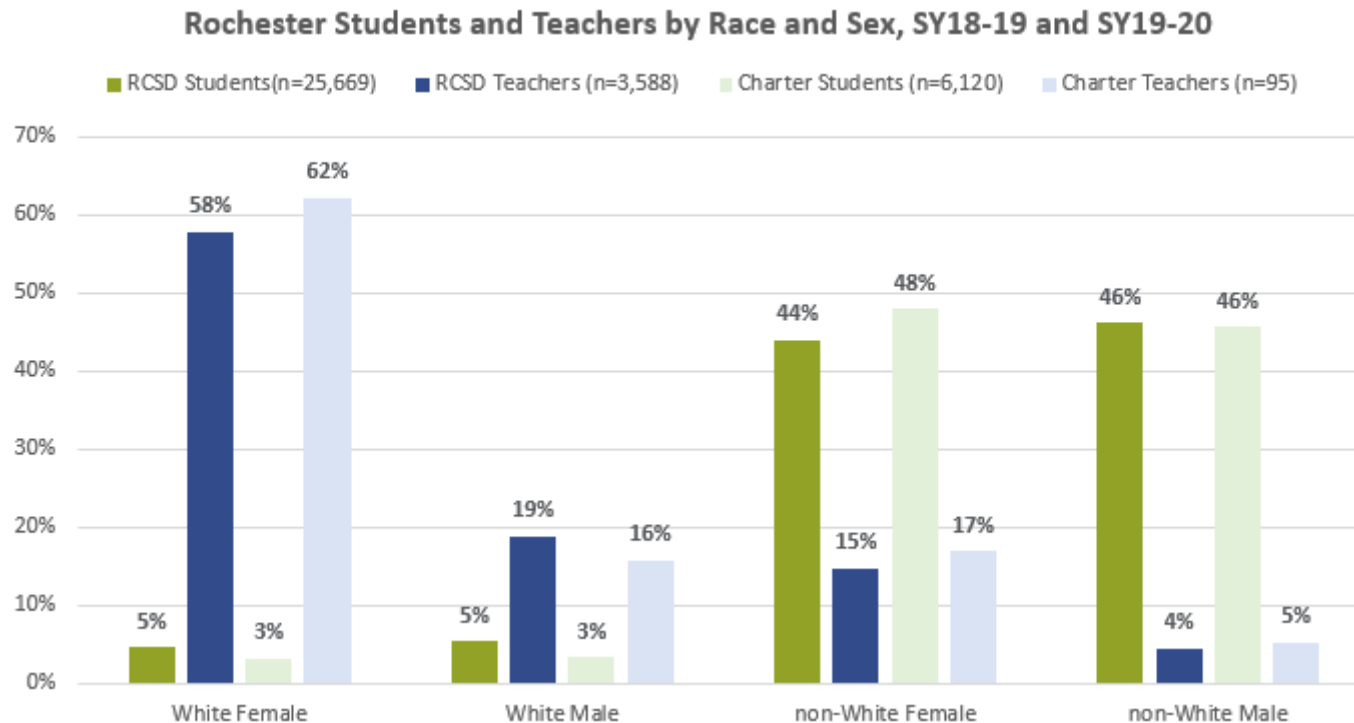


Rochester's Teacher Candidates

Despite the deep diversity in K12 schools, most teachers in Rochester are White; as a result, most students are not taught by teachers who share their racial identity



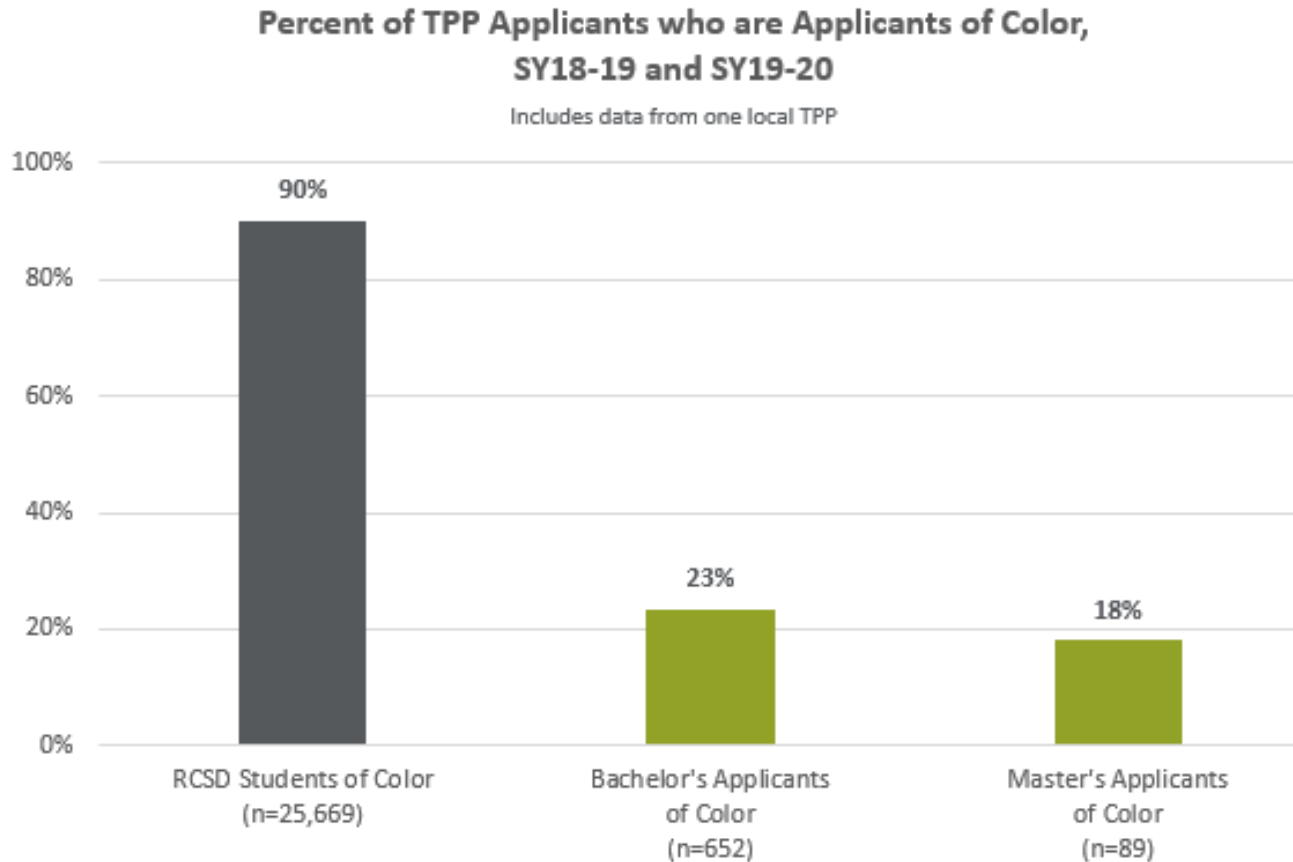
The challenge is particularly acute for male students of color as male teachers of color are least represented among teachers in both RCSD and charters*



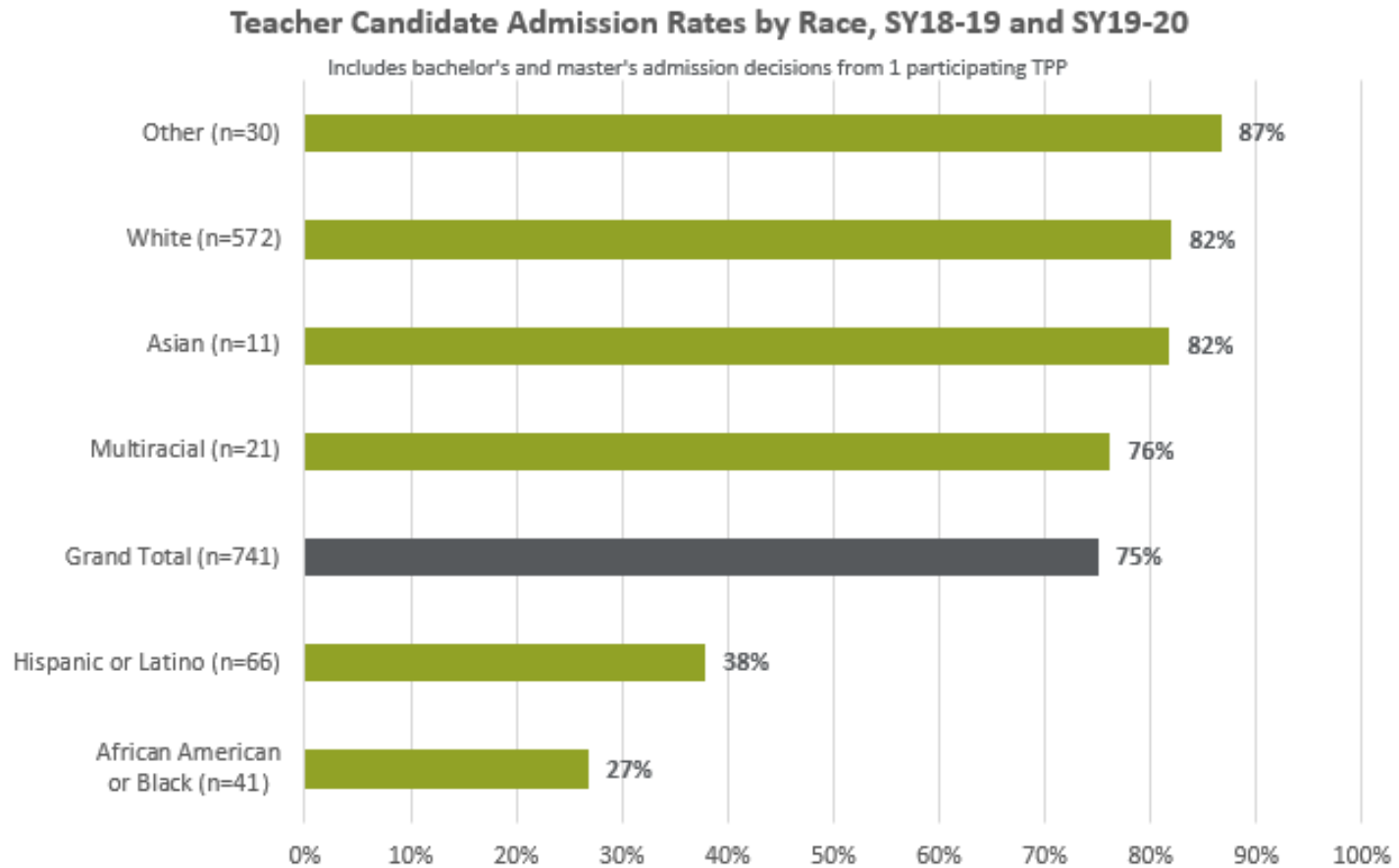
*Includes data from two participating charter schools

Source: Self-reported data from Rochester City School District, two charter schools and NYSED 18

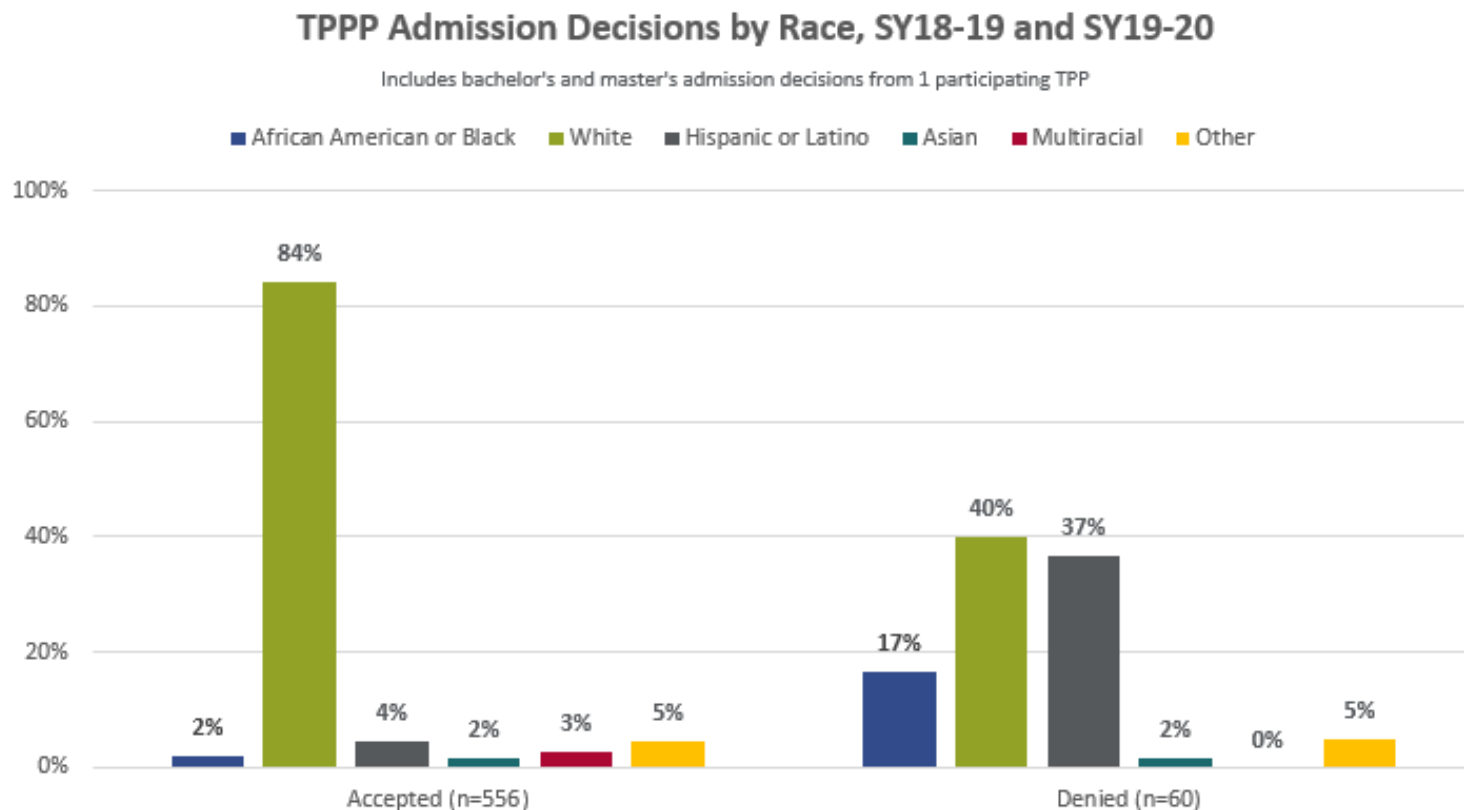
The lack of diversity among Rochester's teachers is partially a function of the lack of diversity among applicants to local teacher preparation programs



For at least one local TPP, racial disparities in admission decisions exacerbate the underrepresentation of people of color in the candidate pool



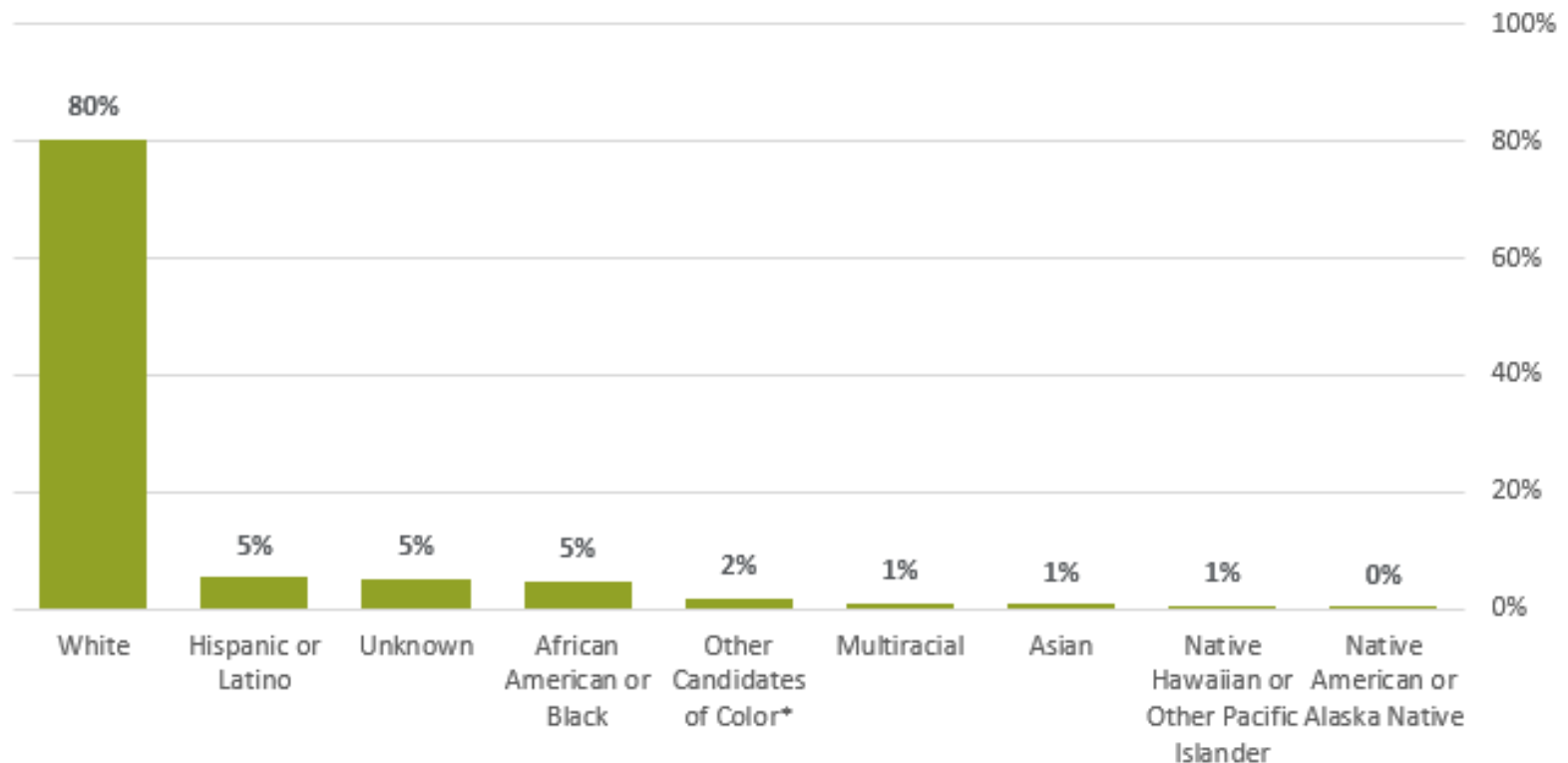
At the same TPP, White applicants account for the majority of *admitted* applicants, while applicants of color account for the majority of *denied* applicants



As a result, the vast majority of teacher candidates across local teacher preparation programs are White

All Teacher Candidates by Race, SY18-19 and SY19-20

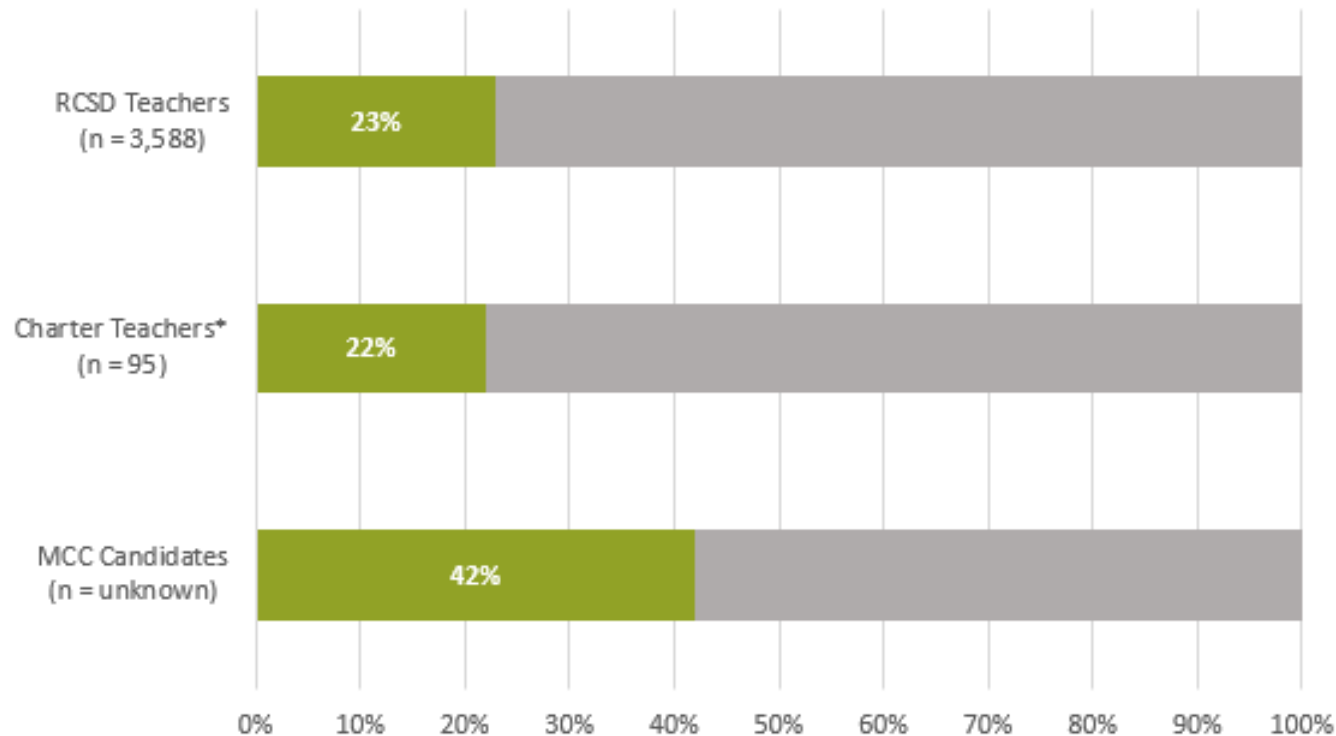
n = 906; includes data from three local TPPs



*Data was labeled as non-White but not disaggregated further for these candidates.

A larger share of candidates at MCC enrolled in education programs are students of color, suggesting that additional recruitment from MCC could help diversify the pipeline

DIVERSITY OF TEACHING FORCE (SY18-19 and SY19-20)
(Percent of teachers who are teachers of color)

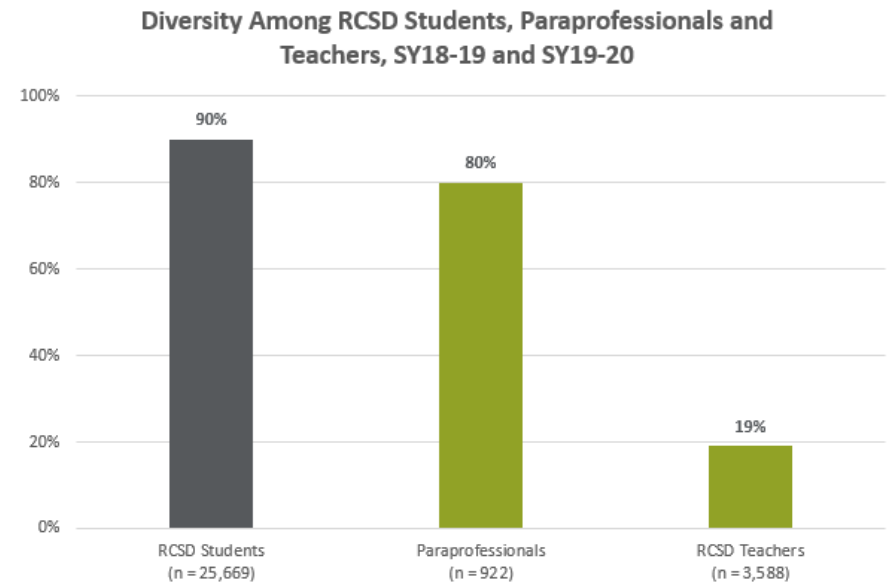


Paraprofessionals represent a significant opportunity to diversify the teacher pipeline and workforce

Though only **one in every three** RCSD teachers is a teacher of color, roughly

80%

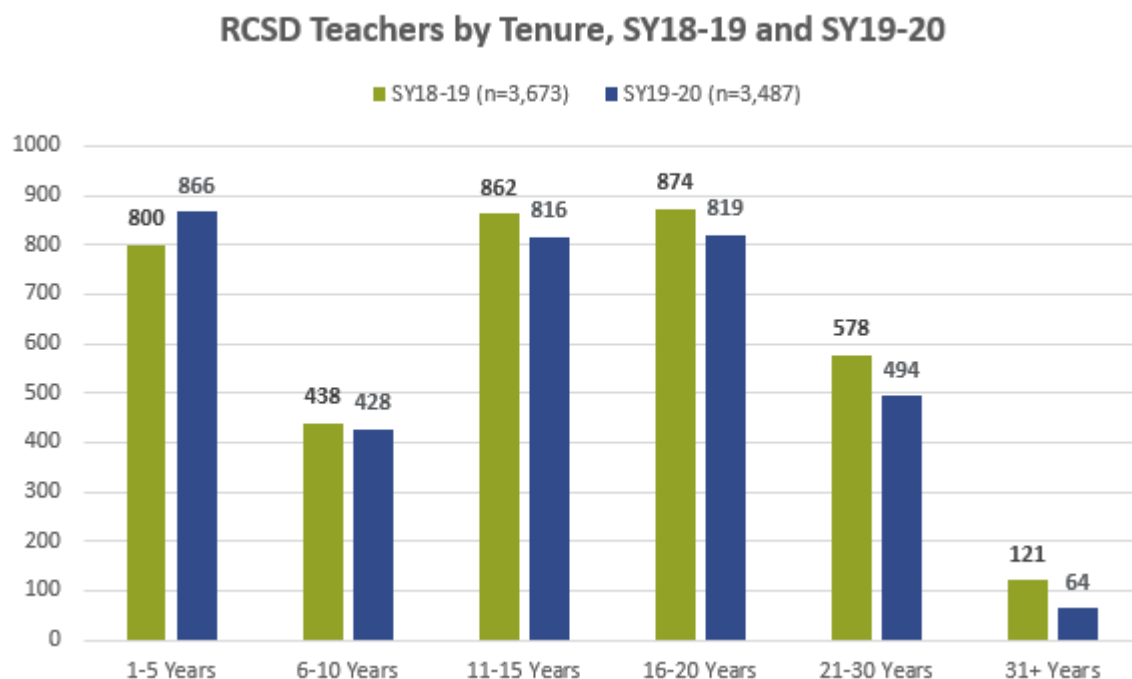
of **922** paraprofessionals are people of color





RCSD Teacher Demographics

On average, RCSD teachers have 13 years of experience; 20 percent of active RCSD teachers are new teachers with five or fewer years of experience



In SY18-19, RCSD teachers had an average of

13.3

years of **teaching experience**

In SY19-20, RCSD teachers had an average of

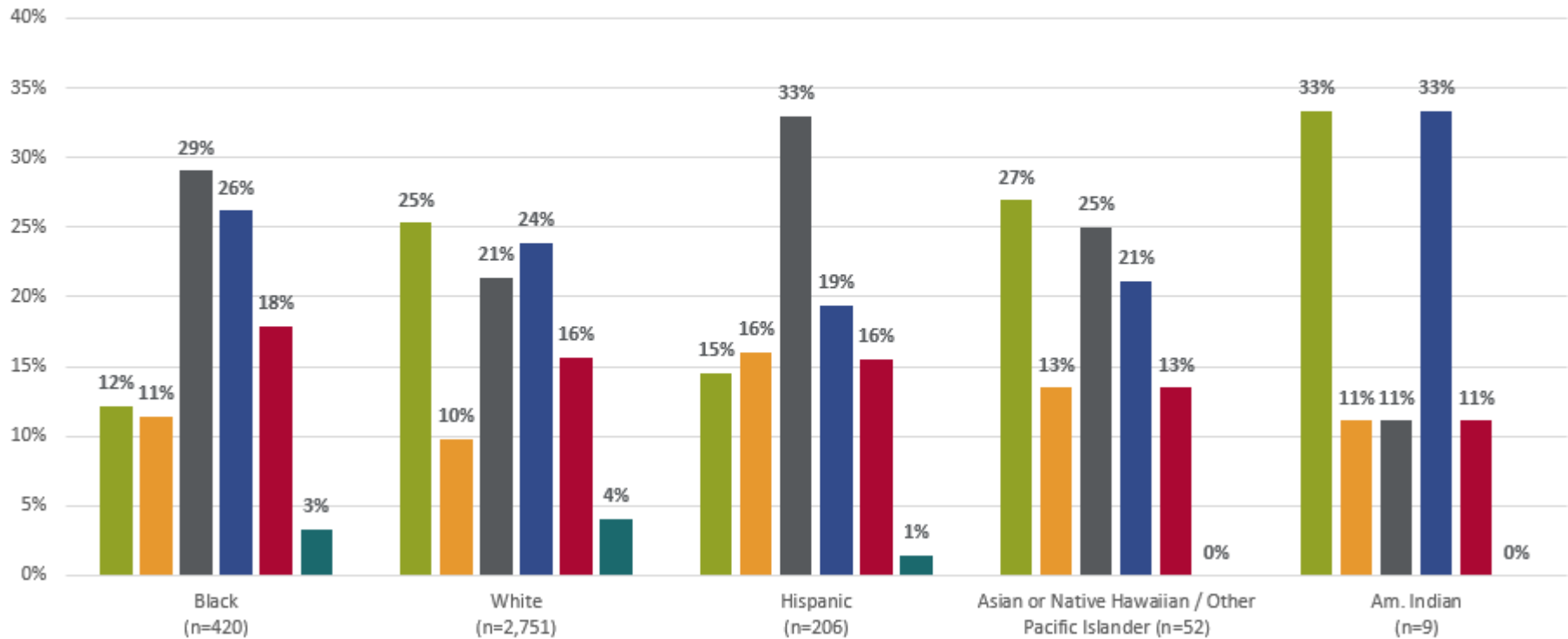
13.5

years of **teaching experience**

Black teachers are more likely to be veteran teachers with at least 10 years of experience than any other racial group; also, 1 in 5 Black and White teachers are close to retirement

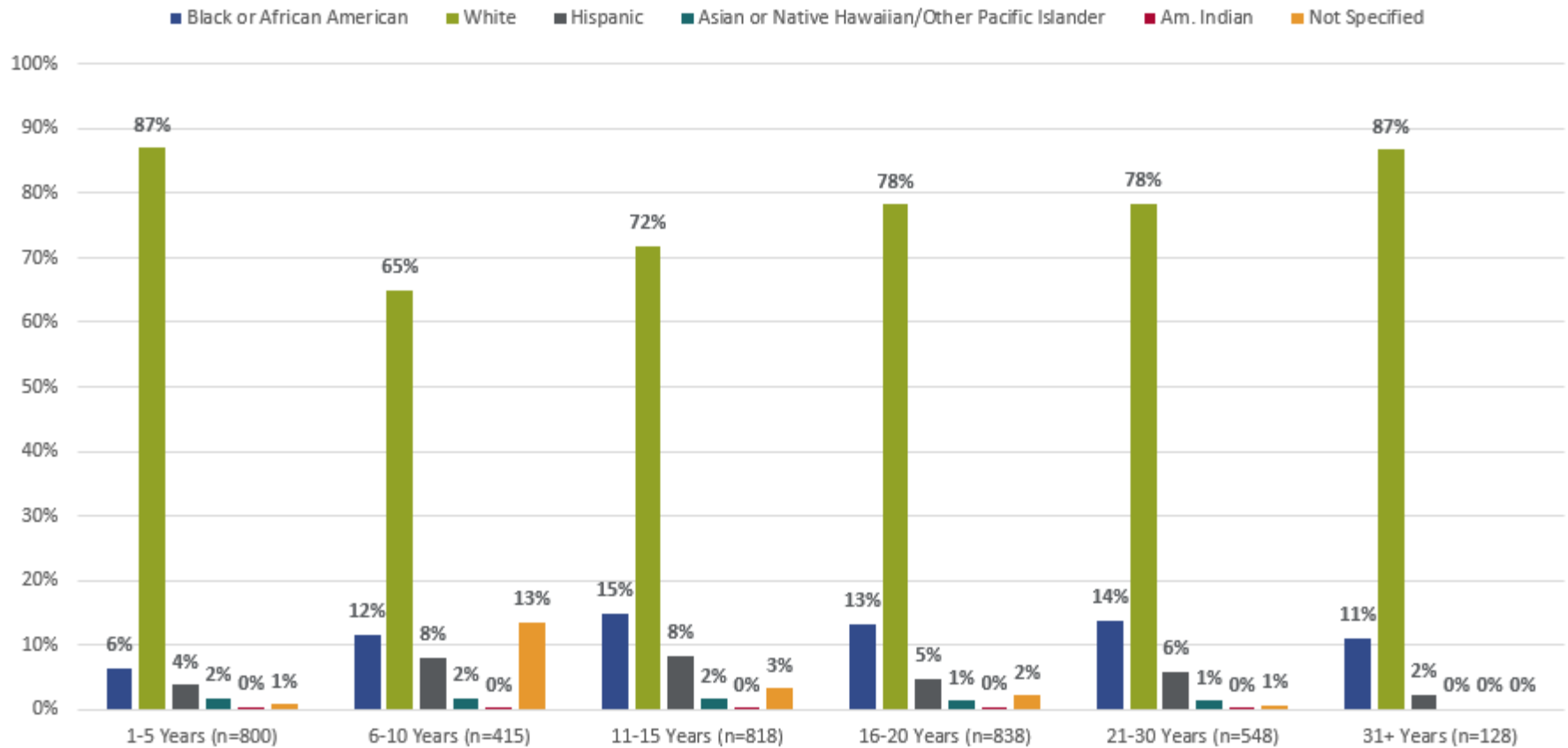
RCSD Teachers by Race and Tenure, SY18-19 and SY19-20

1-5 Years 6-10 Years 11-15 Years 16-20 Years 21-30 Years 31+ Years



Teachers with the most and least experience are more likely than other teachers to be White

RCSD Teachers by Tenure and Race, SY18-19 and SY19-20

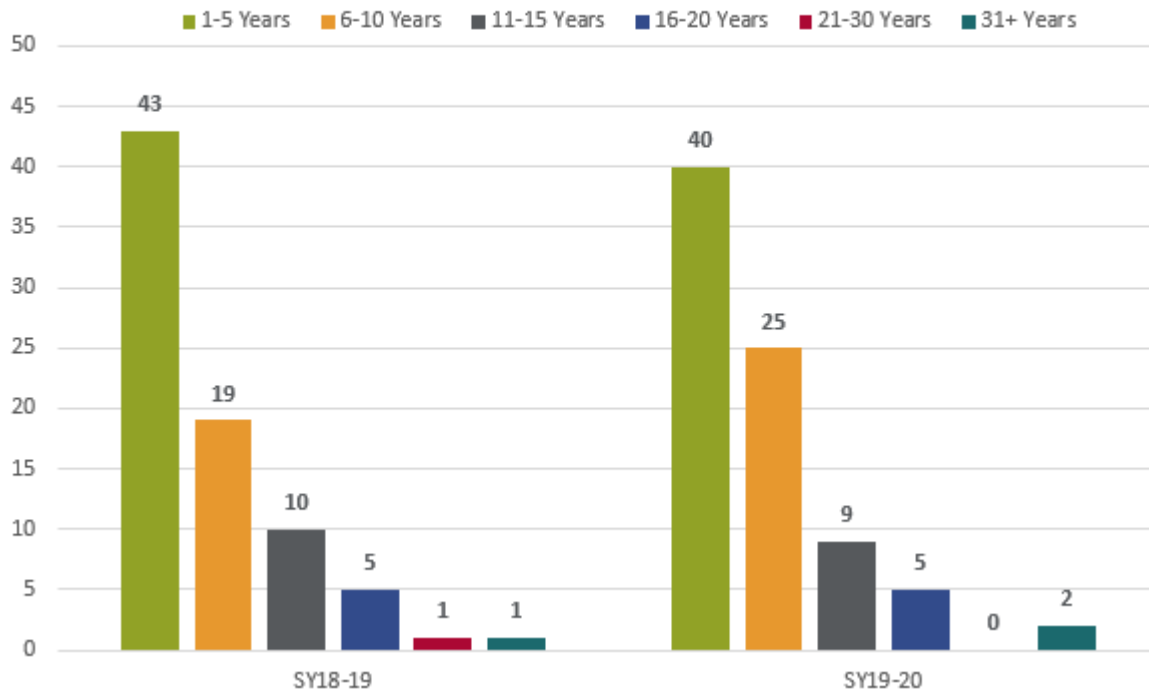


In contrast, though data is limited, more than half of Rochester charter teachers in two charter schools are new teachers with five or fewer years of experience

This suggests that charter teachers tend to be younger in experience than RCSD teachers.

Charter Teachers by Tenure, SY18-19 and SY19-20

Includes data from two charter schools



In **SY18-19**, Rochester charter teachers had an average of

7.3

years of **teaching experience**

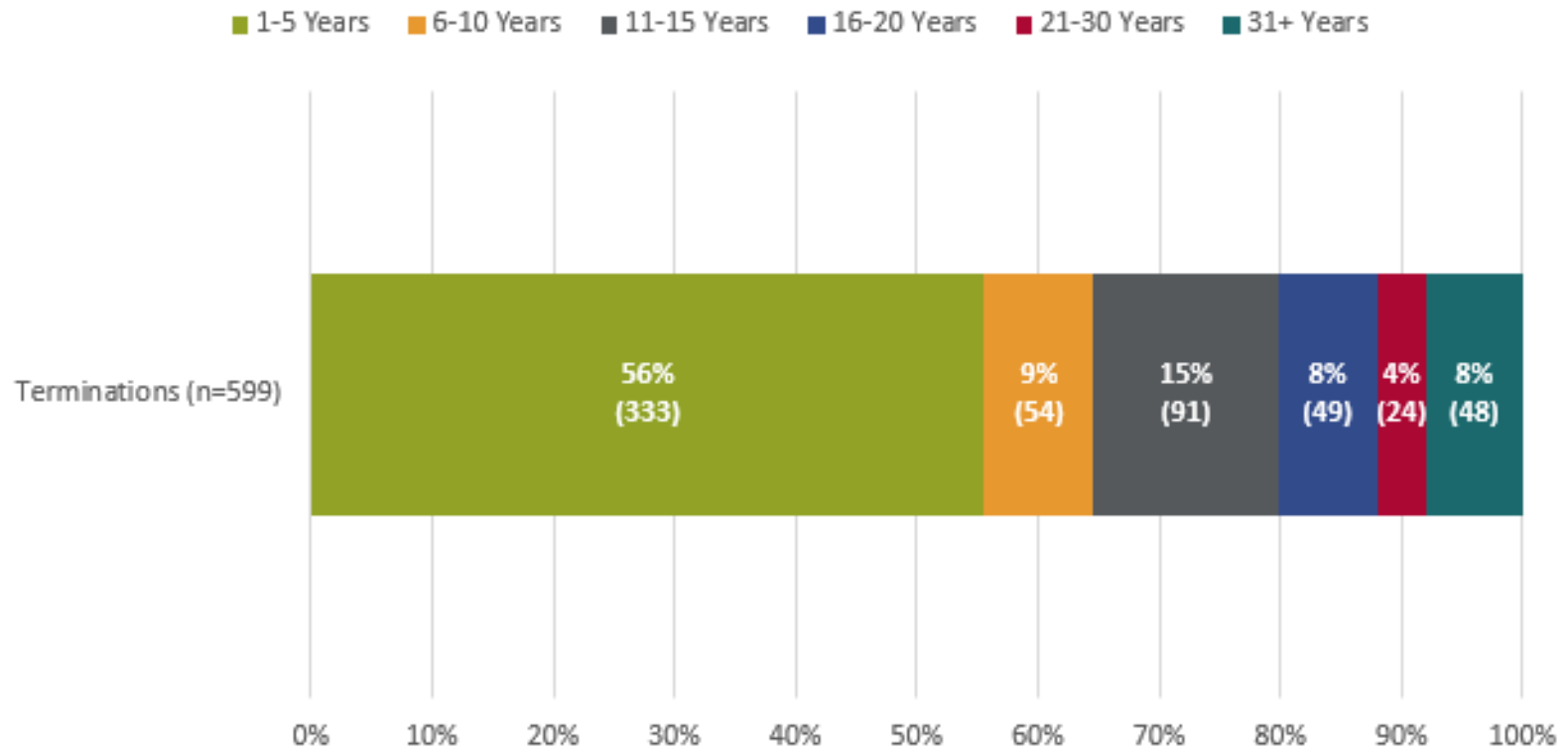
In **SY19-20**, Rochester charter teachers had an average of

7.4

years of **teaching experience**

RCSD terminations – including layoffs, retirements and others – over the last two years have had a significant and disproportionate impact on new teachers

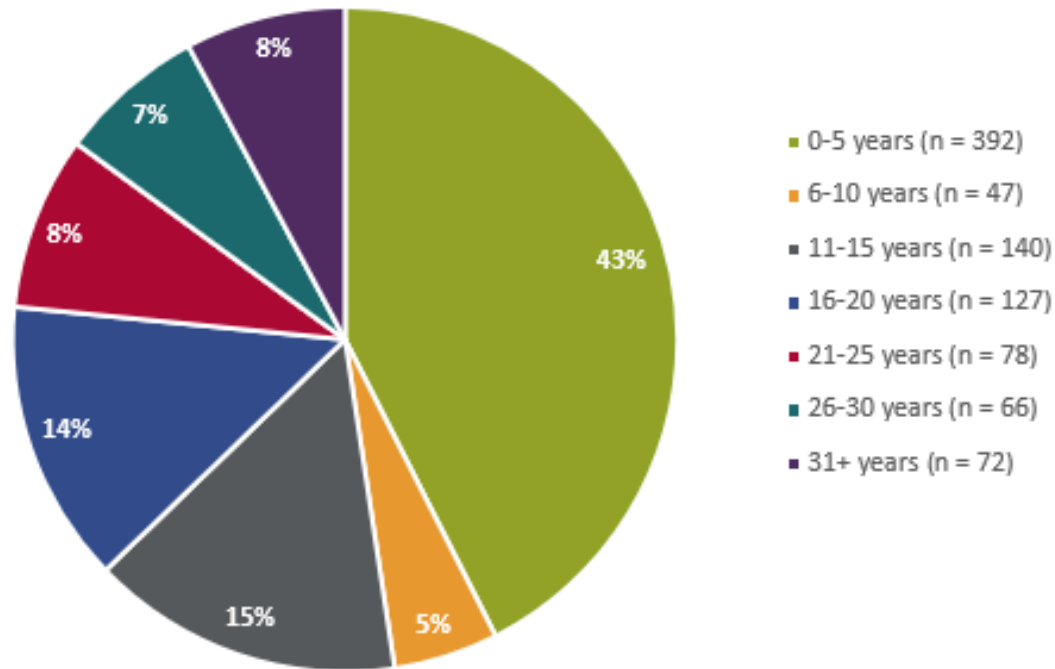
RCSD Teacher Terminations by Years of Experience, SY18-19 and SY19-20



RCSD's paraprofessionals are deeply experienced: more than half already have more than 10 years of experience in the classroom

RCSD Paraprofessionals by Tenure, SY18-19 and SY19-20

n = 922



63 percent of RCSD teachers and 56 percent of charter teachers have a Master's degree, a prerequisite for permanent certification

Of 3,588 RCSD teachers

63%

already have a Master's
degree



Of 131 charter teachers

56%

already have a Master's
degree



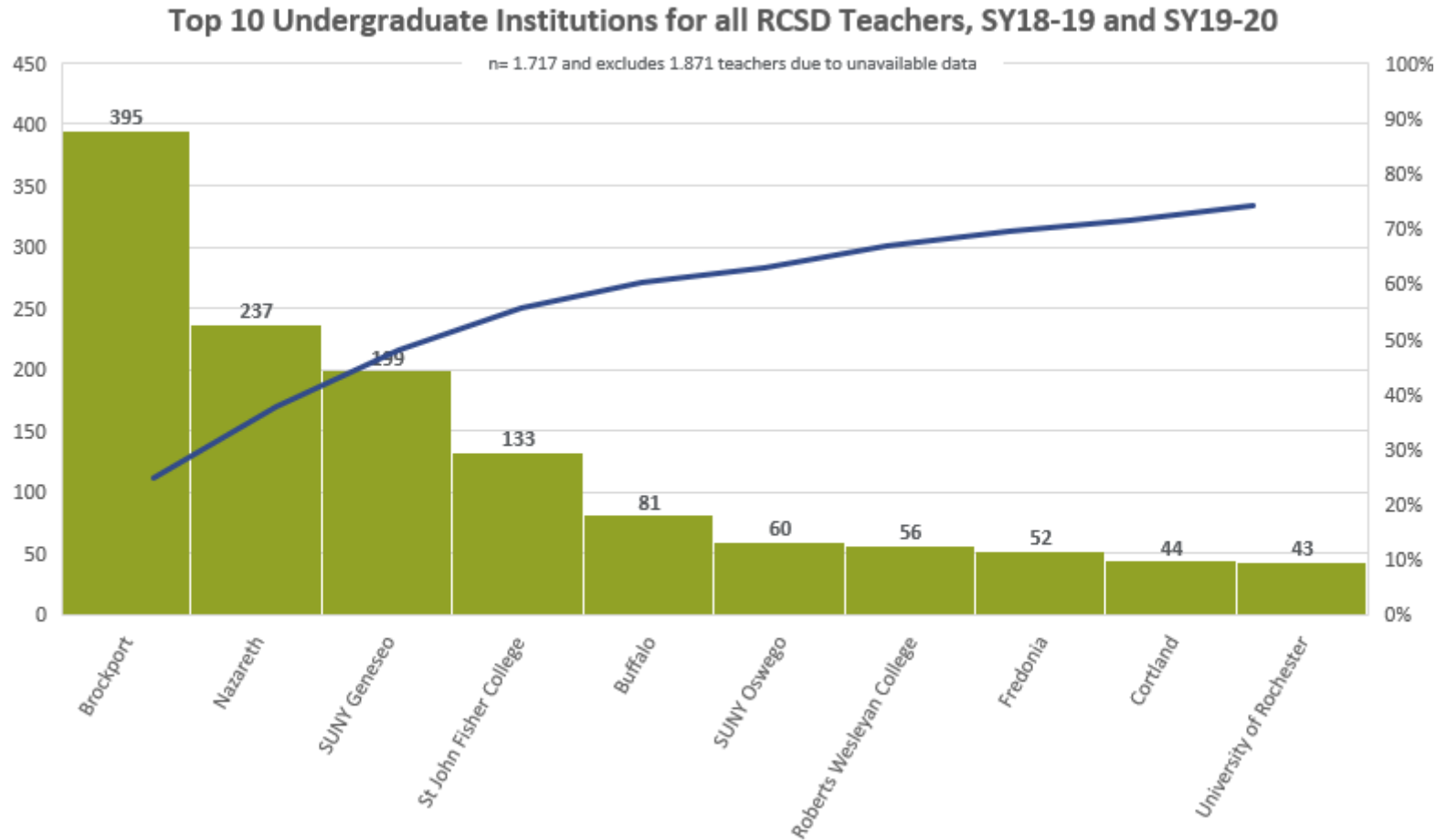


Teacher Preparation

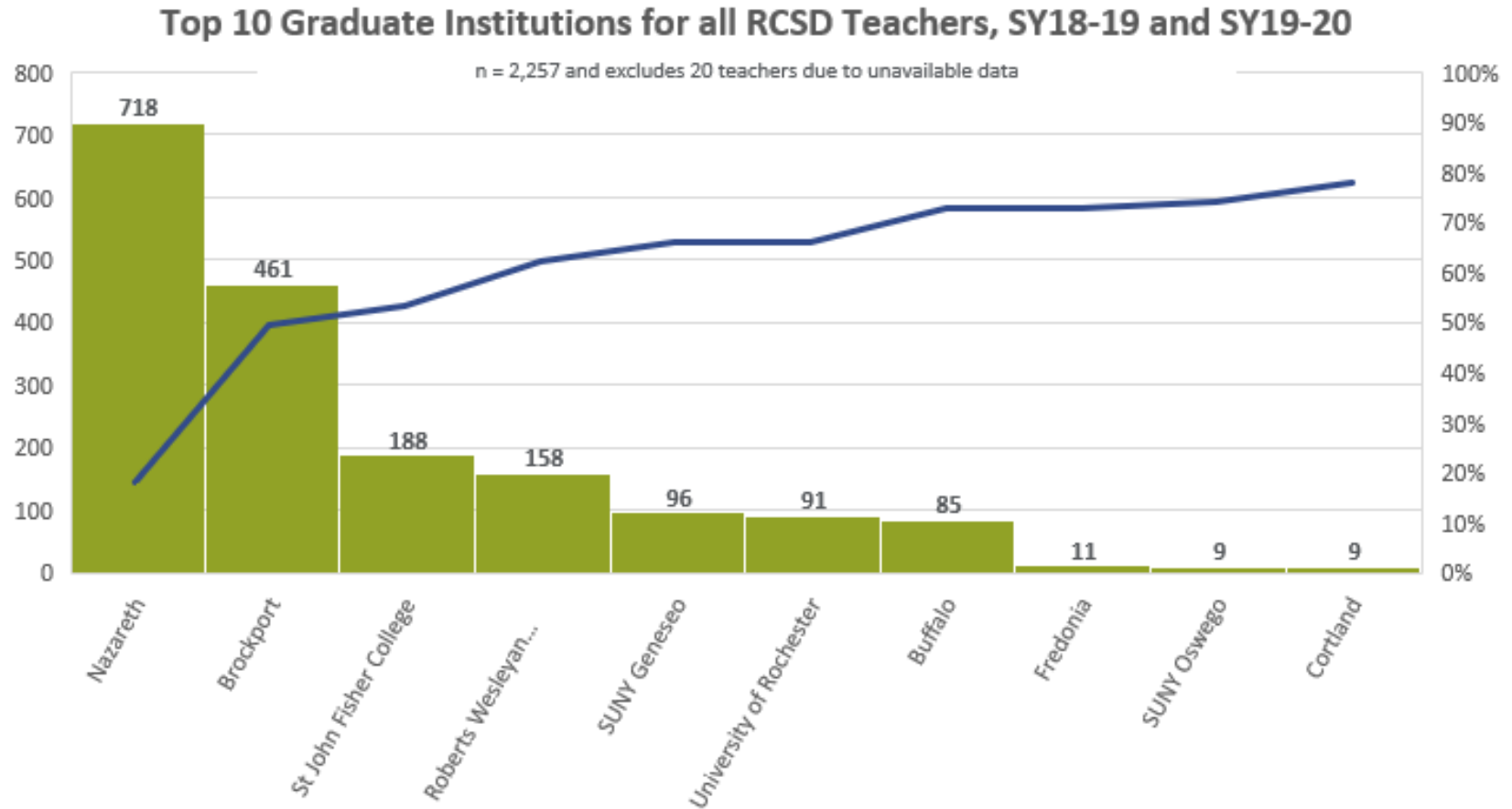
Two-thirds of all teachers in RCSD received their bachelor's or master's degree from 5 schools...

Institution (Bachelor's and Master's)	Percent of All Degrees*	Cumulative Total
NAZARETH COLLEGE	24%	24%
SUNY BROCKPORT	22%	46%
ST JOHN FISHER COLLEGE	8%	54%
SUNY GENESEO	7%	61%
ROBERTS WESLEYAN COLLEGE	5%	66%

...and roughly half of all RCSD teachers received their bachelor's degree from Brockport, Nazareth or SUNY Geneseo



Nazareth and Brockport together account for more than half of master's degrees among all RCSD teachers



Brockport and Nazareth also produce the most teachers hired by charter schools

Bachelor's Degree (n=91)

26%	SUNY Brockport
9%	Nazareth College
7%	Roberts Wesleyan College
7%	SUNY Geneseo
7%	Niagara University

Master's Degree (n=74)

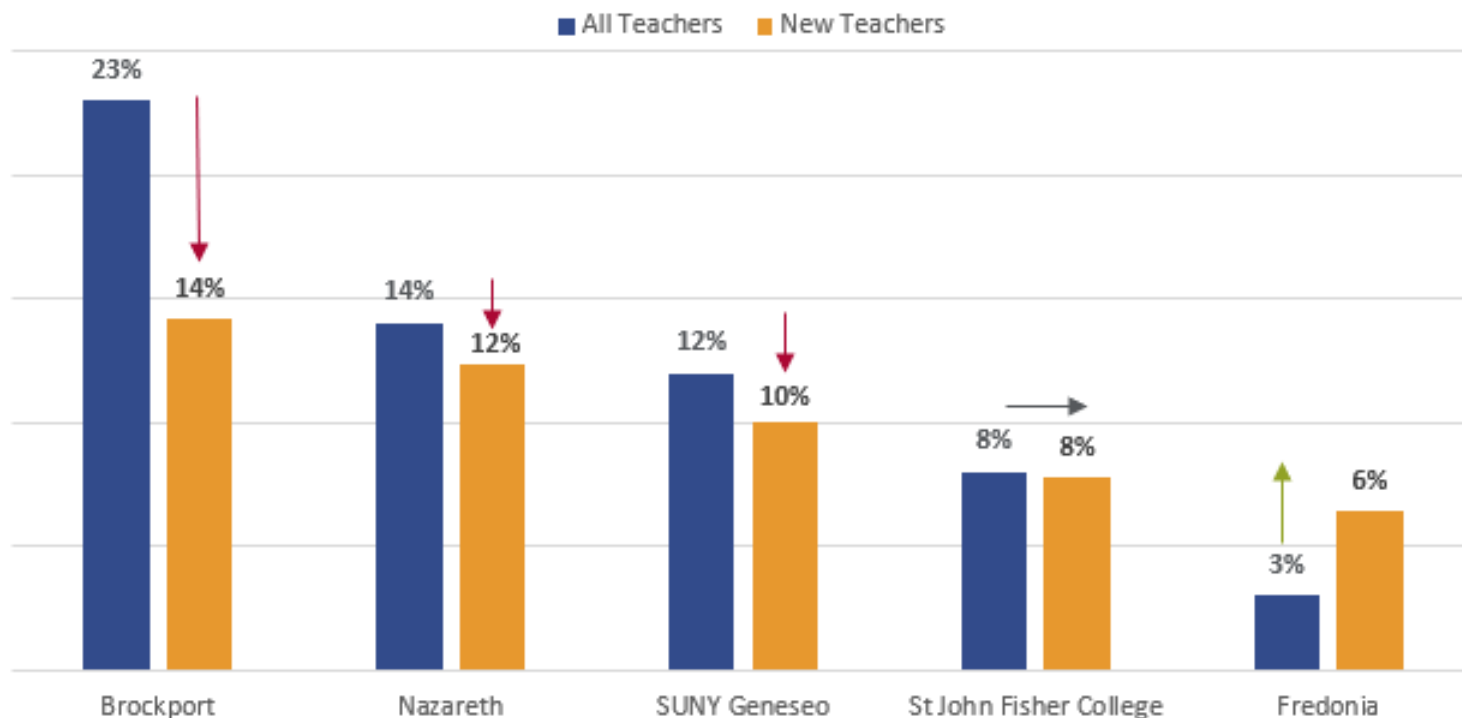
18%	SUNY Brockport
18%	Nazareth College
11%	St John Fisher College
10%	Buffalo
7%	Roberts Wesleyan College

While 3 institutions historically account for half of all RCSD teachers with bachelor's degrees, 5 institutions account for half of new teachers with bachelor's degrees

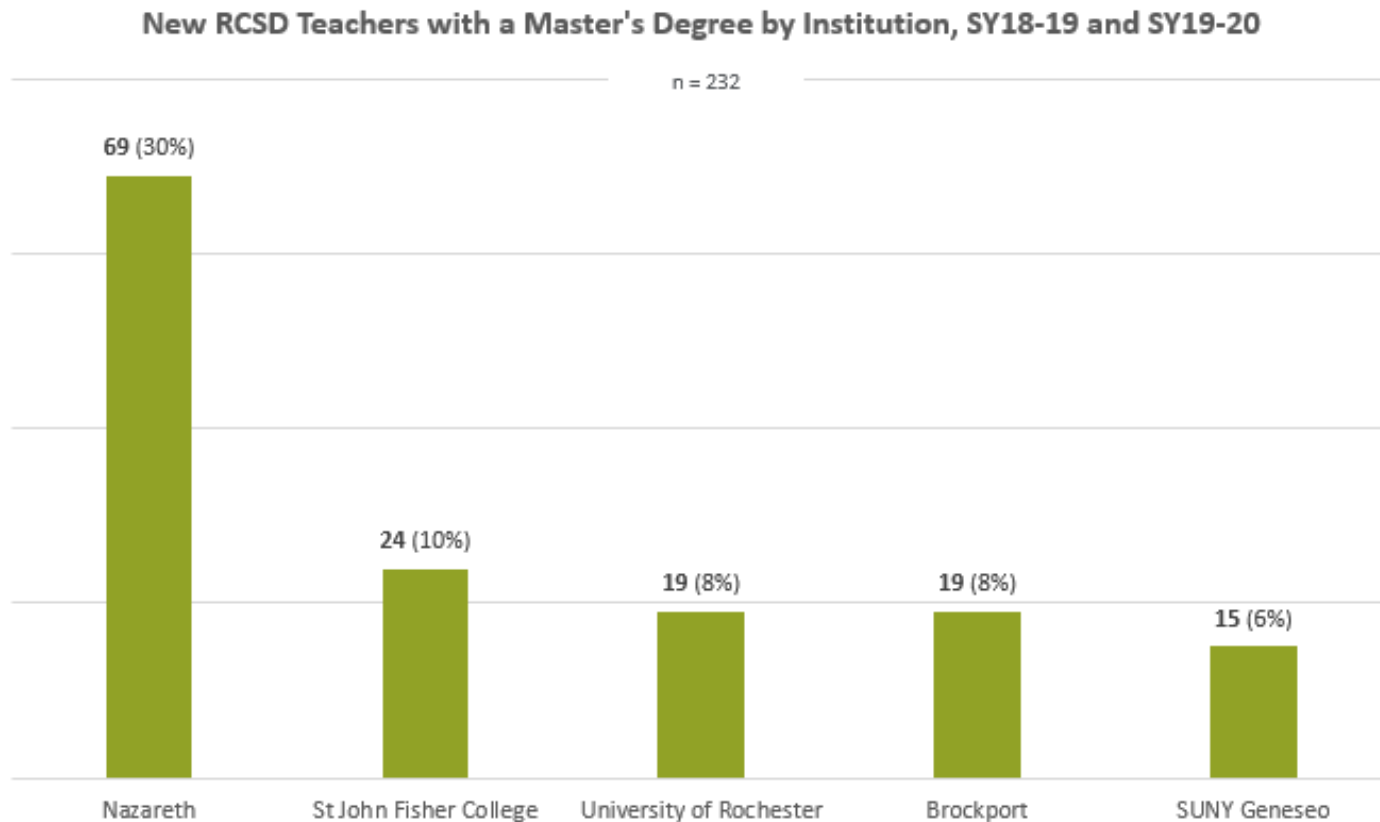
Top 5 Undergraduate Institutions for New RCSD Teachers, 2018-2019

New teachers are defined as teachers with 5 or less years of experience.

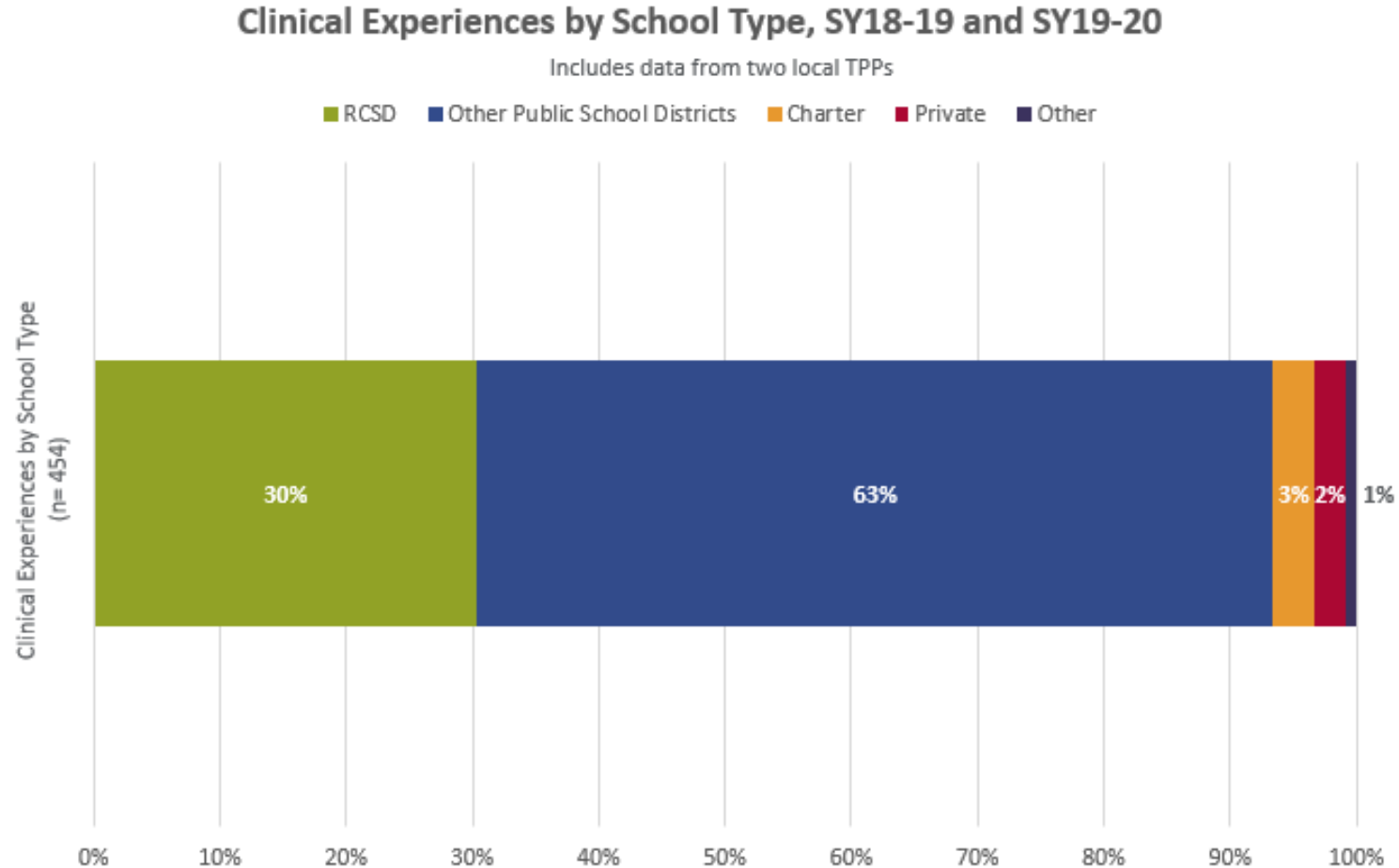
n = 219 and excludes 531 teachers due to unavailable data.



Meanwhile, 5 institutions account for 70% of new teachers with master's degrees



In data from 2 TPPs, nearly all clinical experiences take place in traditional public schools as opposed to charter schools; a third of all clinical experiences occur in RCSD



Some programs are producing relatively more teachers of color and male teachers for the district than others

INSTITUTION (BACHELOR'S AND MASTER'S)	WHITE	ASIAN	BLACK	HISPANIC OR LATINO	NOT SPECIFIED	AM. INDIAN	FEMALE	MALE
UNIVERSITY OF ROCHESTER (n=129)	65%	2%	19%	8%	4%	2%	61%	39%
ROBERTS WESLEYAN COLLEGE (n=212)	67%	0%	25%	6%	2%	0%	68%	32%
ROCHESTER INSTITUTE OF TECHNOLOGY (n=65)	69%	3%	18%	6%	3%	0%	77%	23%
SUNY BROCKPORT (n=849)	75%	1%	13%	9%	2%	0%	71%	29%
ST JOHN FISHER COLLEGE (n=317)	76%	2%	13%	5%	4%	0%	78%	22%
DISTRICT	77%	2%	12%	6%	4%	0%	75%	25%
NAZARETH COLLEGE (n=942)	80%	1%	11%	4%	4%	0%	85%	15%
SUNY GENESEO (n=295)	86%	3%	4%	5%	2%	0%	86%	14%
SUNY OSWEGO (n=69)	86%	0%	6%	3%	6%	0%	71%	29%



RCSD Teacher Effectiveness

The vast majority of RCSD teachers are rated highly effective or effective on APPR, reducing its utility as a tool for understanding differences in teacher performance

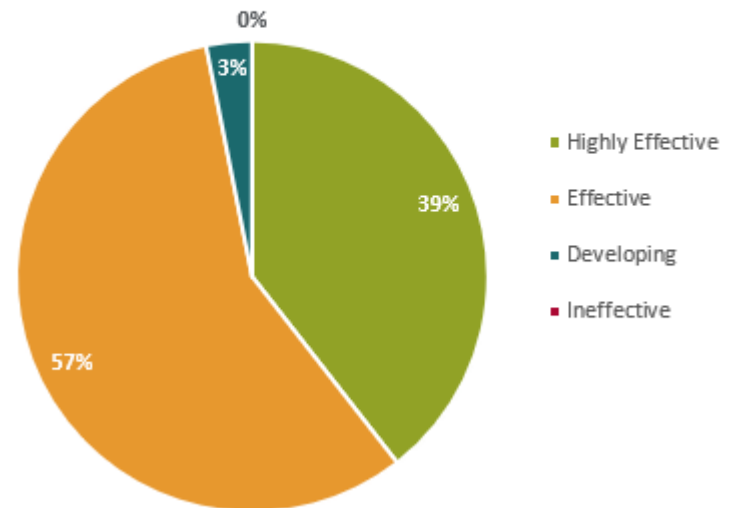
Of RCSD teachers that received APPR ratings between 2013 and 2017...

97%

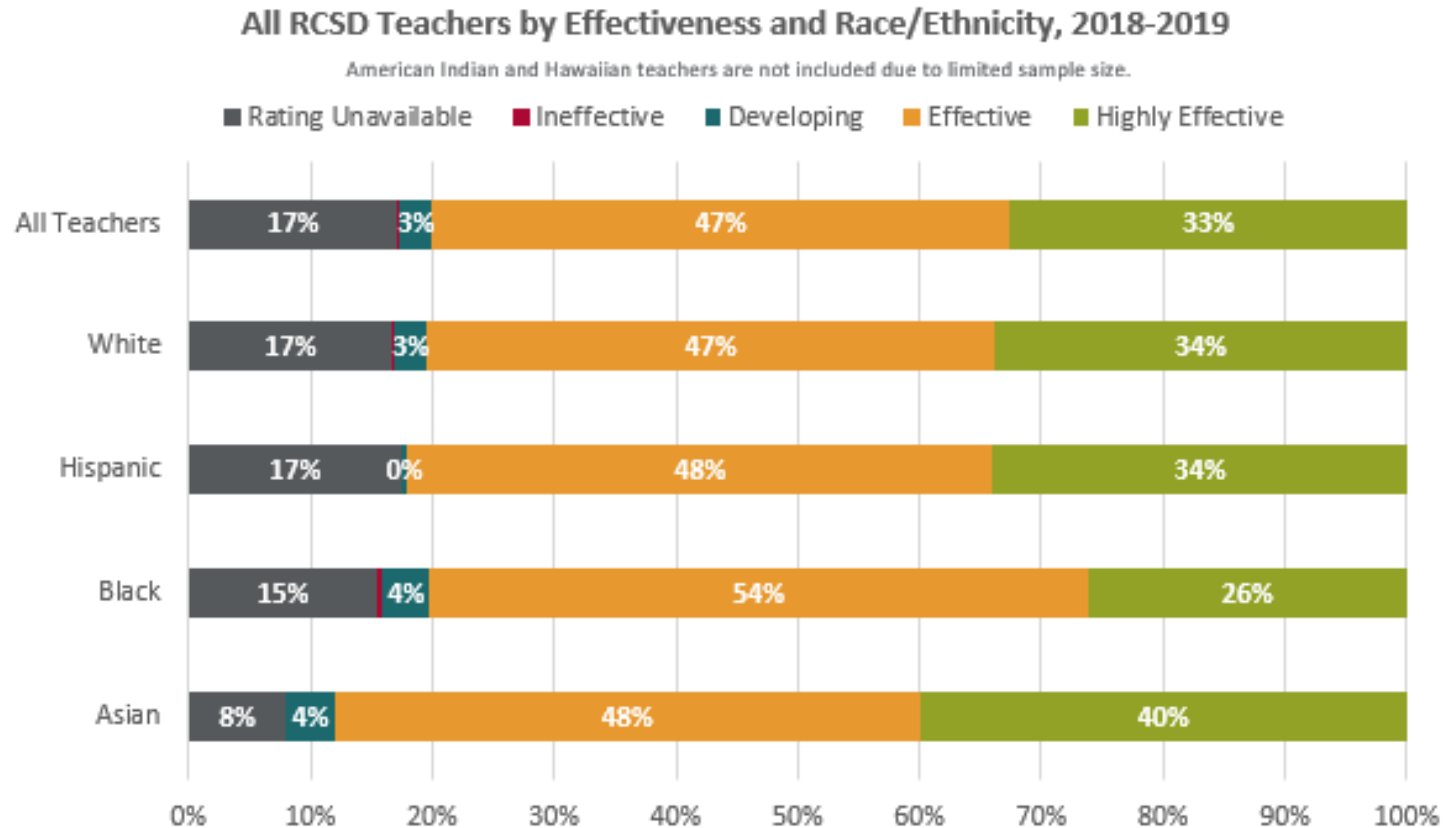
were rated **Effective** or **Highly Effective**

All RCSD Teachers by Effectiveness, SY18-19 and SY19-20

n = 2,972 and data excludes 616 RCSD teachers due to unavailable data

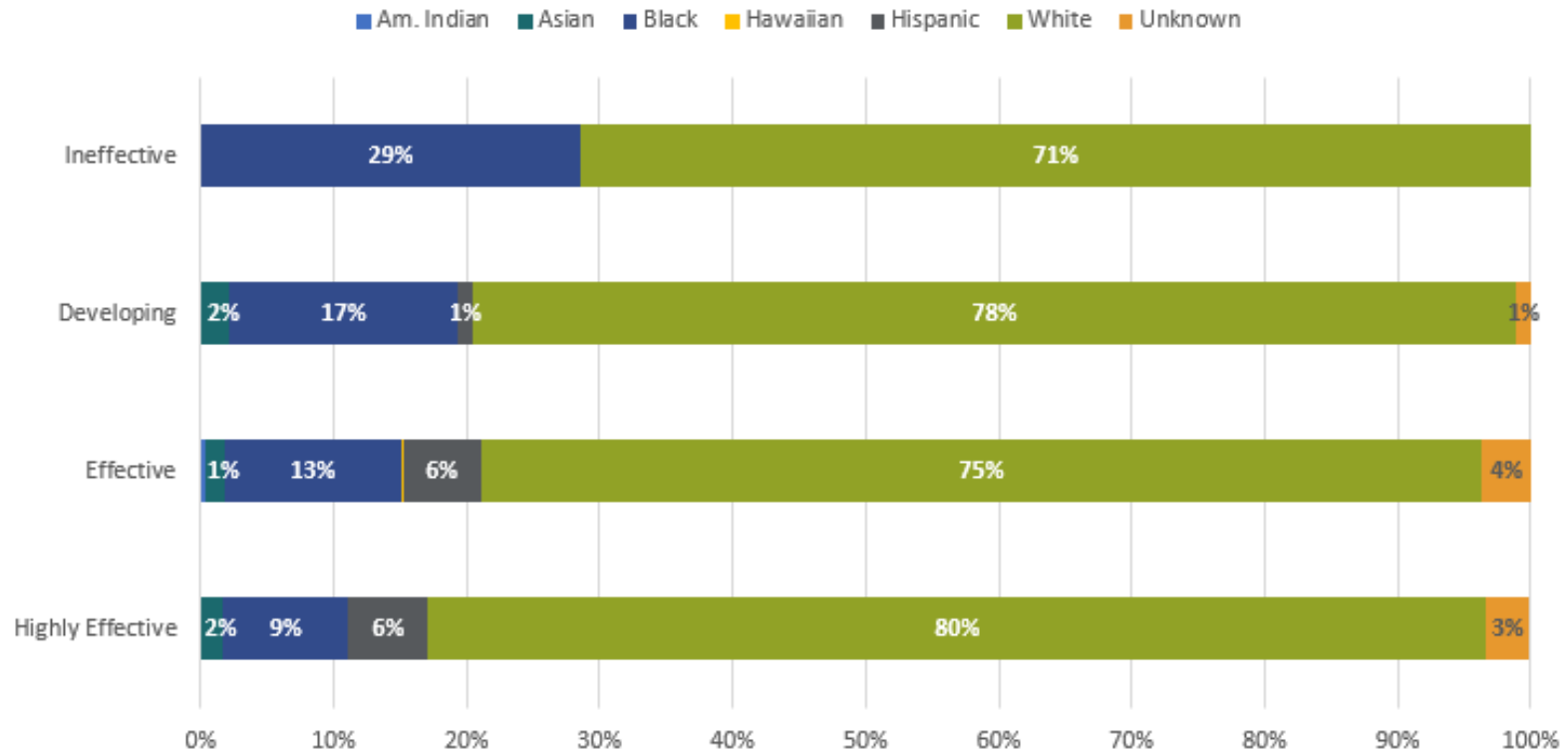


RCSD data does suggest, however, that Black RCSD teachers are generally less likely to be rated highly effective than teachers of other races...



...and Black RCSD teachers account for almost 17 and 30 percent of all RCSD teachers rated developing and ineffective, respectively, while comprising only 12 percent of all teachers

Effectiveness of All RCSD Teachers and Race/Ethnicity, 2018-2019

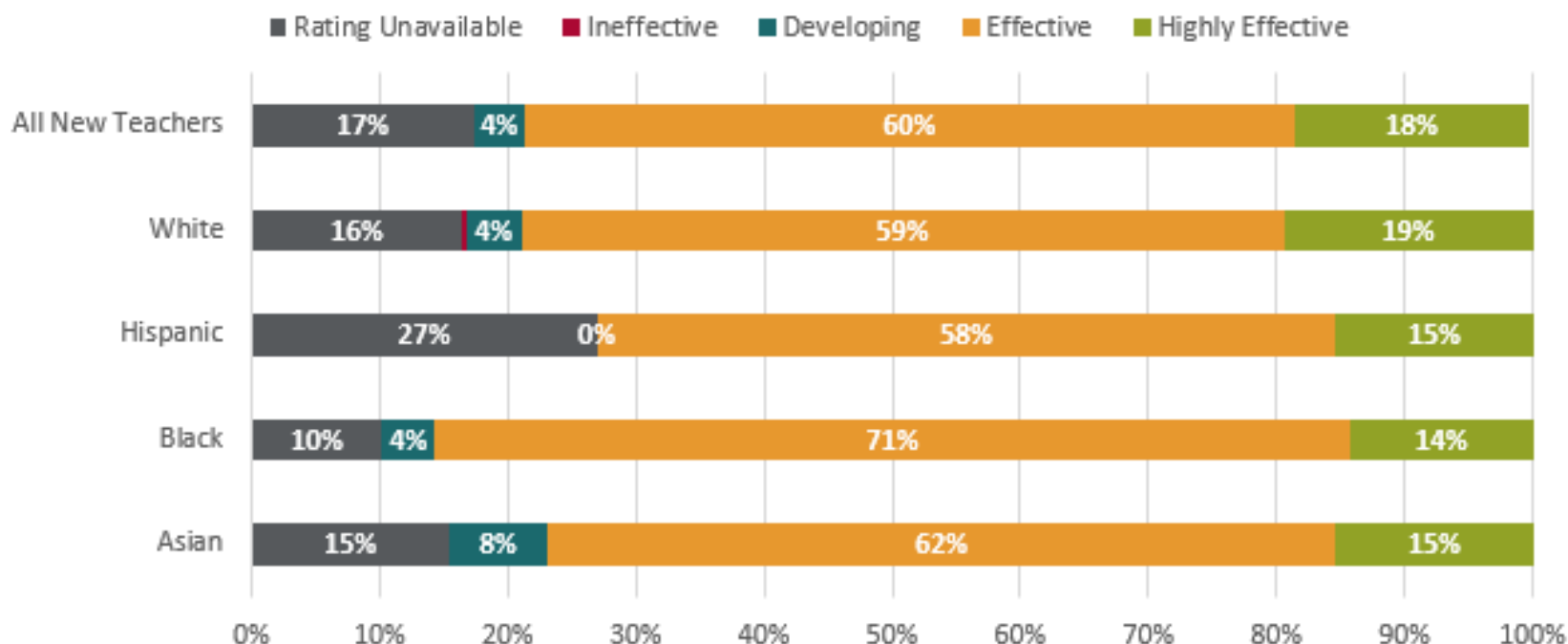


This racial disparity is less apparent, though, among new RCSD teachers

New RCSD Teachers by Effectiveness and Race/Ethnicity, 2018-2019

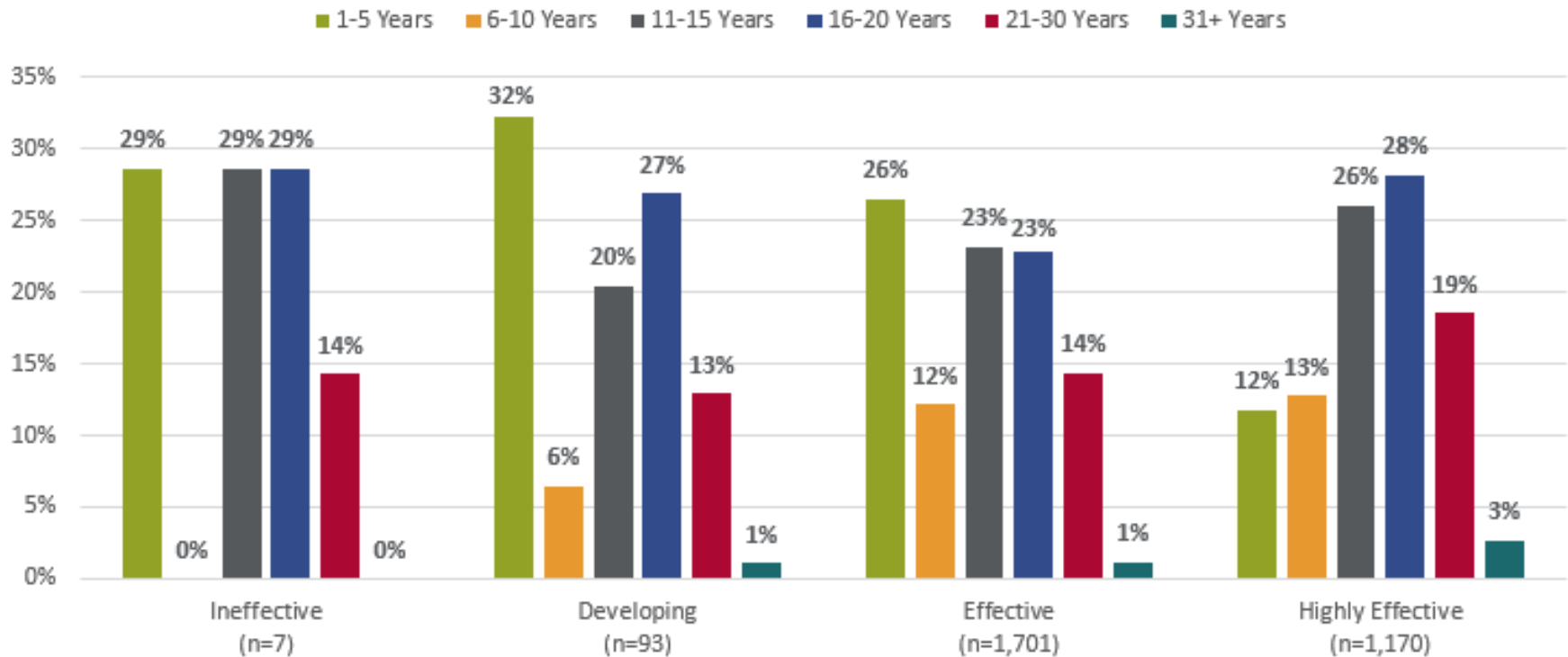
New teachers are defined as teachers with 5 or less years of experience.

American Indian and Hawaiian teachers are not included due to limited sample size.



A third of ineffective and developing teachers are new teachers and another 40% are teachers with 21+ years of experience

RCSD Teachers by Effectiveness Rating and Years of Experience, SY18-19 and SY19-20

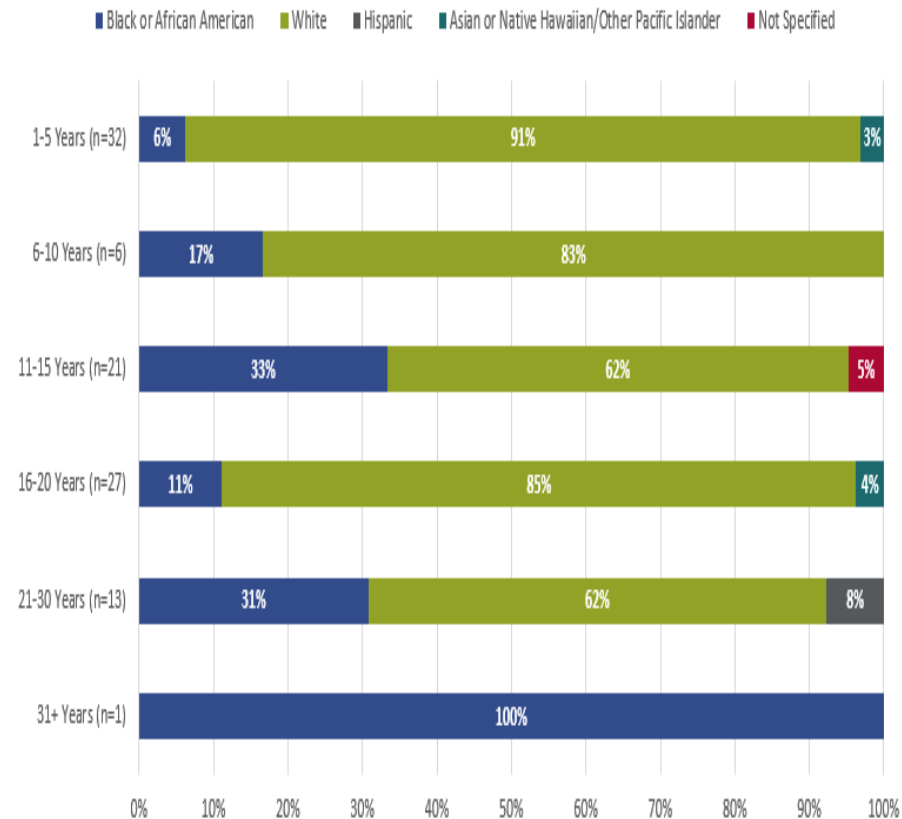


90 percent of new teachers rated ineffective or developing are White whereas roughly 40% of teachers with 21+ years of experience rated ineffective or developing are teachers of color

All RCSD Teachers by Tenure and Race, SY18-19 and SY19-20



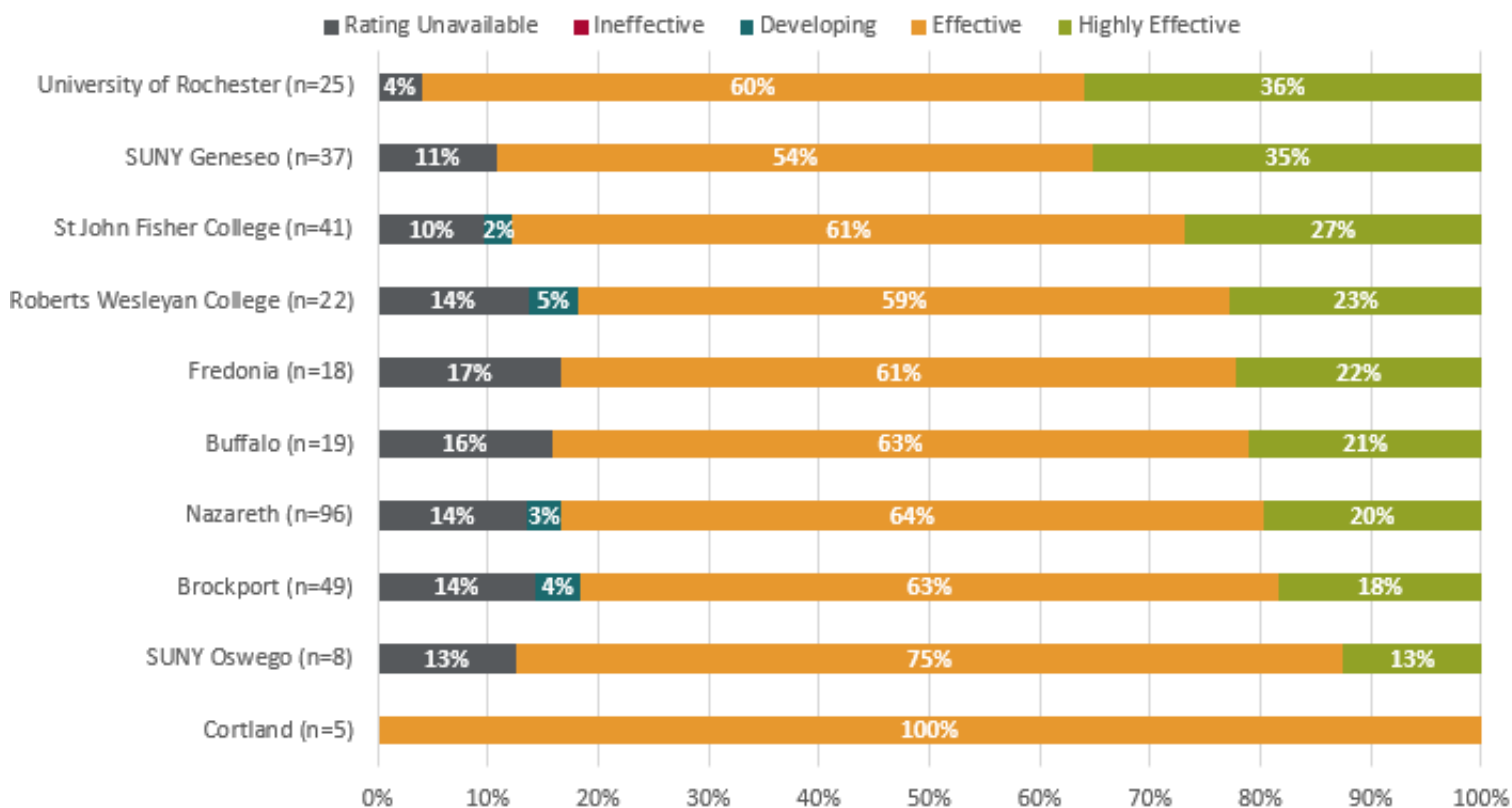
Ineffective and Developing Teachers by Tenure and Race, SY18-19 and SY19-20



APPR data indicate that the University of Rochester and SUNY Geneseo are most likely to produce highly effective new teachers

Effectiveness of New RCSD Teachers by Institution*, SY18-19 and SY19-20

New teachers are defined as teachers with 5 or fewer years of experience.

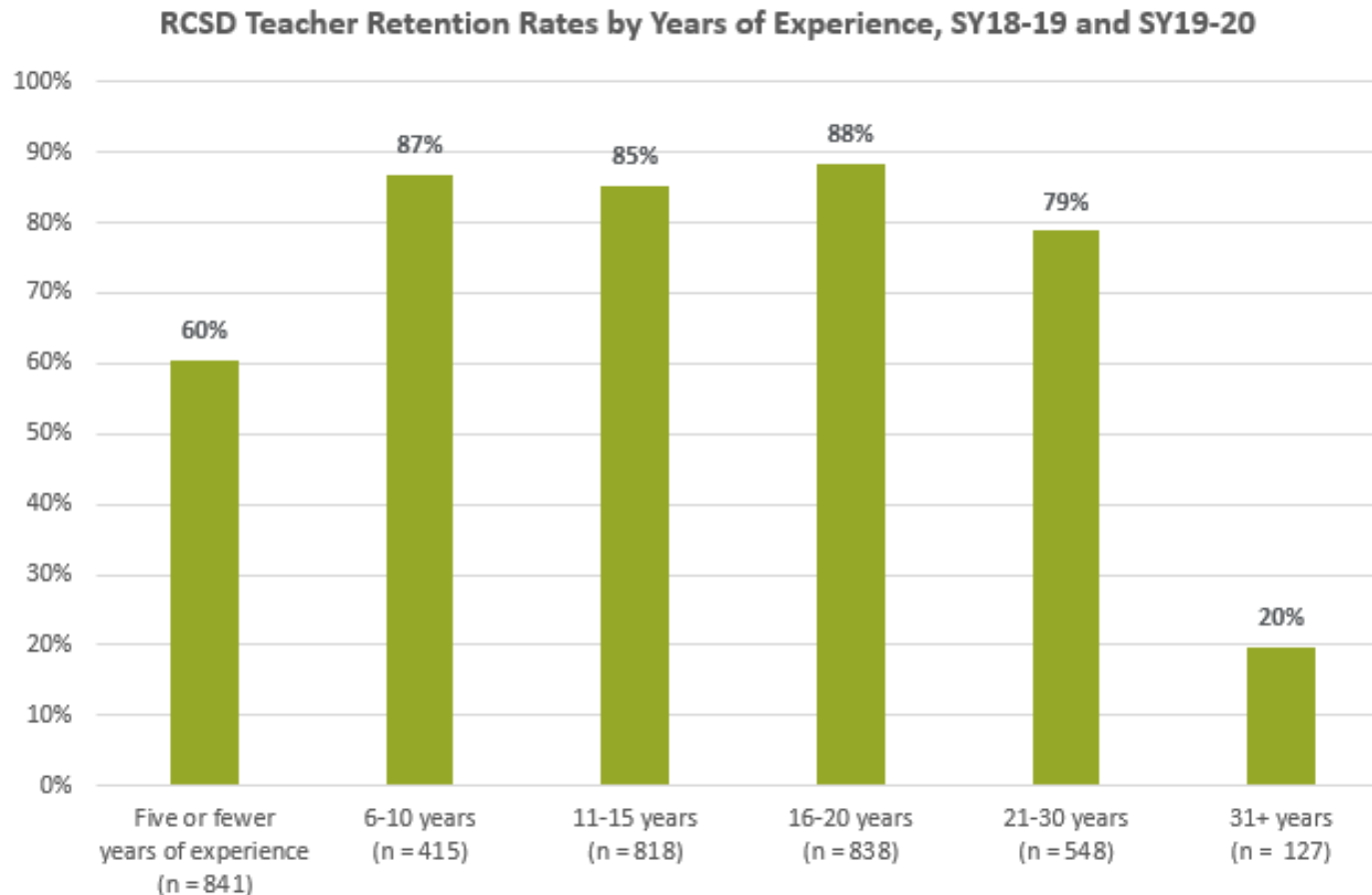


*Includes undergraduate and graduate



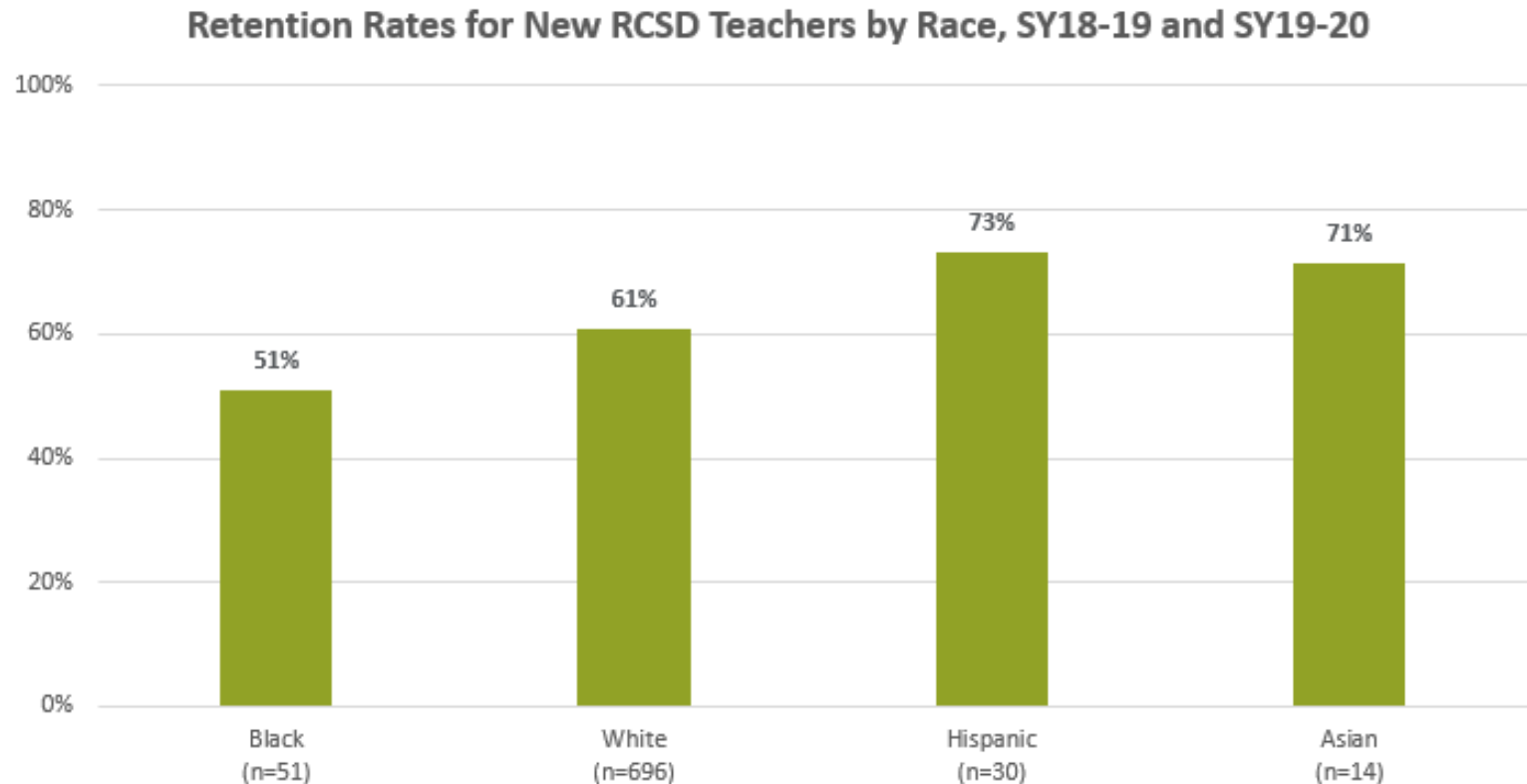
Retention

Retention rates are lowest for RCSD's new teachers...



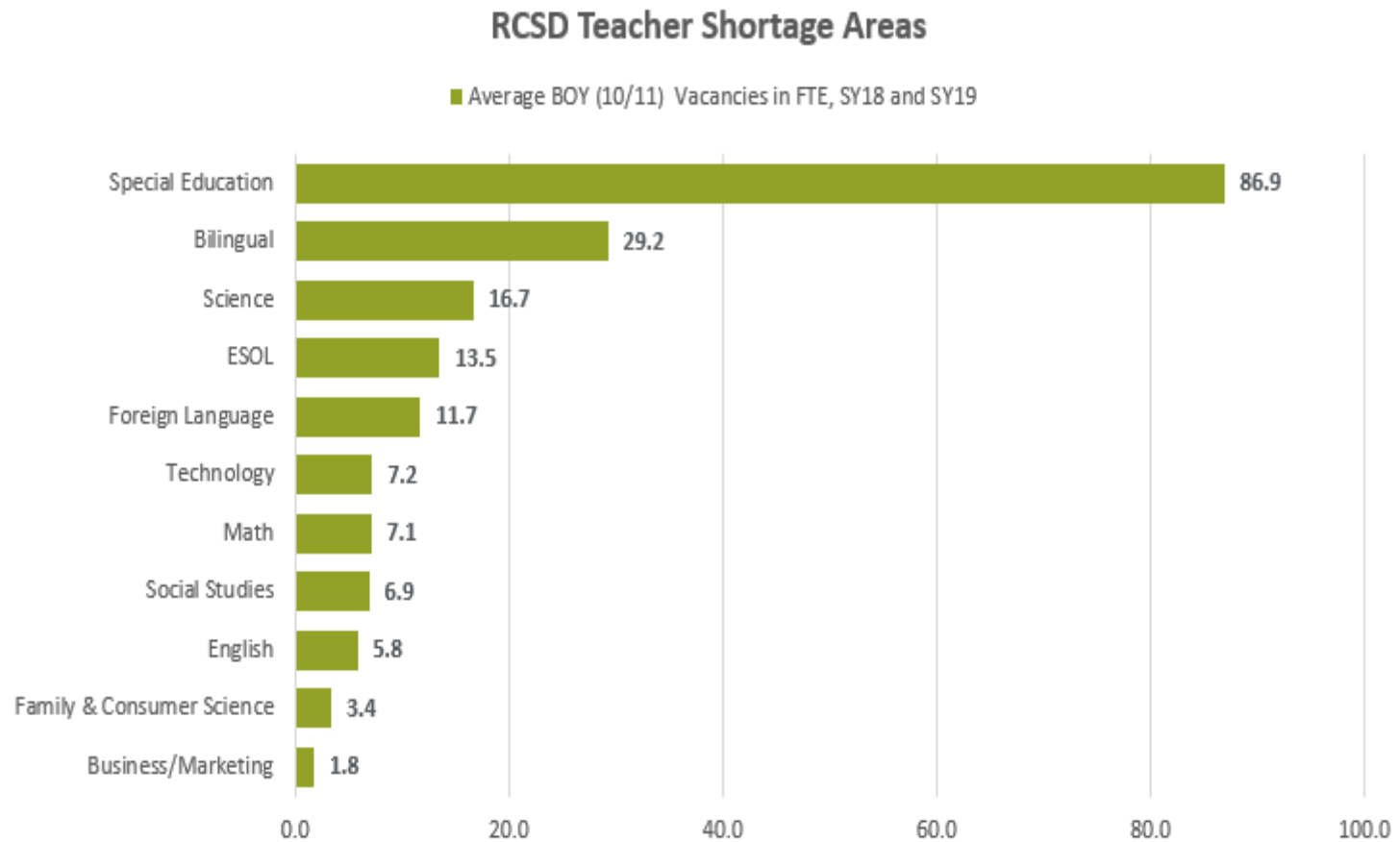
Retention rates were calculated as the total number of currently active teachers divided by the total number of teachers hired.

...and are particularly low for new Black RCSD teachers, exacerbating challenges with representation



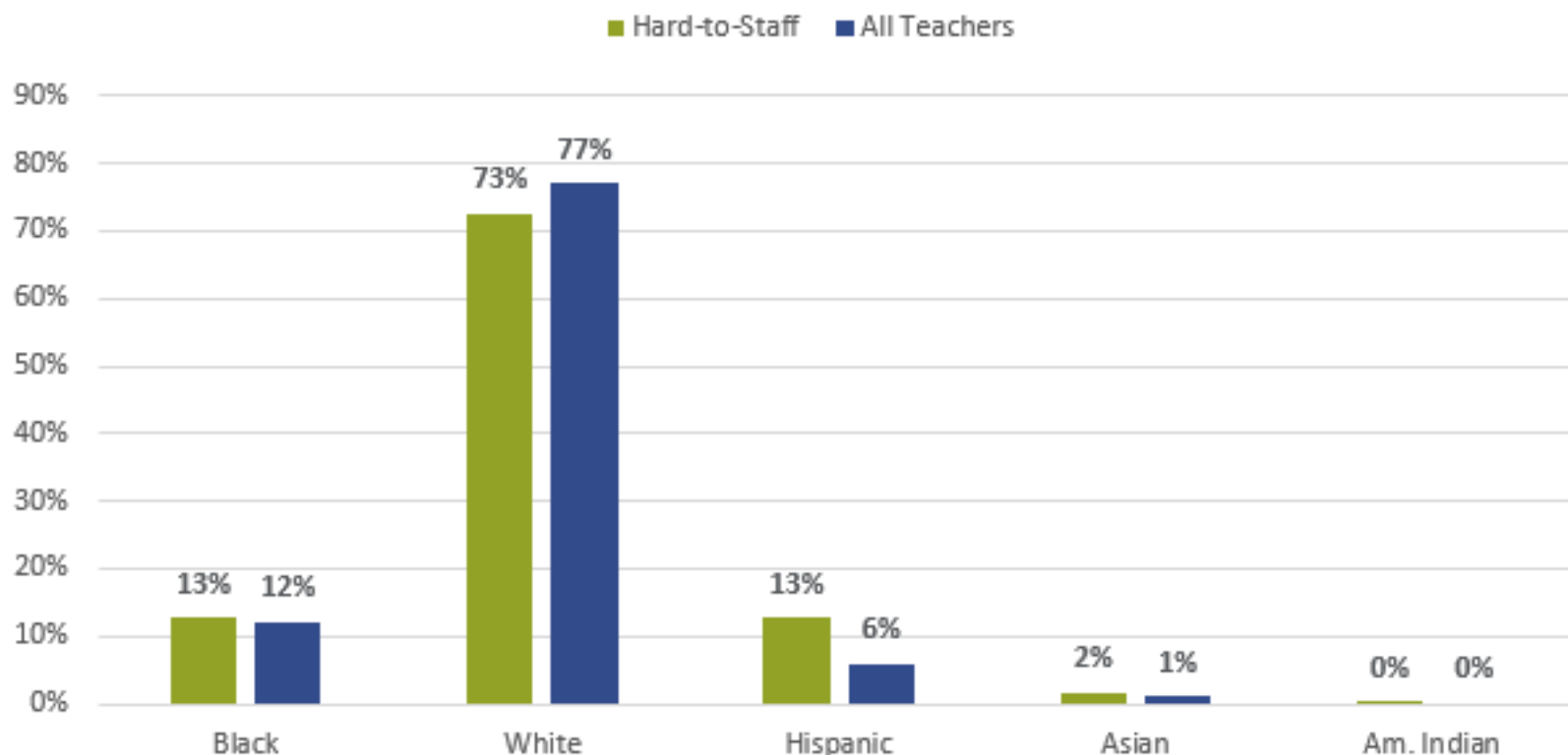
Teacher Shortage Areas

RCSD continues to experience teacher shortages in key content areas, including SPED, bilingual, ESOL and science



Teachers in RCSD's hardest-to-staff subjects are slightly more diverse than all RCSD teachers

Teachers in Hard-to-Staff Subjects by Race, SY18-19 and SY19-20



Note: Hard to staff subjects include: SPED, bilingual, foreign language, ESOL and science

Nazareth is the leading preparer of current RCSD ESOL teachers

Bachelor's Degree (n=70*)

16% Nazareth College

13% SUNY Brockport

10% St John Fisher College

9% SUNY Geneseo

Master's Degree (n=95*)

68% Nazareth College

7% SUNY Brockport

7% University of Rochester

2% St John Fisher College

*excludes ESOL teachers where education data was unavailable

Most current Foreign Language teachers received their training at Brockport or Nazareth

Bachelor's Degree (n=47*)

47% SUNY Brockport

11% SUNY Geneseo

6% St John Fisher College

6% Nazareth College

Master's Degree (n=55*)

35% SUNY Brockport

13% Nazareth College

7% St John Fisher College

7% Roberts Wesleyan College

*excludes foreign language teachers where education data was unavailable

Many current Special Education teachers received their training at Brockport, Nazareth, Geneseo or St. John Fisher

Bachelor's Degree (n=59*)

19% SUNY Brockport

19% Nazareth College

17% SUNY Geneseo

8% St John Fisher College

7% Buffalo

Master's Degree (n=78*)

36% Nazareth College

18% SUNY Brockport

12% St John Fisher College

8% Roberts Wesleyan College

4% SUNY Geneseo

*excludes SPED teachers where education data was unavailable

Many current Science teachers received their training at Brockport, Nazareth or St. John Fisher

Bachelor's Degree (n=356*)

27% SUNY Brockport

12% St John Fisher College

11% Nazareth College

10% SUNY Geneseo

7% Buffalo

Master's Degree (n=457*)

33% Nazareth College

25% SUNY Brockport

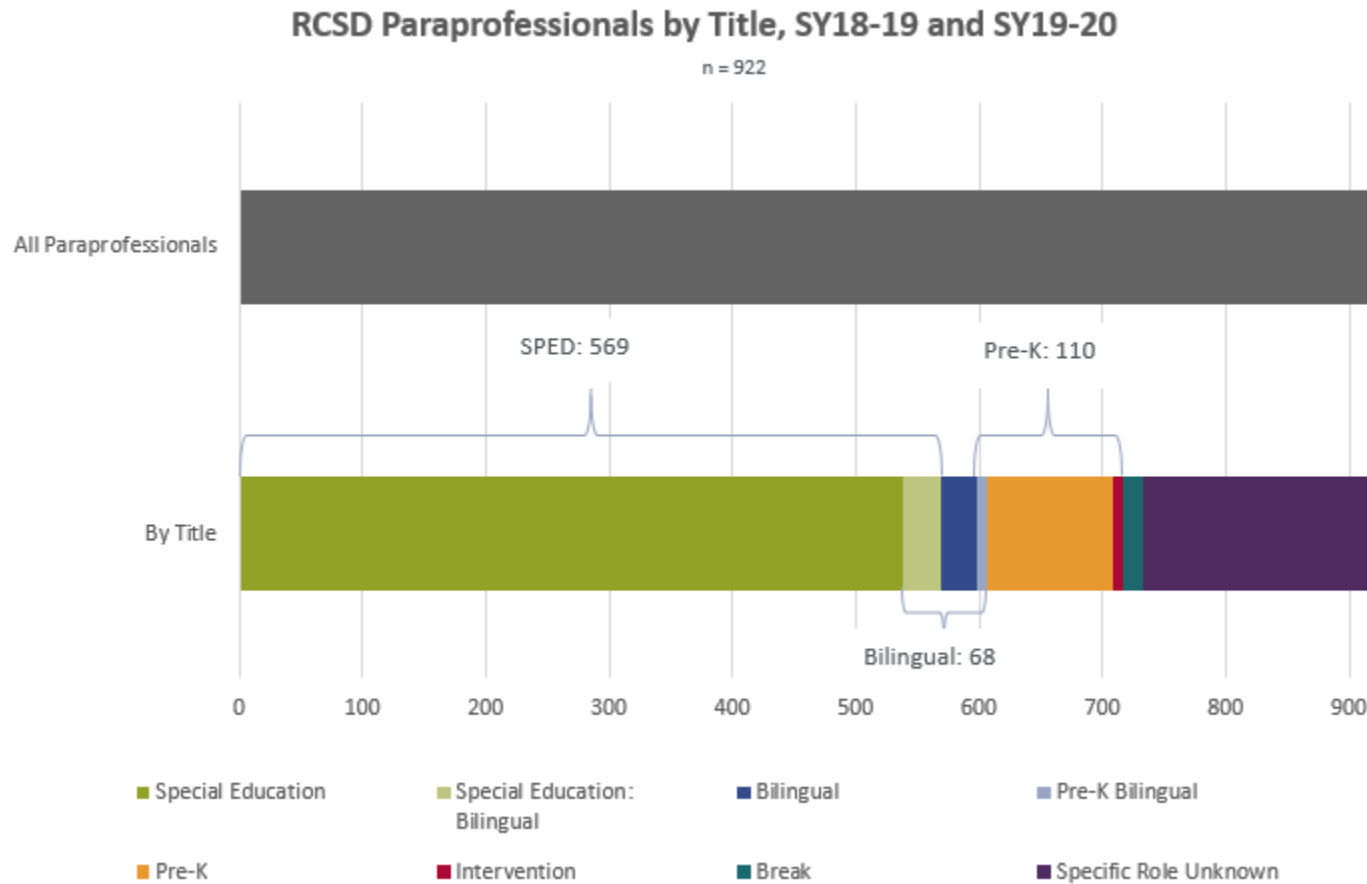
10% St John Fisher College

9% Roberts Wesleyan College

4% SUNY Geneseo

*excludes science teachers where education data was unavailable

Many paraprofessionals serve in content areas with significant teacher shortages



Findings

Assets: Bright spots suggest significant untapped potential for RCSD in particular to harness its rich data and cultivate its paraprofessionals to become fully certified teachers

- Teacher retention in RCSD is higher than in other comparable districts¹
- Educators in shortage areas in RCSD are more diverse than the overall teacher workforce, suggesting that teachers of color may be an untapped recruitment source for hard-to-staff areas
- Paraprofessionals are very diverse and experienced as a group, representing untapped potential in the pipeline
- RCSD continues to have robust human capital data that it can harness to cultivate a stronger teacher pipeline
- Students in Monroe Community College's education programs are more diverse than other undergraduate and graduate teacher preparation programs, suggesting that recruitment from MCC can help improve teacher diversity

Opportunities: Overall, the teacher pipeline is not providing enough teachers of color – a problem that persists at every stage of the pipeline – or teachers for shortage areas

- For the most part, students in Rochester are not taught by teachers who look like them, which has significant implications for their educational outcomes
- RCSD continues to face shortage areas in certain subjects year after year, and continues to hire in these areas despite layoffs
- The teacher pipeline in Rochester is not providing enough diverse teachers or teachers for shortage areas to meet the needs of students in Rochester:
 - + Mirroring national trends, it appears candidates of color (and Black candidates in particular) may be disproportionately and systematically excluded from the opportunity to become teachers in Rochester
 - + A small number of TPPs currently produces most of the teachers for Rochester classrooms, but not necessarily the profile of teacher that Rochester needs
 - + New teachers are coming from an increasingly diverse set of institutions
- The data infrastructure necessary to the efficient collection, reporting and analysis of human capital data has not improved since 2018



Diverse Perspectives

In addition to the quantitative analysis, we interviewed teacher candidates of color, teachers of color, and parents of K12 students of color to get their perspective on the pipeline

About *Diverse Perspectives*

The *Diverse Perspectives* report:

- Engages a sample of local stakeholders around topics pertaining Rochester's teacher pipeline, from **recruitment to retention**
- Offers specific information about the **unique context of teaching and teachers in Rochester**
- Provides an opportunity to understand the perspectives of teacher candidates of color, teachers of color and parents of children of color to **ensure their perspectives are heard and reflected in the collective work to strengthen Rochester's teacher pipeline**
- Offers **advice and ideas for students of color to enter and remain in the teaching profession in Rochester area schools**

“I've already had students say, **'I'm so glad I have a Black teacher!'** I'm also a senior adviser and one kid came on screen and said, 'Oh my God, you're Black. You're the second Black teacher I've had the entire time I've been in this school, and I've been here since 9th grade.' **I'm like a unicorn!**

– Teacher

Teachers, teacher candidates and parents shared key insights and statements across four areas

Interest in Teaching

- Interest in teaching is driven by a **strong desire to impact the local Rochester community, do meaningful work and debunk the stereotypes** about who Rochester's students are and what they are capable of
- Teachers and candidates report **being inspired by the educators in their lives** to become teachers, particularly their parents and other teachers of color
- Students in general are **not being encouraged to become teachers**



Teaching Experiences

- Teachers report that it's a **joy serving Rochester students and families**, but that they feel a lot of **job insecurity as a result of repeated layoffs**
- The presence of **other teachers of color is a key part of support systems** and networks for teachers of color
- The **mentoring and induction support teachers receive is useful**, but they would like to see ongoing professional learning opportunities that **help them better meet the needs of their students**



Teacher Preparation Experiences

- Teachers and candidates report **deeply isolating experiences** in local teacher preparation programs often **due to the lack of racial and ethnic diversity and other family and personal commitments**
- **Support systems like advising are key** for teacher candidates of color, especially those from low-income backgrounds and first-generation college students
- The **student teaching experience is not being used as a strategic opportunity** to pair student teachers of color with mentor teachers and school placements that will allow them to truly grow
- **Suburban student teaching experiences exacerbate candidates' feelings of racial isolation**

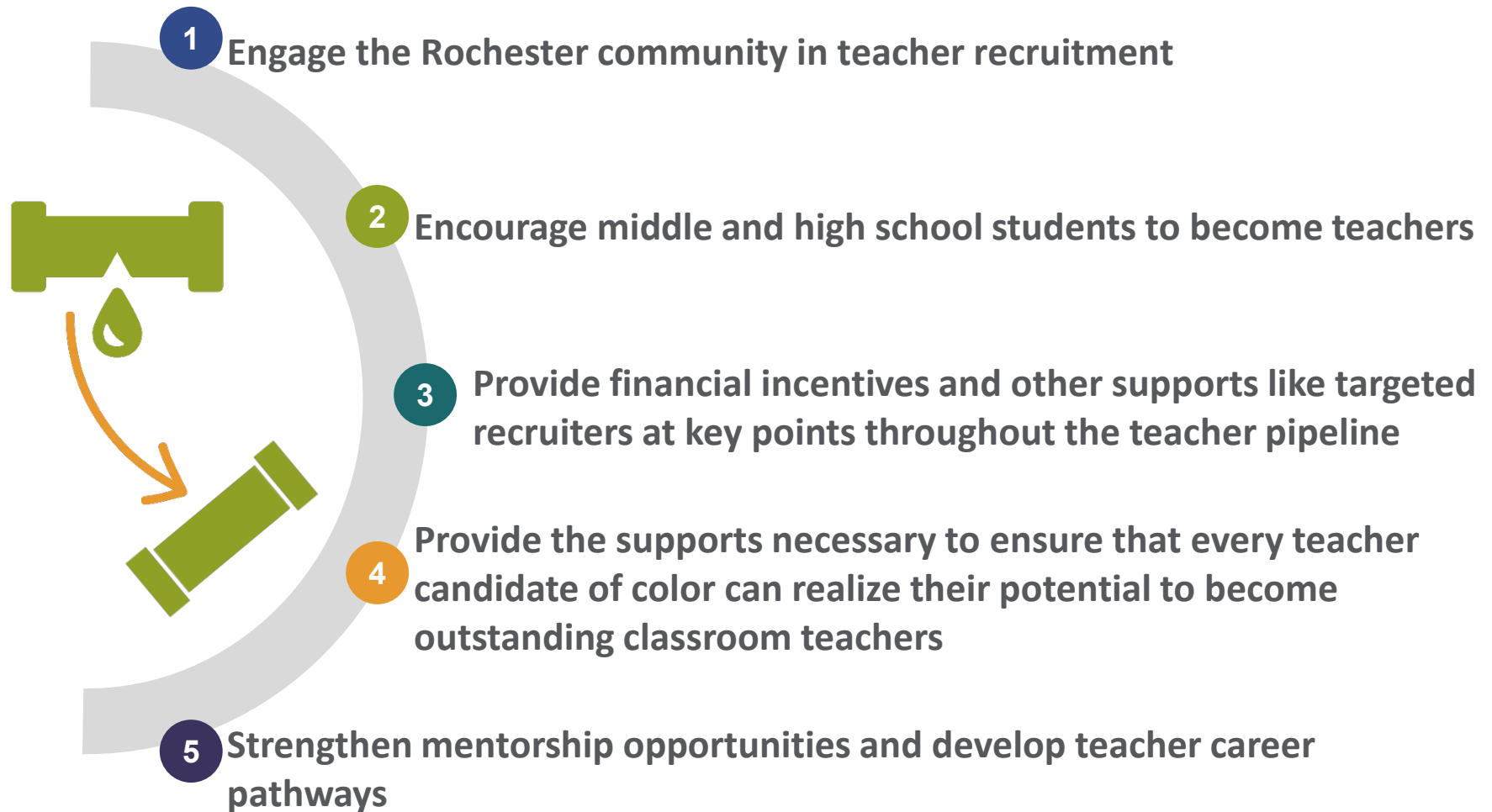


Licensure and Hiring

- Because **New York State certification is costly, it is a deterrent to entering the teaching profession**, even after completing a teacher preparation program
- Furthermore, **candidates feel unsupported by their teacher preparation programs in passing the exams**, particularly after they graduate.
- Teachers and candidates report that **informal networking via word-of-mouth is how many teachers get job**
- The **RCSD hiring process is variable and unclear**. Some teachers reported being hired on the spot while others reported not hearing anything after applying online



Teachers, teacher candidates and parents suggested five strategies to diversify and “plug” Rochester’s leaky teacher pipeline





Recommendations

The findings suggest a plethora of opportunities for K12 and TPP partnerships to address challenges facing the pipeline

K-12 DEVELOPMENT AND RECRUITMENT	HIGHER EDUCATION RECRUITMENT	TEACHER PREPARATION	LICENSURE AND HIRING	RETENTION
1a. Ensure all students of color are exposed to teachers of color and culturally proficient educators who can help them realize their potential				
1b. Foster student interest in teaching beginning in middle grades through high school through information campaigns				
1c. Offer early pathways into teaching in high school, including dual credit, and market the opportunity widely				
1d. Provide paraprofessionals with access to information and resources to become certified to teach				
1e. Track Rochester students, alumni and paras interested in teaching to and through college, and recruit them back to teach				
2a. Actively recruit in Rochester K12 schools and the broader Rochester community, and provide support (e.g. guidance, financial incentives) to apply to/attend college				
2b. Develop an ideal teacher candidate profile that can inform recruitment and programming				
2c. Evaluate student admissions and faculty hiring policies and practices for racial bias				
3a. Use the clinical experience more strategically as a tool to recruit and select new teachers, and to expose candidates to Rochester classrooms				
3b. Hire more faculty of color and incent them to become mentors to teacher candidates of color				
3c. Provide advising support to ensure the needs of teacher candidates of color are met				
3d. Train all faculty on implicit bias and culturally relevant instruction to ensure that teacher candidates of color feel inspired and supported to succeed				
4a. Identify more mentor teachers of color to support new teachers of color and teacher candidates of color and provide compensation for their work				
4b. Provide additional supports to help teacher candidates of color obtain certification				
4c. Reconsider district policies/practices that create disproportionate job insecurity among new teachers, particularly new teachers of color				
5a. Investigate the extent to which the design and/or implementation of teacher evaluation systems is inequitable for teachers of color.				
5b. Assess working conditions for teachers, disaggregated by race				

Good data and data infrastructure will continue to be critical to addressing Rochester’s teacher pipeline challenges

K-12 DEVELOPMENT AND RECRUITMENT	HIGHER EDUCATION RECRUITMENT	TEACHER PREPARATION	LICENSURE AND HIRING	RETENTION
DATA				
6a. Build infrastructure needed at the institution level and citywide to enable the systematic collection, analysis, and reporting of teacher pipeline data				
6b. Dedicate capacity at the institution level to analyze and respond to the data				
6c. Share annual shortage area data with colleges, including future (4-5 years) projected vacancies				

Some potential opportunities for partnership in the area of recruitment in K12 include the following recommendations:

K-12 DEVELOPMENT
AND RECRUITMENT

HIGHER EDUCATION
RECRUITMENT

TEACHER
PREPARATION

LICENSURE AND
HIRING

RETENTION

1a. Ensure all students of color are exposed to teachers of color and culturally proficient educators who can help them realize their potential

1b. Foster student interest in teaching beginning in middle grades through high school through information campaigns

1c. Offer early pathways into teaching in high school, including dual credit, and market the opportunity widely

1d. Provide paraprofessionals with access to information and resources to become certified to teach

1e. Track Rochester students, alumni and paras interested in teaching to and through college, and recruit them back to teach

Recommendation

1a. Ensure all students of color are exposed to teachers of color and culturally proficient educators who can help them realize their potential

Rationale

Rationale: Teachers of color have significant long-term positive effects on the success of students of color, including improved test scores, higher rates of identification as gifted and talented, lower rates of chronic absenteeism and suspension, higher graduation rates, greater college aspirations.¹ Furthermore, teachers of color inspired many of the educators we spoke with in our *Diverse Perspectives* report to become teachers themselves.²

Potential Action Items

- Identify and actively recruit teacher candidates of color and candidates who possess the dispositions and skills that suggest they would understand and be committed to culturally responsive pedagogy (TPPs; see [look-fors](#))
- Actively place and build relationships with student teachers of color as part of the recruitment process (K12)
- Analyze the extent to which students of color are assigned to teachers of color (K12)
- Assess process for placing teachers at schools and in classrooms for equity (K12)
- Provide professional development and other supports to develop teachers who are culturally proficient (K12)

Considerations & Questions to Ask

- How can teacher candidates of color be more actively recruited into Rochester classrooms?
- How are teachers assigned to schools/classrooms? How are students assigned to teachers?
- What if any policies incentivize (or disincentivize) teachers of color teaching classrooms with high numbers of students of color?

¹“See Our Truth.” (2017). New York, NY: The Education Trust – New York.

<https://seeourtruthny.edtrust.org/>

² *Diverse Perspectives*. 2020. The Farash Foundation and Education First Consulting

Recommendation

1b. Foster student interest in teaching beginning in middle grades through high school through information campaigns targeted at all students

Rationale

Rationale: The labor market for new teachers is typically local: New teachers often seek teaching jobs close to their hometowns. By tapping into Rochester's K12 schools, we can guide young people who reflect the diversity of their communities on a path from K12 through college and into the teaching profession. ¹

Potential Action Items

- Develop opportunities for students to explore the teaching profession, such as with career fairs or other informational events (K12)
- Provide students with opportunities to shadow teachers and/or practice teaching (K12)
- Recruit teacher candidates early and directly from K12 schools in Rochester (TPPs)

Considerations & Questions to Ask

- What might appeal to middle and high school students about teaching?
- What similar efforts have been successful in generating interest among high schoolers in a particular profession?
- What were the outcomes of NYSUT's Take a Look at Teaching initiative?

Recommendation

1c. Offer early pathways into teaching in high school, including dual credit, and market the opportunity widely

Rationale

Rationale: Many students express an interest in teaching but do not have a structured, affordable and supportive pathway. High school programs that offer dual credit and assist students to and through college, with a commitment to return to teach, provide a clear pathway.¹

Potential Action Items

- Develop education coursework for students interested in exploring the teaching profession; work with TPPs to offer dual credit (K12)
- Consider partnerships with TPPs to allow students to go through their preparation as a cohort (K12)
- Partner with K12 schools to provide tuition discounts for students who are enrolled in dual credit programs (TPPs)

Considerations & Questions to Ask

- How effective is RCSD's Teaching and Learning Institute at preparing students to become teachers? What data are needed to answer this?
- How can we better recruit students into these programs? How should parents or families be engaged?
- What opportunities can we provide students in middle schools to explore the teaching profession?

Recommendation

1d. Provide paraprofessionals with access to information and resources to become certified to teach

Rationale

Rationale: Paraprofessionals as a group have several advantages over other teacher candidate pools, including that they typically have instructional experience¹ and community roots², and are also more representative of the diversity of Rochester communities³ and already work in key teacher shortage areas.⁴

Potential Action Items

- Offer flexibility for paras to continue their learning and obtain certification while in their current roles (K12)
- Promote existing opportunities to current paras more aggressively (K12)
- Develop financial scholarships specifically targeted to Rochester paras (TPPs)
- Develop pathway programs specific to paras and conduct targeted recruitment in partnership with K12 (TPPs)
- Provide supports to pass the required certification tests (TPPs)

Considerations & Questions

- How many of Rochester's paras already have a BA?
- What barriers do paras face and what opportunities exist to address those barriers?
- How can coursework and tuition be structured to meet the needs of current paras?

¹Ingersoll, R., Merrill, L., & May, H. (2014). What are the effects of teacher education and preparation on beginning teacher attrition?. Research Report (#RR-82). Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania, https://www.cpre.org/sites/default/files/researchreport/2018_prepeffects2014.pdf.

²Ernst-Slavit, G. & Wenger, K.J. (2006). Teaching in the margins: The multifaceted work and struggles of bilingual paraeducators. Anthropology and Education Quarterly, 37 (1), 62-82.

³Seth Gershenson, Cassandra Hart, Constance Lindsay, and Nicholas Papageorge, "The Long-Run Impacts of Same-Race Teachers", IZA discussion paper 10630, 2017.

⁴Education First, 2020, Farash Foundation City-Wide Teacher Pipeline Analysis.

Recommendation

1e. Track Rochester students, alumni and paras interested in teaching to and through college, and recruit them back to teach

Rationale

Rationale: K12 institutions that track their students through college can identify alumni who plan to become teachers, actively recruit them, set up placements for clinical experiences, and ultimately offer positions once they have finished their teacher preparation program.

Potential Action Items

- Establish a point of contact whose responsibility is to identify potential teacher candidates and work with TPPs to monitor their progress (K12)
- Build the data infrastructure to track those interested in teaching throughout preparation (K12, TPPs)
- Enable clinical experience placements in Rochester schools for alumni, and provide support with hiring and placement back into those schools (TPPs)

Considerations & Questions to Ask

- What do we want to know about local K12 alumni pursuing education at regional TPPs? What do we want to do with that information?
- How can we keep these alumni engaged in Rochester schools?
- What is the right role for K12 and TPPs in supporting Rochester K12 alumni through their teacher preparation?

Potential opportunities for partnership in the area of **higher education recruitment** include the following:

K-12 DEVELOPMENT
AND RECRUITMENT

HIGHER EDUCATION
RECRUITMENT

TEACHER
PREPARATION

LICENSURE AND
HIRING

RETENTION

2a. Actively recruit in Rochester K12 schools and the broader Rochester community, and provide support (e.g. guidance, financial incentives) to apply to/attend college

2b. Develop an ideal teacher candidate profile that can inform recruitment and programming

2c. Evaluate student admissions and faculty hiring policies and practices for racial bias

Recommendation

2a. Actively recruit in Rochester K12 schools and the broader Rochester community, and provide support (e.g. guidance, financial incentives, partnerships with local community colleges) to apply to/attend college

Rationale

Rationale: As the data analysis clearly illustrates, Rochester students and paraprofessionals are an extremely diverse talent pool that local TPPs could take better advantage of to diversify their applicant pools. However, these potential teacher candidates tend to face financial and administrative hurdles that can make applying and matriculating to college difficult.

Potential Action Items

- Work strategically with local TPPs to send students, particularly from the TLI program at East High, to local teacher preparation programs (K12)
- Support students transferring from community colleges to four-year institutions (TPPs)
- Develop standardized core classes and articulation agreements across community colleges and public universities (TPPs)
- Access available state scholarships to support candidates of color through their teacher preparation program (TPPs)

Considerations & Questions to Ask

- What could a more formal path from MCC to 4-year colleges look like? How could it look different than what exists now to support more teacher candidates earning their certificate?

Recommendation

2b. Develop an ideal teacher candidate profile that can inform recruitment and programming

Rationale

Rationale: Research indicates that effective teachers possess five key dispositions: empathy, positive view of others, positive view of self, authenticity and meaningful purpose and vision.¹ These dispositions – as well as knowledge and skills critical to teacher success – can be clearly defined to create an ideal teacher candidate profile that informs the recruitment of ideal teacher candidates. Teacher candidates who possess these are important because there is a correlation between dispositions and the quality of student learning.

Potential Action Items

- Actively recruit teachers who possess the [knowledge, skills and dispositions](#) needed to effectively teach Rochester children (K12)
- Strategically recruit and set high standards but with flexibilities to achieve a diverse, quality teacher cohort (K12)
- With K12, define what graduates should know and be able to do when they enter and by the time they complete their TPP (TPPs)
- Develop a selective program focused on recruiting and selecting teacher candidates who meet the ideal profile (TPPs)
- Ask current students and recent graduates to help identify and address areas of need (TPPs)

Considerations & Questions

- How do the knowledge, skills and dispositions teachers need vary by K12 school/district? What can TPPs do with that?
- How can we – in our role and in partnership – develop and maintain teachers who possess these characteristics?

¹International Journal of Education, *Dispositions: Ability and Assessment*,
drive.google.com/file/d/1B3tNwevL6DZRF56GnT5VOZklfNoapr7M/view.

Recommendation

2c. Evaluate student admissions and faculty hiring policies and practices for racial bias

Rationale

Rationale: Strategic recruitment of teachers and teacher candidates on its own is insufficient. Research indicates that applicants of color are less likely than white applicants to receive a job offer or to be admitted into a teacher preparation program even with identical qualifications.¹ In addition to strategic recruitment, systemic racial bias in hiring and admissions also needs to be addressed.

Potential Action Items

- Train recruiters and other hiring staff in implicit bias (K12)
- Implement equitable recruitment and hiring strategies, such as “name blind” recruitment and greater reliance on performance measures (K12)
- Train recruiters and other admissions staff in implicit bias
- Implement equitable recruitment and admission strategies, such as actively and intentionally recruiting candidates of color, supporting GYO programs and prioritizing diversity (TPPs)

Considerations & Questions

- Do we have dedicated and formal recruitment strategies for attracting teachers of color?
- How are we addressing biases in admissions and hiring?

¹ Diana D’Amico, Robert Pawlewicz, Penelope Earley, and Adam McGeehan, “Where Are All the Black Teachers? Discrimination in the Teacher Labor Market,” (Harvard Educational Review, Spring 2017, Vol. 87, No. 1, pp. 26-49).

Some potential opportunities for partnership in the area of **teacher preparation** include the following recommendations:

K-12 DEVELOPMENT
AND RECRUITMENT

HIGHER EDUCATION
RECRUITMENT

TEACHER
PREPARATION

LICENSURE AND
HIRING

RETENTION

3a. Use the clinical experience more strategically as a tool to recruit and select new teachers, and to expose candidates to Rochester classrooms

3b. Hire more faculty of color and incent them to become mentors to teacher candidates of color

3c. Provide advising support to ensure the needs of teacher candidates of color are met

3d. Train all faculty on implicit bias and culturally relevant instruction to ensure that teacher candidates of color feel inspired and supported to succeed

Recommendation

3a. Use the clinical experience more strategically as a tool to recruit and select new teachers, and to expose candidates to Rochester classrooms

Rationale

Rationale: Research indicates a strong clinical experience that offers early and ongoing relevant experiences, with opportunities to learn from expert teachers with feedback, is critical for teacher success and recognized as one of the most important components of a teacher education program.¹

Potential Action Items

- Identify a central point of contact for overseeing clinical experiences (K12)
- Create a centralized system to track student teacher performance and other key indicators (K12)
- Host orientations and webinars with student teachers to ensure they know of the breadth of opportunities to teach in Rochester (K12)
- Use the [student teacher “lookfors”](#) to identify those student teachers best suited for Rochester schools (TPPs)

Considerations & Questions

- How can student teachers receive more practice, ideally a full year?
- How can the clinical experience be used to recruit teachers to hard-to-staff schools and content areas?
- How might K12 and TPPs work together to identify and address K12 recruitment and hiring needs?

Recommendation

3b. Hire more faculty of color and incent them to become mentors to teacher candidates of color

Rationale

Rationale: Teachers of color we spoke with in our *Diverse Perspectives* reported feeling a sense of isolation due to the limited diversity among faculty and candidates. Research shows there is a positive correlation between shared race of students and teachers and student achievement for all students.^{1&2} Active, strategic recruiting along with efforts to ensure teacher candidates of color feel that they belong – such as by diversifying faculty – can help diversify preparation programs.

Potential Action Items

- Revise the application and hiring process for faculty in order to expand opportunities for potential faculty of color (TPPs)
- These include including diversifying and training the hiring committee, re-evaluating minimum requirements, expanding role definitions and including cues of belonging (TPPs)
- Hire more adjunct faculty of color from Rochester K12 schools (TPPs)
- Establish a center or program for teacher diversity to focus on faculty and candidate of color recruitment, hiring and retention (TPPs)

Considerations & Questions

- What root causes contribute to lack of diversity among faculty and how might those be addressed?
- What supports do faculty of color need and how can those be provided?

¹ Diana D'Amico, Robert Pawlewicz, Penelope Earley, and Adam McGeehan, "Where Are All the Black Teachers? Discrimination in the Teacher Labor Market," (Harvard Educational Review, Spring 2017, Vol. 87, No. 1, pp. 26-49).

² Carver-Thomas, D. (2018). *Diversifying the teaching profession: How to recruit and retain teachers of color*. Palo Alto, CA: Learning Policy Institute.

³ [Boyd et al. \(2008\)](#); [Notar et al. \(2009\)](#); [Reininger \(2011\)](#); [Clotfelter et al. \(2007\)](#); [No Time to Lose \(2016\)](#); [Gershonson et al. \(2017\)](#); [Grissom, Rodriguez & Kern \(2017\)](#); [Booker \(2016\)](#); [Makara et al. \(2015\)](#); [Meara \(2017\)](#)



Recommendation

3c. Provide advising support to ensure the needs of teacher candidates of color are met

Rationale

Rationale: In the *Diverse Perspectives* report, we found that support systems like advising are key for teacher candidates of color, especially those from low-income backgrounds and first-generation college students. Candidates shared that resources, guidance and advisement were not always easily accessible for candidates of color and that candidates of color had to consistently advocate for themselves.¹

Potential Action Items

- Offer comprehensive services including counseling, tutoring, academic support, and career services (TPPs)
- Fund mentor stipends to formalize the mentorship role (TPPs)
- Hire a diverse highly-qualified advisory staff (TPPs)
- Lower the adviser-to-student ratio to ensure prompt intervention for students at risk (TPPs)

Considerations & Questions

- What are the barriers to graduation and certification?
- How can TPPs provide targeted support to candidates of color?
- What assets do TPPs currently have that they can build upon?

Recommendation

3d. Train all faculty on implicit bias and culturally relevant instruction to ensure that teacher candidates of color feel inspired and supported to succeed

Rationale

Rationale: Faculty of color and K12 teachers of color are experiencing increased racial, ethnic, linguistic and other forms of diversity among their students. This challenges educators of both teacher candidates and K12 students to meet and be more responsive to the diverse needs of every student –both in teacher preparation programs and in K12. Integrating culturally relevant instruction and anti-bias initiatives is crucial to achieving this vision.¹ Additionally, interest in the teaching profession may increase among K12 students.

Potential Action Items

- Commit to improve the social and racial climate on campus and the cultural competency of academic advisers and faculty members (TPPs)
- Provide faculty with learning opportunities to ensure a welcoming and inclusive environment for teacher candidates of color and faculty of color (TPPs)
- Implement an anti-bias curriculum and integrate additional anti-bias strategies in faculty and teacher candidate activities (TPPs)
- Prepare teacher candidates to be culturally proficient educators (TPPs)

Considerations & Questions

- What feedback loops exist so that TPPs receive regular input from teacher candidates of color?
- What additional supports do faculty of color need to better address implicit bias and to integrate culturally relevant instruction into their courses?
- How can teacher candidates be encouraged to address implicit bias and to implement culturally relevant instruction in their own classrooms after graduation?

¹ [Lin et al. \(2008\)](#)

Potential opportunities for partnership in the area of **hiring** and **placement** include the following:

K-12 DEVELOPMENT
AND RECRUITMENT

HIGHER EDUCATION
RECRUITMENT

TEACHER
PREPARATION

LICENSURE AND
HIRING

RETENTION

4a. Identify more mentor teachers of color to support new teachers of color and teacher candidates of color and provide compensation for their work

4b. Provide additional supports to help teacher candidates of color obtain certification

4c. Reconsider district policies/practices that create disproportionate job insecurity among new teachers, particularly new teachers of color

Recommendation

4a. Identify more mentor teachers of color to support new teachers of color and teacher candidates of color and provide compensation for their work

Rationale

Rationale: Research shows strong mentors have an impact on the effectiveness of teacher candidates; quality mentors demonstrate: 1) strong mentorship skills 2) effective instructional skills¹

Potential Action Items

- RCSD's Career in Teaching program and charter school induction programs should recruit and support more teachers of color to serve as mentors to new teachers (K12)
- Identify and compensate teachers of color in Rochester classrooms to serve as mentors to teacher candidates of color (TPPs)
- Collaborate to identify teachers of color to serve as mentor teachers to teacher candidates during the clinical experience (K12, TPPs)
- Explore various mentor models to identify those that best support teachers and teacher candidates of color. (K12, TPPs)
- Provide structure and release time for mentors and mentees to work together (K12, TPPs)

Considerations & Questions

- What non-monetary incentives will attract teachers of color to serve as mentors?
- How might TPPs and K12 better recruit teachers of color into these roles?
- How can faculty support mentor selection and training?
- How can mentoring training be improved to better support teachers and teacher candidates of color?

¹Southern Regional Education Board (SREB), 2018, *State Policies to Improve Teacher Preparation*, www.sreb.org/sites/main/files/file-attachments/state_policies_to_improve_tp_report_web.pdf.

Recommendation

4b. Provide additional supports to help teacher candidates of color obtain certification

Rationale

Rationale: In the *Diverse Perspectives* report, teacher candidates of color report feeling a lack of support from TPPs in passing certification exams.¹ In some instances, teacher candidates of color did not complete their programs or completed their programs but did not obtain certification.

Potential Action Items

- Identify and provide the supports necessary to ensure every teacher candidate of color completes their teacher preparation program and obtains certification, including tutoring and test prep as needed (TPPs)

Considerations & Questions

- What barriers to program completion and certification do teacher candidates of color and teachers of color face? How can those barriers be addressed?
- What additional supports could be implemented to support teachers of color in obtaining certification?
- How might teachers of color who are not certified be incentivized to seek certification?

Recommendation

4c. Reconsider district policies/practices that create disproportionate job insecurity among new teachers, particularly new teachers of color

Rationale

Rationale: Attempts to diversify the teaching ranks through hiring new teachers of color will be limited if seniority-based layoff policies or centralized hiring and placement practices are in effect.

Potential Action Items

- Support new teachers to seek certification in multiple licensure areas, including those deemed shortage areas (K12)
- As allowable by state law, consider [other factors](#) in determining layoffs in addition to seniority (K12)
- Eliminate forced placement of teachers – allow schools to select teachers for all budgeted vacancies (K12)

Considerations & Questions

- What policy and programmatic flexibilities exist at the district level?
- How have other districts been able to retain new teachers of color during layoffs?
- How have other districts moved away from the forced placement of teachers?

Potential opportunities for partnership in the area of retention include the following:

K-12 DEVELOPMENT
AND RECRUITMENT

HIGHER EDUCATION
RECRUITMENT

TEACHER
PREPARATION

LICENSURE AND
HIRING

RETENTION

5a. Investigate the extent to which the design and/or implementation of teacher evaluation systems is inequitable for teachers of color.

5b. Assess working conditions for teachers, disaggregated by race

Recommendation

5a. Investigate the extent to which the design and/or implementation of teacher evaluation systems is inequitable for teachers of color

Rationale

Rationale: Research indicates that teachers of color – especially Black teachers – are more likely to receive low evaluating ratings than White teachers. As the data analysis suggests, this is also true in Rochester. This could have a significant impact on the racial and ethnic composition of Rochester teachers by influencing how teachers of color and prospective teachers of color perceive fairness and bias in the teaching profession and may thus deter teachers of color from entering or remaining in the field.¹

Potential Action Items

- Conduct equity analyses of evaluation systems, particularly observation components that are implemented school-by-school (K12)
- Take necessary action to address any disproportionate impact on teachers of color (K12)

Considerations & Questions

- How do different subgroups of teachers perform on different components of the evaluation system, including the observation domains?
- What inequities exist and what are their root causes?

Recommendation

5b. Assess working conditions for teachers, disaggregated by race

Rationale

Rationale: A 2014 study by Education Trust and Teach Plus found that teachers of color tend to leave the profession for reasons related to their school culture: feeling undervalued for their contributions to their school community; feeling antagonized as people of color and deprived of agency and autonomy; and a lack of mentorship or support to navigate their school culture or teaching as profession.¹

Potential Action Items

- Identify and implement strategies to improve school culture (K12)
- Track and maintain relationships with students and their school leaders; check in on progress (TPPs)
- Work with K12 to analyze the results of surveys (TPPs)
- Adjust programming as needed based on survey responses (TPPs)

Considerations & Questions

- What do we mean by “working conditions”?
- What surveys exist, within Rochester or nationally? What do these surveys show, and what do K12 schools do with the information?

Potential opportunities for partnership in the area of data include the following:



6a. Build infrastructure needed at the institution level and citywide to enable the systematic collection, analysis, and reporting of teacher pipeline data

6b. Dedicate capacity at the institution level to analyze and respond to the data

6c. Share annual shortage area data with colleges, including future (4-5 years) projected vacancies

DATA

Recommendation

6a. Build infrastructure needed at the institution level and citywide to enable the systematic collection, analysis, and reporting of teacher pipeline data

Rationale

Rationale: Effective teacher preparation partnerships across the country have put in place structures and processes that foster data collection, analysis and sharing; these enable K12 schools and TPPs to align on needs and ensure that teacher candidates are set up for success after graduation.¹

Potential Action Items

- Implement technology that can analyze student behavior data and predict patterns of attrition (K12, TPPs)
- Identify data components to share with partners (K12, TPPs)
- Reflect on data internally and with partners (K12, TPPs)
- Use data to drive program changes (K12, TPPs)

Considerations & Questions

- What barriers might exist to data-sharing (e.g. restrictive policies around data-sharing and privacy) and how might those be addressed to enable deeper data-sharing?
- What data should be regularly collected, shared and discussed with partners?

DATA

Recommendation

6b. Dedicate capacity at the institution level to analyze and respond to the data

Rationale

Rationale: Teacher preparation programs across the country are focused on expanding their capacity to use data for continuous program improvements. Engaging stakeholders, using multiple sources of data, developing formal processes and establishing routines that encourage the regular use of data are some methods of using data for continuous improvement.¹

Potential Action Items

- Engage a diversity of stakeholders in the data collection process, particularly those most affected by decision-making (such as teachers or candidates) (K12, TPPs)
- Establish formal processes and routines that encourage the consistent and regular use of data (K12, TPPs)
- Hire staff dedicated to data collection, analysis and data-inspired decision-making (K12, TPPs)

Considerations & Questions

- What vision does the institution have for data-inspired decision-making?
- What commitment does the institution have to using data for continuous improvement?
- What data gaps and capacity needs currently exist at the institutional level?
- What data should be collected?

DATA

Recommendation

6c. Share annual shortage area data with colleges, including future (4-5 years) projected vacancies

Rationale

Rationale: Effective teacher preparation partnerships take the time to understand partners' talent pipeline needs and how they might address these needs together.¹ As the data indicates, there is a gap between the demand and supply of teachers in key content areas in Rochester. When K12 shares annual shortage data with TPPs, programs can identify and take steps to improving and increasing the preparation of teacher candidates specifically for these high-need content areas.

Potential Action Items



- Assume responsibility for collecting and analyzing data on teacher shortages and commit to capturing this data in a consistent, high-quality way (K12)
- Create data-sharing agreements, such as MOUs, with partners and revisit, as appropriate (K12, TPPs)
- Organize teacher shortage data into accessible reports for teacher preparation program partners (K12)
- Develop feedback loops to identify areas for improvement in data collection and sharing (K12, TPPs)

Considerations & Questions


- What data should be collected?
- How can K12 and TPPs get clear on each others' needs?
- What expectations should be set between partners for how they'll work together?

Appendix

We were able to collect the following data for the teacher pipeline analysis

	 Data Received	 Unavailable Data
Rochester City School District	<ul style="list-style-type: none"> Disaggregated data (of varying completeness) on RCSD teachers (2018-2020), including demographics, preparation (program, degree), years of experience in RCSD, placement and effectiveness Teacher shortage areas (number of total vacancies overall, by subject) Disaggregated data (of varying completeness) on paraprofessionals (2018-2020), including demographics, years of experience, and education High-level hiring data, including counts of total applicants, offers made, offers accepted, and – and 5-year retention 	<ul style="list-style-type: none"> Teacher shortage areas (by grade level and school level) Data on paraprofessionals (school level, grade level, subject areas) Disaggregated hiring data, including demographics for applicants and offers made School building-level data
Rochester Charter Schools	<ul style="list-style-type: none"> Data from 3 out of 6 charters, including (to varying degrees) demographics, preparation (program, degree), placement, years of experience, effectiveness, reason for leaving Teacher shortage areas from 3 out of 6 charters, including (to varying degrees) number of total vacancies by subject and school level Disaggregated data (of varying completeness) on paraprofessionals (2018-2020) from two charters, including demographics, education, and years of experience 	<ul style="list-style-type: none"> Teacher effectiveness data Teacher shortage data from all but two charters Data on paraprofessionals from all but two charters Hiring data from all but one charter
Teacher Preparation Programs	<ul style="list-style-type: none"> Data received from 4 out of 7 TPPs, including (to various degrees) candidate demographic data, program and degree completed Recruitment data from 2 out of 7 TPPs including demographics, degree and admission decision Clinical experience data (of varying completeness) from 3 out of 7 TPPs 	<ul style="list-style-type: none"> No data from 3 of 7 TPPs Effectiveness data Years teaching data Clinical experience data from 4 out of 7 TPPs

With the help of RCSD and some charters and TPPs, we were able to answer many of our research questions, including...

Sector	 Research Questions
RCSD	<ul style="list-style-type: none"> • Where do RCSD's teachers receive their teacher training (undergraduate, graduate)? • What are RCSD's teachers certified to teach? • How many new teachers does RCSD hire each year? Where are they trained? • What are the demographics of RCSD's teachers (e.g., sex, race/ethnicity)? • How does teacher race/ethnicity compare to student race/ethnicity? • How many paraprofessionals and TAs does RCSD employ? • How many applicants does RCSD receive for teaching positions? How many are offered a position? How many accept?
Charters	<p>[some]</p> <ul style="list-style-type: none"> • Where do charter teachers receive their teacher training (undergraduate, graduate)? • What are charter teachers certified to teach? • How many years of experience do current teachers in the city of Rochester have? • How many new teachers do Rochester charter schools hire each year? Where are they trained? • What percentage of teachers are male vs. female in the city of Rochester? • What are the demographics of Rochester charter school teachers (e.g., sex, race/ethnicity)? • How does teacher race/ethnicity compare to student race/ethnicity?
TPPs	<p>[some]</p> <ul style="list-style-type: none"> • What is the current breakdown of candidates by institution, demographics and licensure type? • What is the breakdown of applicants by institution and demographics? • Where do candidates complete their clinical experience by institution?

...but we were also unable to answer many given the constraints around and unavailability of some data

Sector	— Outstanding Research Questions
RCSD	<ul style="list-style-type: none"> • How many unfilled teaching positions were there in the last 2 years by school level? • How many paraprofessionals are employed by school level and subject area? • Which schools have the most unfilled teaching positions? Why these schools? • What is the share of applicants who are teachers of color? What proportion of applicants of color receive an offer?
Charters	<ul style="list-style-type: none"> • How many teachers does the charter sector employ? In which school levels, grade levels and subject areas? • What are the trends in teacher demographics? <i>We can do this for the three charters but not for the charter sector as a whole</i> • On average, how effective are charter school teachers? • What are trends in teacher retention rates overall and by subgroup? • How many unfilled teaching positions were there in the last 2 years? <i>We can do this for the two charters but not for the charter sector as a whole</i> • How many paraprofessionals are employed in the charter sector by school level, grade level and subject area? <i>(Note: Some charter schools do not employ paraprofessionals)</i>
TPPs	<ul style="list-style-type: none"> • What proportion of local teacher preparation graduates go on to work in the city of Rochester? <i>We have very limited data for three TPPs</i> • How do programs track graduate performance and what has performance looked like? • What is the current breakdown of candidates by institution, demographics and licensure type? <i>We can only do this for three TPPs but not for TPPs as a whole</i> • What is the breakdown of applicants by institution and demographics? <i>We can only do this for three TPPs but not for TPPs as a whole</i> • Where do candidates complete their clinical experience by institution? <i>We can only do this for three TPPs but not for TPPs as a whole</i>