Introduction to the cases

The case presented here is drawn from a larger national study investigating the 5-year science teacher retention rates in four U.S. states (New Jersey, North Carolina, Pennsylvania, and Wisconsin). This study has two distinct phases. In the first phase, researchers used publicly available staffing data from 2007-2018 to construct a 5-year retention map for six cohorts of novice science teachers in each state. This approach differs from sample-based retention studies because full data permits our team to map the career trajectories of each individual science teacher for a more comprehensive picture of teacher retention, mobility, and attrition. For example, in sample-based studies, the departure of a teacher at the end of one year might simply be categorized as attrition. In viewing a 6-year trajectory, we were better able to identify teachers who left a position in a given year not simply as attritted, but possibly as having transferred to a different district (mobility) or taken a year off and then returned (such as for parental leave.)

After analyzing individual teachers’ career trajectories, we calculated the 5-year retention rate of newly hired science teachers in each cohort for the years 2007-2012 for each school district. This analysis informed the second phase of the research, in which five districts per state were identified for a more detailed case study on the factors influencing science teacher retention. Districts were sorted initially for higher-than-average rates of retention, and we focused on those in the top 10% in the state. We then attempted to diversify our selection of districts by looking at factors such as school size, location within each state, type of community (urban, rural, suburban,) and relative wealth of the district. We also looked for districts that had hired (and retained) teachers of color and teachers whose teacher education programs had been funded by the National Science Foundation’s Noyce Teacher Scholarship Program, which was created to meet the need for well-prepared STEM teachers in the United States.

The district described here was one of those selected in the state of North Carolina, and a separate NC state teacher policy case study covering the time period of this study is available on the project website. The district name is presented as a pseudonym for purposes of confidentiality. The names and position titles are similarly obscured in this case, and also in the larger study, in order to preserve internal confidentiality as well.

For further information about the study, please visit: http://www.montclair.edu/IMPREST

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Introduction

Nestled in the foothills of the Appalachian Range in North Carolina, the Egret County Public School District has over one hundred schools and is located in one of the more populated areas of North Carolina. Like many counties in this region of the state, Egret is composed of a mix of cities and towns, suburbs, and rural areas. The largest municipality, which serves as the county seat, is the site of multiple universities and a thriving manufacturing and service industry base. The wider area serves as a destination for sports and recreational tourism. Significant events in both the Revolutionary War and the Civil Rights Movement occurred in and around Egret County. As we will show in this case study, there appears to be a direct through-line between the activism for justice that took place locally in the 1950s and 1960s and the ways in which contemporary educators in Egret County Public Schools we interviewed conceived of and enacted their work.

The Egret County Public School district serves over 50,000 students and employs over 4,000 classroom teachers. There are about a dozen large comprehensive high schools in the district, as well as a number of smaller academies and magnet schools. A number of these offer “early college” programs (Berger et al., 2010) in partnership with higher education institutions to provide students with both a high school diploma and two-years of college credits that can be used for a two-year degree or transfer to a four-year university.

The 2020 U.S. Census reports that about half of the county’s population identifies as White, and another third as Black. This demographic profile is largely reflected in the district enrollment data. Nearly all of the district’s high schools have a majority of non-White students. About 15% of the population in Egret County district lives below the poverty line, and nearly 50% of students in Egret County Public Schools are eligible to receive free or reduced-price lunch. Schools throughout much of North Carolina were officially racially segregated through the mid-20th century, and in the decades after the Brown v. Board of Education decision, many—but not all—of the schools serving Black students closed as a consequence of integration (Foster, 1997; Peters, 2019). The schools in Egret have varying degrees of racial integration, likely reflecting residential patterns (Jackson, 1985; Rothstein, 2017), with its largest high school enrolling about 75% of students who identify as White, while other large district high schools have over 95% enrollment of students who identify as Black. It is worth noting that the largest high school where the majority of students are White is twice as large as any other large high school where the majority of students identify as Black. One school in this latter category was founded in the late 1920s as the first Black high school in Egret County, and has remained a central hub for community activism around issues of education and justice from its founding through the present day.

In North Carolina, school districts are permitted to offer a “salary supplement” on top of the state-mandated salary guide in order to attract and retain teachers. Egret County Public Schools offered a salary supplement just under $5,000 per year between 2007 and 2018, though
the amount during the period of our data collection in Spring 2022 was nearer to $7,000 per year. Additionally, Egret offered a $10,000 signing bonus to teachers who made a teaching commitment of at least two years in a priority school, or to teaching math or science in any middle or high school. Teachers with ten years of experience or more also received an annual longevity pay bonus at the end of the year.

Egret County Public Schools was selected for this study because it was in the top 10% of districts in North Carolina for its five-year retention rate among novice science teachers in the state. Egret retained 28 first-year science teachers hired between 2007 and 2012 for a period of at least five years, 12 of whom were identified as teachers of color. No other district in the state came close to this rate of retaining novice science teachers of color, and even much larger districts did not retain more novice science teachers of color than Egret did during this study period. A total of 13 interviews were conducted with administrators and teachers, including the district science supervisor and new teacher coordinator. Though some interviews with district leadership were conducted remotely via Zoom, most of the teacher interviews were conducted in person during the spring of 2022. The primary goal of the site visit was to better understand the factors that may have influenced teacher retention during the focus period of the study, as well as to investigate current practices around the mentoring and induction of new science teachers.

**Findings**

As a result of this site visit and subsequent data analysis, we posit four factors that likely influenced the high science teacher retention rate observed in the Egret County School District. These are: (1) A culture of teacher support, (2) teacher agency at school and classroom levels, (3) a clear commitment to children of color, and (4) prospects for advancement and compensation.

**Factor #1: A Culture of Teacher Support**

In our interviews with teachers and administrators in Egret County Public Schools, one of the strongest consistent themes was the district’s culture of teacher support. One administrator, who had previously been a science teacher in the same building where she was the principal at the time of the study, drew on her own experiences to describe her approach to supporting new teachers. She remembered how her own struggles as a parent and a full-time teacher were recognized by her administrator, who responded to her needs by saying “We will figure out how to cover your class. Listen, your kid comes first. You only get one time.” She recognized that such support acknowledged the importance of her personal life, which was the key to her own success and growth as a professional:

> It's just having that person that's there to hold your hand along the journey where you don't feel like you're at a new school, you're just in a building, you're just a person. You feel like I have people that genuinely care about my personal life but also my success as a teacher to keep growing.
Offering representation at the administrative level and hiring leadership that understands the needs of the community has been shown to be important in schools where the majority of the population of students are children of color (Kirmaci et al., 2021). Teachers of color in Egret County Public Schools who were interviewed for this study commented frequently that equity support in their career was crucial to their retention (see factor #3 below). A retained teacher observed that his school’s leadership team was consistent and equitable in its implementation of teacher support in school. He noted that such support attracts teachers of color to the district because it “gives a sense of caring.” This retained teacher connected the district’s teacher support with his first-year experience:

They provided content support, and then there's also social emotional support. And I want to say content support. I can look up a lesson, but you can't look up how to manage. Well, you can, right? But when you're a first-year teacher, you're not thinking about doing personal development. You're thinking about, "I'm trying to survive." I guess maybe it's a top-down thing where you feel supported, and so you're able to work with your colleagues and support them. Those things I think keep the science teachers here.

Teachers in Egret also reported having adequate supplies and material for teaching. Two novice teachers noted they had no issues with obtaining classroom materials, and they did not need to purchase supplies for their lessons out of their own personal funds. This stands in contrast to national data that shows public school teachers regularly spend over $400 per year out-of-pocket to purchase supplies and classroom materials for their students (Ingersoll & Collins, 2017). One school administrator described how he arranged the distribution of materials, “At the beginning of the school year, we give out a document that has all the supplies up there and teachers can literally check off what they need.”

Classroom space was seen as an extension of this material support, and one administrator noted the district aim to provide high school teachers with their own classroom:

[Teachers]They have their own classrooms. The only teachers that don't have their own classrooms are some of our EC teachers, our inclusion classes. They pair with another teachers, but yes, they do have their own classrooms here. It's not the case for many districts. It's quite rare for a teacher to have that. I mean, in first grade, second grade, yeah. But for high school it's very unusual, at least in the schools that we've talked to. So again, we think about these environmental settings, you know, if somebody has a space to call their own. But if somebody's on a cart moving, my first year I was moving between four different classrooms, teaching four different science classes, four different subjects. Like that made it harder to stay because I didn't have that space that was mine.

Given the well-documented finding that multiple room assignments may be a factor in novice science teacher attrition (e.g. Donney, 2013), this commitment to giving teachers their own
classroom seems a key element of teacher support in Egret.

**Factor #2: Teacher agency at school and classroom levels**

Multiple Egret teachers stated they remained in the Egret County Public Schools because they have a voice in how the school and their classrooms are run. Ingersoll and Collins (2017) noted that higher teacher autonomy is correlated with lower teacher attrition, and the teachers we interviewed in Egret provided ample illustrations of this autonomy.²

A retained teacher mentioned that though his school administration had changed over the past years, there was still a sense of freedom among the department in terms of their teaching. Egret administrators interviewed for this study stated they trusted teachers as professionals to lead the way in curriculum, professional development, and enacting school norms. One teacher mentioned that when his new science supervisor and principal did not understand how the science teachers handled their department and curriculum, they responded, “Okay, we don't understand it, but we'll just let you do this.” He also explained that in his school, administrators avoided any terminology that communicated a “you have to do it this way” message:

> You can tell in our meetings, it's very much like, “This is what I'm going to speak on,” people have no problem talking loudly, it could be the smallest person they're like, “This, da, da, da,” that's the kind of environment that it has sort of like corporate almost, and it's not like we're just all quiet and scared to say anything, we're all leaders in the building.

Teacher agency in U.S. schools is often constrained when teachers are forced to implement mandated curriculum and policies created without their input (Sloan, 2006). A retained teacher at Egret County district explained that he remained in the district because the school climate made him feel heard and valued as a professional and his department contributed to that empowerment by being “super close.”

> I have personal values that I bring. I did feel supported, and it was a lot of conversation and communication, and collaboration between teams [administration and science department]. Teachers got to feel like they have a voice. If I'm talking to you and you are the assistant principal, or you are the department head, and I feel like I just talked over your head because you just told me exactly what you want to do again. I'm like, “Okay, do that one more time and I'm walking out the door.”

One novice teacher provided an example of their agency by recounting the time when he wanted his students to have a college-level experience in his physics class. He commented that the science department and science supervisor supported his idea of taking his class to a college campus to expose students to what science learning was like there. He cited this as an example of

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² *Agency* typically refers to the capacity to act effectively toward one’s aims, while *autonomy* is often used in a broader sense of self-governance. For the purposes of this study, we use the two terms interchangeably.
the district’s ability to act quickly in support of teachers, something that he said motivated him to remain in the district. He mentioned that creating lessons for science was challenging, but with the freedom to design his own lessons, he started to incorporate some of the college curriculum into the classroom.

I still talk to all my professors at [nearby HBCU]. Say there's some type of science tool I want them [students] to see, and I'll go talk to the professor, and a lot of times he'll be like, “Okay, well, you can borrow it, and just bring it back.” Also, I can call my professors at [nearby HBCU] and say, “Hey, I'm bringing my students to the physics department, can you set up some[time]?” And they are willing to accommodate that.

The teachers we interviewed in Egret—many of whom were teachers of color—stated that they have input in their career as professionals, that made them feel like they are making the difference in the classroom. This finding stands in contrast to other findings in the literature that describe the ways in which teachers of color are often subjected to administrative policies that result in limitations on autonomy, particularly with respect to teaching and designing lessons (Dixon, 2019, Varelas et al., 2022). Having a voice is what made Egret’s science teachers feel valued and trusted as professionals:

Teaching is part of my value, but I have other things that I bring to the table. And if I feel like I'm bringing it to the table and it's not going anywhere, then I have to pick my stuff up and leave because I can't lose all my value here. If you're evaluating what's really happening is the teacher loses their voice and they lose their value over time. And once they get to a certain point, most of them are going to say, "I can't do this no more." And that's when they either leave or find another job or whatever.

Another teacher stated that having a respected voice in her workplace was the main factor for her retention. She mentioned how the district made her feel that way by being part of district-level interviews for candidates who would be her future colleagues and leaders, empowering her decision-making and her input as a professional. Interviewed administrators emphasized their efforts to build self-efficacy among teachers by nurturing their new ideas and acknowledging their voices. One administrator mentioned how giving input to teachers in their school resulted in hard-working teachers who go above and beyond for their students through developing curriculum and organizing workshops:

[District STEM Director] has tapped, empowered, trained and grown, the capacity through us of teacher leadership. And so, she now has empowered teachers to take that role as leaders in professional development and curriculum development and curriculum writing. We still supervise the efforts with them, but they are the [right] people, because
who better to know what the classroom should need them, those who are in the classroom.

It was evident in our interviews with Egret teachers that their sense of autonomy not only impacted their decisions to remain in the district but created a workplace environment where teachers felt heard and trusted because their ideas were welcomed, which also helped to nurture relationships and connections throughout their schools.

**Factor #3: A clear commitment to children of color**

All teachers in Egret Public Schools work in a school system and community that has a great deal of racial and socioeconomic diversity. Yet for the teachers of color we interviewed, it was evident that the district’s commitment to the education of children of color was a strong factor in their retention. Griffin et al. (2022) noted that in many districts, Black teachers find themselves working in a system in misalignment with their values. However, Egret teachers we interviewed noted that the district’s tendency to undertake big initiatives and progressive ideas around issues of equity and social justice was very much in alignment with their commitment to provide the best quality of education for their students.

Teachers described the district as having an inclusive climate focused on equity. One novice teacher stated that she was initially attracted to the district because she wanted to teach students of color, and she remained because she wanted to continue providing a quality education for students of color.

I'd say for myself, the main reason I'm here is the community. That's what even kept me at the school that I was in my first year, was being loyal to those students [children of color] and making sure that I didn't leave them. It might have gotten tough at times, and they're skeptical of me because they're looking at me like, "Who are you?" But I knew that by staying here, I was giving them some consistency, and that was important.

One administrator explained how the leadership team has “done what it has to” in the interest of children. She connected the district's commitment to students of color as a legacy of the civil rights movement, and noted that district initiatives relating to diversity and equity in the school district reflected and honored that effort:

[Egret County] is the home of the city and movement that swept the nation. The students that went to this school, my father and three other individuals sat at the lunch counter and refused to leave until they were served and began a sit-in movement all over the southeast and then it moved throughout the United States at historical black colleges and universities.
Egret teachers stated their school made a great effort in keeping teachers of color in a community where the majority of students are of color. This included hiring teachers of color from the community, keeping a flexible curriculum that adjusts to the needs of the community, and internally hiring leadership and administrators that understood the struggles of the community. One retained teacher discussed how these efforts were expressed in hiring committees:

They're big on how you make things equitable, because they want everybody to be successful. There's a big difference between equality and equity, and they really are pushing that… They want people who already have a social justice mindset. We all have our implicit bias, but just who already have the mindset of helping everybody versus just a few people.

One retained teacher stated the importance of having a diverse community to come back to teaching. He stated how in his teaching journey he was looking for people that understood his struggles, not only students, but colleagues and administrators.

The core to diversity is different, but here's the catch here. I feel supported here and I feel like the teacher collaboration is strong, okay? So that makes me feel like, “Okay. I made the right decision to come back.” Because at first, I was worried that when I first came back that the atmosphere wasn't conducive for me. I think the first thing you get to feel like is the people who you come back to are welcoming. They accept you as a part of their structure or what you're going to do. I immediately felt that when I came here. I was a part of the structure, not just another person that came to work, but I was structurally a part of what they were trying to do. So, I felt that was key.

**Factor #4: Prospects for advancement and compensation**

A number of Egret County teachers made note of the career trajectories of former colleagues who became part of the leadership team in the district. In our interviews, teachers mentioned that their retention was heavily influenced by the advancement opportunities that came from the district. One novice teacher noted the district’s clear support for funding teachers’ career advancement efforts:

For me, I think the opportunity from the district that are given to teachers, if you want to move, or if you want to get that Ph.D. program, so the district did a wonderful job, a partnership with the [local large research university & local HBCU], so if you are willing to get a Ph.D. program to be some kind of administrator, that was, I think, the biggest [reason why teachers stay]

Many teachers spoke highly about having clear prospects for advancement in the district.
as a factor for remaining in Egret. The literature on teacher development notes that opportunities for teacher career development are often determined by the coordination, collaboration and cooperation of colleagues, administrators, and other school staff (Hansol, LeTendre, Soo-yong, & Schussler, 2022), and in Egret, this attention to career development for teachers was quite evident. One former teacher, now an administrator, stated that her current “dream job” in working with new teachers in the district occurred as a result of having an opportunity to return as the district created new positions.

I was in [Egret] county as a high school English teacher and served as a curriculum facilitator here before I left to [another school district] where I was the director of their secondary English language arts program for a couple of years. When I was the curriculum facilitator, I became really interested in working with new teachers and so it was kind of a dream to come back [to Egret] to go for it and work with new teachers. I’ve been here in this role for four years and will continue.

Relatedly, Egret County offered teachers the opportunity to be leaders outside of their classroom by writing school curriculum, leading professional development workshops, and organizing school events. While such practices may be commonplace across school districts in the United States, in Egret they appeared to be particularly valued. One administrator connected the compensation of such activities to this perception of their value:

Everyone loves praise and congratulatory remarks, and everyone loves fiscal or financial compensation, and one of the things that I can say that the school district has done in the last I’d say five to six years is for hard-working teachers who have written curriculum, hard-working teachers who have become teacher leaders and lead their peers in professional development under our supervision is that they have compensated them. And I think that is a big plus.

A teacher serving in the mentoring coordinator role in his school explained how he had created leadership opportunities for mentors, which made teachers feel appreciated and fostered a reciprocation of that support. “Mentors would be like, ‘I want to do this topic.’ And so, they would do the professional development.”

**Mentoring and Induction**

The Beginning Teachers (BT) Program is a three-year program in Egret that offers mentoring for new teachers and other school staff. First-year teachers in Egret County receive a paid mentor through the district’s BT Program if they have less than 6 months of previous teaching experience. The payment is fifty dollars a month to any mentor serving one novice teacher and up to a hundred dollars a month if they serve two or more. The BT Program grants a paid mentor to second year teachers if they qualified for one during their first year. While the BT
THE CASE OF EGRET (#NC01)

Program is nominally for novice teachers, in practice Egret County offers mentoring and coaching to everyone.

The district requires mentors to have four years of teaching experience and a minimum of 24 hours of mentor training. Egret County Public Schools puts the mentor assignments in the hands of principals, who aim to find a good subject area and grade level match for each novice teacher. Some of the mentor duty requirements in Egret County vary according to the level of teacher experience. First-year teachers are required to meet with their mentor once per week for a minimum of 20 minutes, second-year teachers have a minimum of two meetings per month, and third-year teachers are required to have a minimum of one meeting per month.

The demographics of the workforce lead to an outcome that is somewhat unique in our study, in that most of the novice science teachers of color in the district are being mentored by other teachers of color. That is comprised primarily of teachers of color force in the also brings an equity element that makes Egret County unique for its mentoring quality, in this case, having coaches of color mentoring teachers of color. One mentor spoke about his cultural connections with their mentees, and the importance of building a “safe space,” which involved attending to their professional, personal, and emotional needs:

I don't know if it's a science thing, but yeah. We like to nurture different things. If somebody has a problem, come to my classroom. They come to my classroom all the time. It's like, "I just think they'll talk" And like, "Okay. What's going on?" And then I think we create a safe space for one another. So if you cry, grown men cry in my office, it's okay. I cry in front of them. It's okay. For the students, we want to create a safe space that we all can grow together.

In our school visit, mentoring was cited as an important part of community building and support. Although mentoring appeared to influence the retention of teachers, some administrators referred to the mentoring as their reason for continuing in the educational field. These administrators coached novice teachers and experienced teachers by sharing curriculum, giving quality feedback, and offering positive examinations. One teacher described how the nurturing culture of informal mentoring provided a healthy environment for teachers and students.

I think a key to teacher retention is good mentorship. That's like one of the best things. And it doesn't always have to be somebody assigned or who's inside your content practice. Just somebody who understands pedagogy and still remembers what it's like to be a first year, second year, third year teacher. So just knowing that somebody's there, they actually care about you as an individual versus you being somebody to produce a product is probably one of the biggest things.

One of the most meaningful outcomes considered by teachers as a result of mentoring was the personal development and social community building. Interviewed teachers commented
that collegiality and community resulted from mentoring, and it held greater value as one of their reasons to continue teaching in the district. One novice science teacher expressed her appreciation for the support through mentorship she had received:

[The science teacher who coordinated the Beginning Teacher Program] has helped me tremendously. [Administrator] was my mentor before she stepped into the admin position. It was her classroom that I took, so she has helped me tremendously. Even though she's an admin, she still comes in and helps me. So, although they are not officially my mentors, they help carry me. They show me, “Okay, here's what we do for this. Here's what we do for that.” We've got Canvas pages set up that have all the activities and things from their prior semesters and stuff. We've dumped everything in a common folder that we have shared resources for all of us that we can go in and draw from. So, we've built an awesome network for the teachers to pull from.

In addition to in-house mentors and informal mentoring, the district pays induction coaches as needed to help teachers with lesson plans, activities, and curriculum modifications. They are assigned to different schools to support new teachers with classroom management, lesson planning, and the collection and use of student data. An administrator explained how helpful it was to have someone outside of their school to observe with a non-evaluative purpose when she was teaching:

A central office-based person that was exclusively yours at your disposal there to support you to coach to provide feedback, not to evaluate you not for evaluation purposes or evaluative purposes, but for support purposes that was big and people love that. We might have someone paired with a mentor at the school, but then we have what's called a buddy teacher, this is more informal. We help teachers find a buddy teacher at another school that might teach the same content area so they can get some support from someone teaching the same thing they're teaching.

Many teachers we interviewed noted that induction coaches served as a support system for teacher retention because they formed a cohesive communication between their mentees and the administration team regarding expectations and goals.

We had an in-house coach then we had an outside coach, and they were in heavy communication with the administration. I will say that our in-house coach was a part of our professional learning community. I think that helped to light up the chain whenever he obtained down the chain everybody kind of knew like this is the expectation at this level, this level this level that that helped

Summary
The Egret County school district was able to retain 28 first-year science teachers hired between 2007 and 2012 for a period of at least five years, 12 of whom were identified as teachers of color, making it the district with the highest rate of retention of science teachers of color in the state. During this case study, there were four factors that likely contributed to the retention of science teachers in the Egret County public school district. The first factor that made teachers remain in the district was the culture of teacher support. This included emotional, material, professional, and personal support. The second factor involved teacher autonomy at school and classroom levels. The third factor was a the district’s clear commitment to children of color through its promotion of equity-based practices and community connections. Finally, teachers’ prospects for advancement and opportunity with district support was cited as a factor by teachers in their retention in Egret County Public Schools.

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THE CASE OF EGRET (#NC01)


