

## The Case of Chestnut School District (#NJ03)

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### 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).<sup>1</sup> 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 permitted 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 attrited, 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 New Jersey, and a separate NJ 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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Chestnut Township is a suburban municipality that sits astride multiple transportation corridors in a densely-populated area of the state. Land within the township is dominated by an expanse of residential neighborhoods, with a mix of owner-occupied single-family homes, condominiums, and rental units. As part of a larger metropolitan region, the township serves as a hub of commercial activity and is the site of numerous corporate headquarters, shopping centers, and office complexes.

With one of the larger K-12 student populations in the state, the Chestnut Public School District has over 1500 employees and serves over 10,000 students in approximately 20 schools. The district's two main high schools, Chestnut Heights and Chestnut Plains, are situated on opposite ends of the township a few miles apart. The district also operates an alternative high school program that serves a very small number of students. Chestnut Plains High School was built in the post-World War II period, and was initially the district's only high school. Due to subsequent rapid population growth, Chestnut Heights High School was constructed in the late 1960s to accommodate many more students. At the time of our site visit to each school in March 2020, the student population of Chestnut Heights was approximately double that of Chestnut Plains.

Chestnut's population is both whiter and wealthier than the county average, yet it is also more demographically diverse than its neighbors.<sup>2</sup> The Chestnut Heights side of the township borders a number of smaller boroughs with high property values and primarily White populations, while Chestnut Plains is adjacent to a number of municipalities with less wealth and fewer White residents. Chestnut Plains qualifies as a Title I school, but Chestnut Heights does not. Currently, 18% of the district's students are eligible for free or reduced-price lunch. Students may elect to attend either high school regardless of where they reside in the township, therefore the student diversity of the two schools is a more muted reflection of the steeper demographic gradient found in residential housing patterns. The district as a whole aims to provide parity between the two high schools, so that each offers students the same educational opportunities as the other.

In the 2012 school year, the high schools moved to a six-day rotating schedule, which the school referred to as *cycles*. In each cycle, classes meet a total of 4 times in a 6-day rotation. While most subjects were allotted three 52 minute periods and one 80 minute period each cycle, science classes were scheduled one 104-minute class, two 52-minute classes, and one 80-minute class each cycle in order to accommodate laboratory activities, essentially giving them an extra 52 minutes each cycle compared with other subjects.

The Chestnut School District was selected for this study because it was able to retain 12 first-year science teachers hired between 2007 and 2012 for a period of at least five years. As a percentage of novice teachers who were hired, this placed Chestnut within the top 10% of districts in New Jersey for its five-year retention rate, which was the first criterion of selection in

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<sup>2</sup> In New Jersey, a district factor group (DFG) is a state-determined designation that allows for districts with relatively similar socioeconomic indicators to be compared with one another. This terminology is unique to New Jersey and was originally created for the resolution of school finance litigation (Education Law Center, 2020) and is still in common use today as a shorthand way to characterize the socioeconomic differences between school districts in the state. The DFG designation "A" has the lowest household incomes and tax base, through increasing socioeconomic levels "B," "CD," "DE," "FG," "GH," with district "I" as the highest. Chestnut is in the "GH" district factor group.

our study. Given the larger aim of the study to better understand the varying contexts in which new science teachers work in the state, Chestnut had a number of other characteristics that influenced its selection. Chestnut had retained more than one novice science teacher of color during the study period, another focus of our research. Both in its geographic location and as a large district with a high number of retained novice teachers, it provided a contrast to the other districts in the study.

Interviews were conducted through an in-person site visit, which occurred just prior to the state closing school buildings due to the COVID-19 pandemic. The research team interviewed 34 individuals from the Chestnut Public School District, which included two administrators, three novice science teachers, and 29 retained science teachers. District administrators were interviewed individually, and teachers met with researchers either individually or in focus groups depending on their schedules. The primary goal of the site visit was to better understand the factors that may have influenced teacher retention during the focus period (2007-2018) and also to investigate current practices around the mentoring and induction of new science teachers. The morning was spent at Chestnut Heights and the afternoon at Chestnut Plains to be sure that teachers at both comprehensive high schools were able to participate in the interviews. Teachers from the Alternative High School were not interviewed. All interviews were recorded and transcribed, and each was analyzed using NVIVO12 software. The four researchers collaborated on constructing the narrative of the case.

## **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 Chestnut Public School District. These are (1) a collegial network of support, (2) identity as a member in a large department of “top notch” science professionals, (3) compensation, benefits, and an active teachers’ union, and (4) teachers’ perceptions of Chestnut as a stable and secure district in a supportive community.

### **Factor #1: A Collegial Network of Support**

Almost all of the teachers interviewed mentioned colleagues as the main reason they stayed. The people in the science department were described as “cooperative,” “collaborative,” “supportive,” “amazing,” “super high-quality,” and “phenomenal.” Many of the retained teachers reflected on the support they received when they were new to the district. Often, this support did not come from an official mentor, but from other informal mentors within the science department. Science teachers spoke both about being taken under someone’s wing, and subsequently taking new teachers under their own.

At the time of the site visit, the team was left with the impression that USB drives were the primary method for sharing teaching materials. Lesson plans, curricula, and other resources were routinely shared across the science department among new and experienced teachers alike, “with answer keys and everything!” as one novice noted. Beyond the sharing of materials, the assistance that teachers in the district regularly offered one another served to produce a collegial network of support:

We're really supportive of each other when new people come in. But I think that's just kind of the culture that was built. When I started, the other physics teacher was very helpful. She just gave me everything. And then I found out later that there are some

school districts where teachers hoard their stuff and they don't share it and I was baffled, like totally baffled.

One teacher reported that this network of support began at the moment of hiring:

Before I even walked in the door as a teacher, that summer before I started, I came in over the summer and they met with me, and helped me, and showed me the ropes, and showed me around, and gave me files, and I've never forgotten that. Those people are still in my life, and still helpful to me to this day.

Reports of this type of support were widespread among those interviewed. Teachers in the Chestnut district reported that their colleagues had not only shared lesson plans and materials, but had demonstrated how to set up labs and meet the day-to-day challenges of teaching, which often entailed learning context-specific “minutiae of teaching” from both their assigned and informal mentors in the department:

It was really so many little questions like where do I go to get copies made? Where are our mailboxes? What part of the building is this in? I got an email from this person, but who is that? I don't know if I should answer face to face because what I need to respond is like 15 paragraphs long, so can you just help me find them? Just finding people, finding supplies ... Where's the chemical room? Where am I going to get graduated cylinders or beakers or stuff like that? Those were just the day to day questions, just physical resources ... Where am I going to get all this stuff? That's what she helped me out the most with.

This support was described to us as spanning beyond the boundaries of the job. As one teacher reported, the teachers at Chestnut “take care of each other personally as well as professionally.” A teacher at Chestnut Heights noted, “I know that if something happens to me personally, there's a handful of people that will immediately be like, what do you need and how can I help you?” Another teacher at Chestnut Plains said, “Some of my best friends are the people that I come to work with every day.” This sentiment was echoed throughout the interviews and focus groups at both Chestnut Heights and Chestnut Plains.

Examples of the collegial support valued by the Chestnut teachers included co-planning lessons, coordination of pacing throughout each cycle, sharing supplies and materials, and serving as a sounding board for new strategies for working with a particular student or teaching a specific topic. Importantly, novice teachers in Chestnut were not just expected to be recipients of support, but to also bring their knowledge and expertise to the wider department. In this way they were positioned as part of the support network for all teachers, rather than apprentices who needed to be acclimated to an existing department culture. One novice teacher noted that as a newcomer to the department, they felt supported in the sense that they were not made to feel “less than” the experienced teachers; they were positioned as an equally valuable and legitimate member of the department right away.

A number of teachers noted the value of this support when teaching unfamiliar content. For example, during the period examined by this study, there was a resequencing of the science course order that resulted in a one year adjustment in the number of physics classes that needed to be taught. The demand to staff so many sections meant that many teachers who had never

taught physics, or had not taught it in some time, were being pressed into service to meet this short-term need. With the support of the science supervisor, the existing physics teachers organized an after-school professional development series to help ensure that everyone was prepared for the coming year. One teacher who attended the sessions admitted that he was comfortable with the content, but saw his participation through the lens of the question, “How would that support everyone else that I have to work with?”

In some cases, content support was less formalized, but still necessary and appreciated. One experienced teacher described having to teach chemistry for the first time:

I hadn't had a real chemistry course since high school. And when I was made to teach chemistry, there were members of the department who were willing to take the time to teach me the content so that I could teach it to the students.

When asked about the specific structures that existed during the time period under consideration in this study, teachers who had been in Chestnut more than a decade noted that common planning time, often referred to as PLCs (professional learning communities) at Chestnut, had been an important aspect of their collegial network of support. One teacher noted, “I loved that part of the job. We got to meet, and it was just such a community effort.” Both veteran and novice teachers, as well as the science supervisor, noted the importance of PLCs, though there was some difference of opinion in how well they were currently functioning. The science supervisor noted the importance of PLCs in terms of teachers' professional responsibilities:

I guess the biggest thing is they have PLC time built into their schedule that they utilize, and to be honest, I'm not super involved in that aspect of it. The teachers have that time and they use it to refine lessons and analyze student data and make the day-to-day instructional decisions that are going to propel their students forward.

Although novice teachers reported greatly valuing the time and opportunity to work with colleagues during the PLC time, some experienced teachers noted that the PLC structure had been of even greater value when it had been more focused by subject. In the past, science teachers (and others in the school) had an assigned PLC period for each prep they taught – for example, a physics PLC, a chemistry PLC, and a biology PLC. Although teachers still felt theoretically encouraged to work together, some reported that the loss of this time had impacted their opportunities for collaboration.

Well, the way it was, was glorious, having one per prep. Because I mean, unless you're on an island and you're teaching a one-off prep, I mean, as long as there's two or more teachers, I think it makes sense to have a ... PLC. ... Our previous administrator always had us PLCing.

This PLC model was in place during the latter period of interest of our study, but ultimately was not sustainable, and at present teachers are only assigned to one PLC period per cycle. It is tempting to hypothesize that the extensive PLC support may have been a factor in teacher retention, but it is also possible that this practice was an outgrowth of the collaborative culture in

the district. Teachers did note that they continued to seek out collaboration with others teaching the same subjects on their own time.

Teachers in Chestnut also commented on the support received individually from district science supervisors, both past and present. Several teachers spoke highly of a past supervisor in the following way:

She was excellent, and she made me a better teacher, and I wanted to be a better teacher for that admin... She cared... and fought for you, and had your back, and... she wanted you to learn. She was just the whole package, you know? Support on a personal level, and a relationship level, on a professional level, on an academic level.

Another past supervisor was considered supportive because “You could go to him with a question. Like, ‘I need help.’ He'd be like, ‘Close the door. Let's talk.” The current science department supervisor, who had only been in the position for a few years at the time of our site visit, appeared to be similarly well-respected by the department and novice teachers, in particular.

## **Factor #2: A Large Department of “Top Notch” Science Professionals**

Though there were clear district-level supports that applied to both schools, the collegial networks of support appeared to operate independently at each of the main high schools. Nevertheless, many teachers commented on the positive impact of being in a large department, even just in reference to their own school. One teacher contrasted his experience with Chestnut’s large science department to his previous district in the following way: “... that was probably the biggest difference when I came here. All of a sudden, I'm not the only physics teacher, and there's people that I can work with and share ideas with.”

Many of those people were accomplished science professionals, who held advanced degrees and for whom teaching science was a second career. Many of the teachers we interviewed in Chestnut had entered teaching after working in industry or science-adjacent fields for many years. One teacher said, “I was hearing about how the United States wasn't doing so well in math and science, and as a chemist I thought I should give something back to the community, and I think people who know science should teach it.” State data show that at the time of our visit, over 75% of the science department faculty had a Master’s degree or higher.

It appeared that the advanced degrees, as well as having worked in fields other than teaching, uniquely bonded the Chestnut science teachers and reinforced a collective identity as highly-capable science professionals. One teacher noted that Chestnut administrators were fond of saying, “We want the best people here,” and it appeared that the science teachers at Chestnut felt similarly. “We have top notch people in this department” one teacher said. Another shared:

...that was actually the reason why I came to Chestnut. I had other options when I was interviewing... I loved the fact that in the chemistry department specifically, most of the chemistry teachers are alternate route, or came from business, or from engineering, or from something else also, so I felt like I had a lot in common with them in that regard.<sup>3</sup>

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<sup>3</sup> The State of New Jersey has two primary pathways for teacher certification, which it terms *traditional and alternate route*. In the traditional route, teachers enroll in a university-based educator preparation program that includes a year-long clinical setting with a cooperating teacher in a science classroom. In the alternate route, teacher candidates are hired as a teacher of record in a science classroom and enroll in a teacher preparation program

Another science teacher remarked:

I think our department is very well-educated. I—being one of the younger members of the department—was pleasantly surprised that all of my coworkers have advanced degrees. They've worked in their fields, engineering, and other areas in the industry. So I think with such technical backgrounds, the level of rigor and standards that everyone has for themselves is very high, and that's somewhat contagious.

This collective departmental identity as “top notch” science professionals was not solely based on educational attainment and previous careers, but their ongoing dedication to their students as well. Several teachers spoke about the long hours they put in with their colleagues: sometimes arriving hours before the students and leaving school late into the evening, in addition to texts to each other at night and on weekends about lesson ideas.

The administrators we interviewed provided a similar description of their science department, describing them as “dedicated, innovative, risk-takers.” The science supervisor gave the example of the teachers’ growing awareness that their curriculum was not aligned to the Next Generation Science Standards (Achieve Inc., 2013), and what happened as a consequence of their decision to become involved with the Next Generation Science Exemplar (NGSX) program:

We took a step back and decided we needed to rework our entire program at the high school, so we had a science leadership team that I got together, teachers from the middle school and high school. We engaged in a week-long professional development with NGSX, and that program was the springboard for us to be able to revise our curriculum or rewrite our curriculum to better embody the vision and the shifts necessary to implement NGSS. We had a group come here to train us, and then eight of us decided this is really important and something we need to learn more about. So we decided to become trained as facilitators of NGSX. Now that we've got trained facilitators in house, we're running cohorts through so all of our teachers can go through NGSX training.

### **Factor #3: Compensation, Benefits, and an Active Teachers’ Union**

The third factor incorporates salary, health and pension benefits, and the support of an active teachers’ union. As we show below, these three components are intertwined, and indeed appear responsible for teachers’ sense of the district’s stability, as discussed in the subsequent section.

The many responses we received regarding the relationship between compensation and retention were well summarized by one teacher:

One of, I think, the deciding factors to not make a move would probably be you don't want to go through that tenure process again.... It's just a lot to start over. And our

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simultaneously, drawing a full-time salary as a teacher of record. Entry and completion requirements are nearly identical for both pathways.

starting salary here is pretty competitive. If you were to go to another district in the area, I think you'd find yourself maybe at a lower starting salary.

Teachers reported that Chestnut had a reputation as a high-paying district, which was an enticement to apply there initially for many of the teachers we interviewed. One reported, “I don't think our salary guide hurts, to be honest with you... when I started we were the tippy top.” Chestnut teachers noted that most of them did not require second and third jobs to supplement their income. One teacher reported that at the time she came to Chestnut, “the salary scale was better than [in] surrounding districts.” The teachers’ impression was that pay was also high at the top of the salary guide. In 2020, when we interviewed the teachers, state staffing data showed that nearly half of the districts’ science teachers (all of whom had at least 14 years of teaching experience) were making over \$90,000 per year, and no science teacher in the district was making less than \$50,000 per year.<sup>4</sup> However, though veteran teachers reported beginning with a comparatively high starting salary, some of the newer teachers reported that their starting salary and advancement through the salary guide currently compared less favorably to other districts. The salary guide was structured in such a way that if a teacher remained in the district for at least 12 years, the salary increases after that point were substantial.<sup>5</sup> Such an agreement may not be unusual in the state of New Jersey, but the financial reward of making a career in the Chestnut district very likely served as a retention incentive.

In the state of New Jersey, public school teacher contracts are negotiated between the local educational agency and the local teachers’ union. Therefore the pay and benefits package that Chestnut teachers valued so highly was in part the product of the work of the Chestnut teachers’ union. In our interviews, the teachers’ union was mentioned as a source of support not only during critical incidents, but also in helping to coach teachers to improve their evaluations by offering concrete suggestions for improving teaching. Union representatives reported having a good relationship with the administrators in the district, which provided an additional path for information to reach the administration about the concerns of teachers.

“We have a very good liaison team who tries to take teachers' issues and bring them forth to administration,” one experienced teacher told us, “We have a very supportive union if something goes wrong.” Another teacher reported that when considering his move to Chestnut, he was told by various people that Chestnut “seems to have a good union... If you're going to be anywhere long term, you probably want to be there. They have a relatively good union.” It is worth noting that research has linked teacher retention to membership in a teachers’ union, and

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<sup>4</sup> Recall that 75% of the science department had Masters degrees (or higher,) which would account for the relatively high salaries of most of these teachers.

<sup>5</sup> The Chestnut School District has a 17-step salary guide, with seven columns for educational attainment (Bachelors, Bachelors +15, Bachelors +30, Masters, Masters + 15, Masters +30, Doctoral.) In the 2009-2012 contract between the district and local teachers’ union, it takes a new teacher eleven years (until Step 12) to earn approximately \$10,000 more than their starting salary (\$46,277-\$56,729 for Bachelors, \$56,920-\$67,372 for PhD.) A noticeable annual pay jump does not occur until Step 13, at which point teachers earn an additional \$5000 per year from the previous year. The increases from Steps 13-17 are approximately \$5500, \$6600, and \$7870 per year. Thus, it can be said that Chestnut teachers’ pay increases only \$15,488 in the first 12 years of teaching (an average of \$1290 per year,) whereas in the subsequent 4 years, it increases \$26,183 (an average of \$6546 per year.) One teacher said of their salary guide, “I will say eventually the money becomes worth it, eventually... And then when you're at that six, seven-year mark, and you can see the glimmer.”

the meta review by Nguyen et al. (2019) notes that union membership correlates with a 25% decrease in the rate of teacher attrition.

#### **Factor #4: A Stable and Secure District with a Supportive Community**

In our interviews, one of the most common descriptors of Chestnut was that it was a “good district,” and we found that the schools were often discussed in reputational terms. For example, one teacher reported, “[Chestnut] was a district that was known to be a good place to work, so I interviewed here.” Indeed, a number of district schools, including one of the high schools, had been recognized by the U.S. Department of Education’s National Blue Ribbon School Program. The administrators we spoke with referred to the district’s reputation in terms of academics. One administrator said:

Everyone who enters into our schools understands we have extremely high expectations... We are typically a leader, or at the forefront, of professional development and cutting-edge opportunities for teachers and students, and we are perceived as a very high achieving school district.

The teachers similarly noted that the Chestnut put academics first. “Here, it’s academics before athletics,” one teacher noted, “which helps us as teachers.”

However in unpacking what teachers meant by a “good district,” we found that in addition to the salary and benefits discussed above, the most common referents were job stability, school safety, and community support.

Generally, teachers in the Chestnut district reported an overall sense of stability and security. This was expressed in both a professional sense, as in having tenure, job protection, and seniority, as well as in a personal sense, such as working close to home, and having a regular, dependable schedule that allowed teachers to care for their families.

Many teachers reported the perception that Chestnut was a safe place to work, and often gave specific examples:

- “The discipline isn’t that big of an issue here.”
- “I feel like it’s a relatively safe school... I’ve never felt like I was in danger...”
- “There’s not crazy fights... It’s rare to see stuff like that here.”
- “I would say the kids here, for the most part, are well behaved... as compared to maybe a different area.”

Almost everyone we interviewed spoke of the district’s “very supportive community.” One administrator mentioned the diversity of the community as an asset, noting, “It’s a great community to work in. Many of our staff members live here... many of our staff members’ children attend school here, which I think it a benefit.” Upon analysis, we found that when talking about community, Chestnut teachers and administrators referred mostly to the academic expectations of the school, the families of students in the schools, and the students themselves. References to businesses or residents of the town without children in the schools were less frequent. When pressed on an example of community support, one new teacher noted the extensive parental involvement with graduation and other school functions. “The parents I’ve interacted with have been supportive and they’ve been good.” The other teachers agreed that they had “very good parental support” when talking to them about their students.

Teachers and administrators most often spoke of the students as the main element of the school community. “We are a community that is focused on acceptance and character development of our students, as well as a high emphasis on socio-emotional learning for our students.” Not only does Chestnut work hard for its students, but students work hard for their

teachers. Almost all teachers specifically mentioned the students as the reason they continue to work there. “I would say the students, for the most part, are eager to learn, a pleasure to have in class, make it worthwhile.” They noted that most students participate and are prepared for class, work hard, and expect to go on to college. One teacher framed the Chestnut community in the following manner:

The kids we have are great. Like I said previously, families of the kids, for the most part... you’re going to have outliers, but they care about education. It’s easy to teach when someone wants to learn. It’s fun to see the lightbulb moments.

There were many similar comments for other teachers, including:

You have great kids. You have great families. You get tons of support from the families for education. There's a push for education. Having gone here and having friends through here and my family, it makes it easy to come to work and teach.

One administrator told us, “We’ve had numerous students that have excelled and gone on to great places.” Teachers agreed that having students who worked hard was a motivating factor to their enjoyment of teaching.

We wish to be careful in our claims here—the perceived sense of safety and community on the part of the science teachers and administrators we spoke with may say very little about how the school climate was perceived by those we did not interview, including students, families, and community members. We are also sensitive to the racialized nature of discourse surrounding “good schools,” and the fact that the primarily White and middle-class population of teachers in the United States may privilege White middle-class norms of student, family, and community participation in schools, including definitions of what it means to “care about” education (e.g. Posey-Maddox, 2013). Nevertheless, teachers’ sense of a supportive school community and a stable and safe school environment was clearly close to the surface, and was very likely a factor in the rate of new science teacher retention that led us to select the Chestnut School District for this study.

### **Mentoring and Induction in Chestnut**

Although there was a formal mentoring and induction program in place in Chestnut, there was little evidence that this program strongly influenced the retention of science teachers; indeed, most teachers did not consider it a cohesive program. Induction in Chestnut begins with an orientation over the summer where new teachers “engage in professional learning around curriculum and instruction, ... [learn about] meeting students’ needs with IEPs, teacher evaluation, technology, and logistics of working in the district.” In recent years, orientation has lasted between 2 - 5 days. It is held at the central office, and includes all K-12 teachers new to the district. Most teachers felt the information shared in orientation “could’ve been an email” or that the 2-day version of the orientation was “a day and a half too long.” One common criticism was that teachers did not even get to see their school building during orientation. Still, teachers did note some benefit in meeting other new teachers who would be a familiar face in their building, even if they did not teach the same subject.

I think the benefit for me, I think, as an alternate route [teacher] was just some procedural stuff that I would probably have made up otherwise. It was good to hear just some of the

formalities, dealing with the nurse. They kind of went over some of the structure of what you do in certain scenarios, who you're specifically calling or communicating with, if there's a fight, if there's different stuff, some of which is somewhat building-specific. Some of the more general stuff was probably relevant, for sure.

Once the school year started, induction continued through sessions that occurred either during or after the school day. This appears to have changed over the years, but took place on average about once a month. Currently, this part of induction occurs three times during the first marking period only. This was seen as more helpful than the orientation by most teachers. Of note is that a committee of teachers ran these meetings, which counted for professional development hours, and covered topics such as back to school night, annual performance reviews, etc. There was no focus on science teaching specifically, though one teacher noted “that would have been helpful.”

New teachers were assigned an official mentor teacher as a part of the state-mandated district induction program. However, most teachers we interviewed did not feel any special connection to their assigned mentor. “We all have to have a mentor in our first year, right? I had paperwork that said I had a mentor and that was really kind of the extent of it.”

I guess I found myself just signing off on forms, and I didn't really feel mentored, to be truthful. Nothing against him, but I feel like I got help from a lot of people, not just one specific person through a mentoring program. I feel like everyone mentored me. I didn't feel like there was one person that I would go to. I feel like I got help from a handful of different people.

In contrast, another teacher noted the importance of their mentor—an established, respected teacher—in helping to make connections with important people within the district and how to handle tricky situations. This mentor “knew all the basics and nuance. But as far as pedagogy, not so much.” Novice teachers reported that the value of mentoring was impacted when mentors did not teach the same subject as the mentee, or had a schedule that made regular meetings difficult. “My mentor was great,” one novice teacher reported, “She just didn't teach what I was teaching and somehow with my schedule she still never had off when I had off.”

There other were times, however, when the official mentor assigned was a good fit with the novice teacher.

My mentor was the other physics teacher that I ended up teaching with and so we were the only people in the department. I grew up down the street from her. I actually rode the school bus with her kids ... she was amazing and that's why I was saying, like she gave me everything. She helped support me and we were together for seven years.

Some of the teachers we spoke with had served as mentors to novice teachers, as well. They described their mentor training as a six-hour professional development activity, with differing opinions on the usefulness of training.

## **Conclusion**

During the period of our study (2007-2018,) the Chestnut District high schools retained a higher percentage of novice science teachers than most other districts in New Jersey. The

teachers at Chestnut appeared to be well-aligned with each other in their identity as science professionals and offered each other a great deal of support, both professionally and personally. This collegial support was integral to teacher retention in the district, as was the departmental identity of “top notch” science professionals who work with a population of students with whom they feel effective. The reportedly high starting salary seems to have attracted many of the teachers to this particular district, and the compensation and benefits negotiated by the teachers’ union continues to play a role in the retention of teachers. Further, the perception of stability, security, and a supportive school community have made the Chestnut School District a good place for the teachers there to work.

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