

SDP CASE STUDY

Changing the Culture of Data Use in Delaware: How State Leaders Used Analytics to Create Education Policies That Matter

This case illustrates how the work of leaders and analysts in the Delaware Department of Education (DDOE) and the agency's partnership with the Strategic Data Project (SDP), a program of the Center for Education Policy Research at Harvard University, created momentum for statewide policy change.



Center for Education Policy Research
HARVARD UNIVERSITY

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March 2014

Opening

On January 17, 2013, Delaware Governor Jack Markell—recently re-elected to his second term—stepped up to the podium in the state’s historic Senate chamber to deliver his annual State of the State address. Reinforcing the themes of his inaugural address a few days earlier, he said, “We must not choose what is easiest for today, but focus on creating a better world for our children tomorrow. This better world,” the governor continued, “begins in Delaware’s schools.”

Over the past four years, Markell declared, Delaware had made important progress in improving its public education system. As a result, student achievement was on the rise and graduation rates were increasing. During his second term, the governor announced, he planned to pursue additional reforms to ensure that every student in Delaware had access to a high-quality teacher. Standards for entering the teaching profession needed to be raised, he emphasized, and teacher preparation programs needed to be held accountable for the performance of their graduates. Moreover, state and district leaders needed to do more to keep effective teachers in the profession—for example, by changing the compensation structure and providing multiple career pathways.¹

Among those listening to the governor’s speech that day were leaders from the Delaware Department of Education (DDOE), including Secretary of Education Mark Murphy and his staff. A data strategist named Atnre Alleyne, who worked within the DDOE’s Teacher and Leader Effectiveness Unit, or TLEU, was also paying close attention. Alleyne was well acquainted with several of the data points that the governor was citing—for example, the fact that 40% of Delaware’s educators left teaching in the state within four years, and that the teacher attrition rate in high-poverty schools was twice that in low-poverty schools. These powerful statistics had come from a set of analyses that Alleyne had been managing through his involvement in the Strategic Data Project (SDP), a partnership between the DDOE, Delaware’s Rodel and Longwood Foundations, and Harvard University’s Center for Education Policy Research (see Attachment A).

The goal of this dynamic partnership was to improve student achievement by bringing high-quality research methods and data analysis to bear on education leaders’ management and policy decisions. The fact that the governor of Delaware was using these analyses in his State of the State speech this day—and would soon use them as the impetus for new legislation to overhaul teacher preparation in the state—provided strong evidence that this goal was being fulfilled.

The Race Begins

Governor Markell’s assertions during his State of the State address about the need to strengthen Delaware’s teaching force had not come out of the blue. In fact, increasing educator effectiveness was a core component of the state’s education reform plan, *Vision 2015*, and of its 2010 application for Race To The Top (RTTT) funding.²

State leaders had submitted Delaware’s RTTT application in January 2010, along with 40 other states and the District of Columbia. The application made a compelling case for why the state was well positioned for a major federal investment. One important asset was its state-of-the-art longitudinal data system, which captured and linked longitudinal information about students and teachers.³ The RTTT

funding would enable Delaware to further expand and improve the data system’s capabilities—for example, integrating additional data sources and creating a portal that educators and school leaders could use to recruit top talent from colleges and universities across the region.

The application also described Delaware’s characteristics—the fact that it contained a mix of urban and rural school districts, for example, and that nearly half of the state’s students were economically disadvantaged—and stressed the advantages of its size:

With just 126,800 students, 19 districts, and 18 charters, Delaware is small enough to make true statewide reform achievable. Reform will be managed face-to-face, not via a remote bureaucracy, allowing the State to act quickly in response to challenges and opportunities. By proving that reform is possible with the same complex conditions that other states face (e.g., diverse stakeholders, limited funding, complex governance), and doing it quickly, Delaware will become a laboratory for reform for the nation.

Every school district and charter school in the state—along with every local school board, teachers union, and business community—endorsed Delaware’s application, and all were elated when U.S. Secretary of Education Arne Duncan announced on March 29, 2010, that the state was one of only two states to win funding in the first round of the competition. (See Attachment B for a timeline of key events in the state’s education reform history.) Of all the states that had vied for support, Delaware’s application and testimony had received the highest scores.

The extraordinary victory thrust the small state onto the national stage for education reform. As a result of its win, Delaware would receive an infusion of \$119 million over four years to support a variety of reforms, including implementing the Common Core curriculum standards, expanding use of the state’s longitudinal data system, providing intensive support to teachers and school leaders, and turning around the state’s lowest-performing schools.

Building Capacity

To achieve the ambitious targets articulated in its winning RTTT proposal, Delaware had to promptly ramp up the internal capacity needed to deliver what it had promised. A new Project Management Office in the Delaware Department of Education (DDOE), reporting to then-Secretary of Education Lillian Lowery, would lead implementation of the reform plans. Within the office, three new organizational units were established and staffed: a Teacher and Leader Effectiveness Unit, a Performance Management Unit, and a School Turnaround Unit. (See Attachment C.)

Concurrent with these structural changes was a deeper shift in the DDOE’s role. Historically, department leaders’ primary responsibility had been to monitor districts’ compliance with state and federal policies and requirements. But the state’s RTTT application made it clear that they would now assume a much more hands-on role in supporting and building the capacity of local education agencies to implement changes aimed at increasing schools’ effectiveness and improving student achievement.⁴

Paul Herdman, president and CEO of the Rodel Foundation, perceived that what was happening in Delaware was indicative of a broader sea change. “Traditionally, reform efforts have focused on large urban districts as the unit of change,” he said. “But over time, state education agencies have shifted from focusing on compliance alone to engaging in the design and implementation of policy. This massive role shift makes research on what’s working all the more important.”⁵

Donna Mitchell, deputy officer of professional development in the DDOE, had experienced this change firsthand as she moved from being a principal to working at the state level. “When I came to work in the department, I met people face to face that in 18 years as a principal I had never seen in person,” she recalled. “But today, people from the department are out in the schools all the time and are increasingly seen as a resource.”⁶

It was within this changing context that leaders from the DDOE began meeting with leaders from Delaware’s Rodel and Longwood Foundations⁷ and representatives from Center for Education Policy Research (CEPR) at Harvard University to explore the possibility of Delaware joining the Strategic Data Project (SDP). The SDP partnership offered a valuable opportunity to build research and analytic capacity within the state’s Department of Education at this pivotal time. Many of the reform strategies that Delaware intended to pursue would depend on ready access to high-quality data that state leaders could act on, and this was precisely what the SDP partnership was designed to provide.

A New Partnership

In the fall of 2011, after a competitive application process, Delaware joined the second cohort of SDP, becoming the first state to enter the program. The first step was to identify two agency fellows—data-savvy leaders already working within the agency who would serve as Delaware’s representatives for the two-year SDP Fellowship program. The second step was to select and hire a data fellow—an external candidate with strong analytic talent recruited by SDP and placed within the agency.⁸

Mitchell and another DDOE employee named Alan Phillips were chosen to be the agency fellows. Mitchell, a former high school teacher and principal with many years of experience in Delaware schools, was now leading professional development activities within the DDOE’s new Teacher and Leader Effectiveness Unit (TLEU), including major projects focused on implementing professional learning communities (PLCs) and data coaching in districts across the state. Phillips, on the other hand, had worked in the DDOE for many years and recently joined the new Performance Management Unit (later renamed the Delivery Unit) as deputy officer of assessment resources.⁹

Finding the right person to fill the data fellow position proved to be more difficult, though. After an in-depth search process, a data fellow was hired and assigned to the TLEU. But she struggled to settle into her new role, and after just two months, she left. The situation frustrated the DDOE and SDP leaders, as well as the foundation partners, and to set things right for the next data fellow, they reflected on what had gone wrong. One DDOE leader, who wished to remain anonymous, offered this diagnosis: “Her job description was somewhat loosely defined. She was also housed in two brand-new divisions, so roles and responsibilities were still being worked out. Also, she did not have strong internal relationships with those who were essential to the success of her work.”

Beyond this, the observer continued, there seemed to be some initial skepticism within the department regarding the need for external analytic help:

Partnering with Harvard was well received, and the internal fellows were well received. But the idea of having outside people was less welcome at first. There was a sense of self-sufficiency, and questions ranging from, “Where is this person going to sit?” to “Why should we invest in someone who is going to leave anyway?” Some pointed out that the DDOE already had its own data and technical people, so why couldn’t we just conduct our own analyses?

But Christopher Ruskowski, the newly appointed head of the department's new TLEU, was among those who perceived a great need for external talent. He himself had come to the DDOE as an outsider not long before. "I felt that we could accelerate the work faster and farther for our students if we brought in stellar people with a fresh perspective who had skill sets that aren't typically found at education agencies," he said.¹⁰ The key was finding the right people.

A New Fellow Enters

As 2011 came to an end, Mitchell was trying to get an impact study of the PLC and data coaching initiatives off the ground, with the help of her SDP Faculty Advisor. Phillips, meanwhile, was trying to get the DDOE's technology workgroup to pull the data needed for the SDP work, in addition to managing his other responsibilities. But a new national fellow had still not been found. By the spring of 2012, there was growing impatience on all sides to get a new data fellow in place, so that the state could reap the full benefits of the Harvard partnership. This person was also expected to play an important role in the next wave of RTTT reforms.

In the months since the departure of the first data fellow, the Delaware leadership team had interviewed several potentially strong candidates, but all of them had decided to pursue other opportunities instead. These repeated disappointments prompted then-SDP Executive Director Sarah Glover to advise the agency leaders in Delaware to reexamine how the role was structured and being presented to candidates. Herdman of the Rodel Foundation later explained:

We realized that we were looking at highly talented folks and saying, in essence, you will be solely a researcher, with little potential for influence or growth, and you will be required to spend almost all of your time in Dover—a smaller and more isolated city than Wilmington. This was not compelling for people with a lot of options. The public and private partners finally came around to the fact that we needed to reframe our approach, and to do that, we needed to understand what great candidates needed in order to be excited about the post. Exit interviews of those who declined our offers told us that what they wanted was direct access to state leaders, opportunities to engage in serious high-level policy discussions, and some flexibility about where they spent their time, as long as they delivered.

Accordingly, in the late spring of 2012, DDOE leadership revised the job description and began looking for candidates with the attributes they were seeking. By this time, a young man named Atnre Alleyne was finishing up his Ph.D. in political science and international relations at the University of Delaware. After attending high school in Ghana, Alleyne had earned an undergraduate degree in economics and an M.P.A. at Rutgers University. There, he had become involved in social policy research, including action-oriented crime research. An internship with the Gallup Organization had also allowed him to gain experience in public opinion surveys.

Above all, Alleyne was passionate about improving public education and particularly about expanding educational opportunities for economically disadvantaged students. He and his wife had founded and remained involved in a Camden nonprofit called TeenSHARP, which provided leadership development and college preparatory programs for underprivileged youth.

When he saw the job posting for the SDP Fellowship (see Attachment D), Alleyne believed that it would be a good fit for him, given his background, skills, and interests. He submitted his application, not knowing where he might be placed; it could be at any SDP site across the country. In June 2012, however, Ruskowski interviewed him for the data fellow job in DDOE and recognized that he was ideal.

He made a job offer a few days later, which Alleyne accepted. He would begin his new position on July 1, 2012. Although he would officially be an employee of the Rodel Foundation, which was funding his salary, he would work out of the DDOE offices in Dover.

SDP Research Manager Meg Nipson was among those who recognized the strength of the now fully formed team of SDP Fellows in Delaware:

Due to her experience in schools, Donna had a deep grasp of the on-the-ground realities, the inner workings of school systems across the state, and the questions that needed to be answered. Alan brought to the table an understanding of technical issues as well extensive knowledge of the history of past reform efforts. And Atnre had strong analytic skills as well as strong leadership and people skills. It was a great mix.¹¹

Ruszkowski was committed to doing all that he could to ensure that Alleyne was set up for success. “It’s important to establish a clear point of entry and job description,” he said. He therefore began to “scope out smaller grain projects for Alleyne to sink his teeth into” that would allow him to “develop relationships across the department and the state, build up steam, and establish credibility.”

When Alleyne arrived at DDOE for his first day, he sat down with Ruszkowski, who handed him a sheet of paper that described four major “buckets” of work: 1) evaluating several TLEU programs, 2) managing certain research projects underway in the TLEU, 3) contributing to RTTT evaluation efforts, and 4) leading research and analysis efforts for the SDP partnership. Without a data fellow in place, there had not been enough momentum on the latter over the past year, and the partners were eager to see more rapid progress.

Focusing on Human Capital

The analytic work began with the launch of two diagnostics—an SDP Human Capital Diagnostic and an SDP College-Going Diagnostic—developed by researchers at CEPR through their work with school districts across the country. Each diagnostic consisted of a series of analyses focused on specific areas of strategic and policy interest. The SDP Human Capital Diagnostic, for example, examined teacher characteristics and performance across the stages of a teacher’s career: preparation, recruitment, placement, development, evaluation, and retention. The SDP College-Going Diagnostic focused on key transitions during students’ high school years that research has shown are particularly important: from ninth to 10th grade, from ninth grade to high school graduation, from high school graduation to college enrollment, and persistence to the second year of college.¹²

The purpose of the diagnostics was five-fold:

1. To provide actionable analyses in the areas of human capital and college-going success, to identify challenges to investigate more deeply and/or leverage points to act upon;
2. To increase reliance on analytics and research in the DDOE, influencing the culture of data use;
3. To demonstrate the types of analyses that are possible with DDOE data;
4. To develop methods, processes, and data sets for further analytic work; and, ultimately,
5. To impact policy and management decisions.¹³

Upon establishing the SDP partnership, Delaware’s leaders had to decide whether to conduct the human capital and college-going analyses simultaneously or sequentially—and if the latter, which should go first. The partners decided to conduct the SDP Human Capital Diagnostic first, then to bring the SDP

College-Going Diagnostic analyses along a few months after. The decision was partly due to the fact that Delaware’s human capital reforms had an executive-level champion in Ruzzkowski, whereas college-going reforms had no such champion at the time.¹⁴ Furthermore, recent reports had highlighted some important challenges pertaining to human capital that Delaware needed to address. For example:

- A 2011 report from the National Council on Teacher Quality (NCTQ) commended Delaware for its progress in improving teacher quality but gave the state an overall grade of C for its state teacher policies—with grades of D– for “Delivering Well-Prepared Teachers,” a C+ for “Expanding the Teaching Pool,” a B for “Identifying Effective Teachers,” a C– for “Retaining Effective Teachers,” and a D+ for “Exiting Ineffective Teachers.”¹⁵
- A 2012 analysis conducted by Bellwether Education Partners (see Attachment E) pointed out that although the state data system could be used to link student achievement data back to the programs where teachers and principals were prepared, this was not required by state law.¹⁶

Improving the caliber of Delaware’s educators and leaders was also at the core of the state’s RTTT proposal, and the results of the SDP Human Capital Diagnostic were expected to help state leaders implement the various teacher reforms they had committed to pursue. Specifically, the diagnostic would provide valuable data on what happened at various stages along teachers’ career paths, including how they were recruited and assigned to schools, how their effectiveness changed over time, and how long they remained in the teaching profession (see Figure 1).

Figure 1. SDP Human Capital Diagnostic Pathway



Before the human capital analyses could be conducted, however, much work had to be done to prepare the necessary data files. In the months leading up to Alleyne’s arrival, Phillips, Mitchell, and staff in the DDOE’s technology office had been working diligently to pull together student and teacher data from a variety of data sources, including legacy systems.¹⁷ But when the CEPR analysts conducted the initial analyses, DDOE staff discovered flaws in the data, such as missing values and coding inconsistencies.

Ruzzkowski put Alleyne in charge of resolving these issues, and as he did so, he uncovered a variety of underlying challenges. One was that the DDOE’s data analysts were extremely siloed; each was conversant with particular subsets of organizational data, and there seemed to be little communication or coordination between analysts in separate units. Another major challenge was that the DDOE’s technology workgroup, which was responsible for pulling the data for the diagnostic analyses, was inundated with data requests from external and internal clients. Getting the information that Alleyne needed would require diplomacy—and persistence.

Alleyne noted other challenges, too. For example, he observed that the DDOE’s technology workgroup members “often don’t get a full picture of the policy questions to inform their data pulls or analyses because they aren’t policy owners.” As a result, analytics to inform management and policy decisions in the DDOE were often lacking or untimely, even though Delaware had abundant data resources (see Attachment F).

He knew it was important to be careful and strategic in addressing these challenges. He later reflected:

It was important that I not go to the technology data owners as a know-it-all. Instead, I went to them seeking advice and expressing my lack of understanding of how things work at the DDOE. One thing I’ve found very useful is what psychologist Adam Green calls powerless communication—in other words, posing questions, asking for input, and listening, rather than just talking and telling people what you need them to do.

I openly acknowledged that I knew they were already overwhelmed with other people’s requests for data and analyses and that I was likely a burden to them. And I told them that by teaching me how to fish, how to pull the data and do the analyses myself, they would save time in the future. So using communication and listening techniques helped. But it also helped that I spoke their language. And I was very persistent. They knew I wouldn’t go away.

Alleyne’s technical expertise, communication skills, and tenacity thus allowed him to earn the trust and confidence of DDOE data owners and to gain access to the information he needed. By late summer, the data collection and cleaning process had been completed, and he began working with the CEPR analysts to carry out the diagnostic analyses.¹⁸ It was the moment that the partners had been waiting for.

Sharing the Results

In October 2012, Delaware’s SDP steering committee—consisting of newly appointed Secretary of Education Mark Murphy, the foundation partners, Ruszkowski, and the heads of various organizational units within the DDOE—met to review preliminary data from the SDP Human Capital Diagnostic, which they decided to rename the Educator Diagnostic. As the participants pored over the data, they debated which analyses to focus on and how best to present the findings.

“Having the external players there helped raise level of dialogue,” recalled SDP Research Manager Nipson. “We came with about 20 charts and talked at great length about just a few of them. One big positive was that the secretary was very engaged and concerned about what results would show.”

SDP Research Director Lindsay Page agreed that this was both important and unique. “Secretary Murphy took time to be very involved in the work. He sat with us to review results for hours on end and was extremely committed. He was engaged in a tangible way almost immediately, and that is unusual for such a high-level leader.”¹⁹

Over the weeks that followed, Alleyne and his CEPR colleagues continued to refine the human capital analyses and also perform initial analyses with DDOE’s college-going data. He and Agency Fellow Mitchell often brainstormed questions that DDOE leaders cared about most, then figured out what was possible with the data. Alleyne used these conversations to conduct further queries and to tailor the standard analyses to Delaware’s needs.

By December, the SDP Fellows had completed a variety of analyses for both diagnostics, and although the data were still preliminary, they shared them freely with other DDOE leaders. One of the early recipients was Sara Kerr, chief performance officer in the DDOE's Delivery Unit, who began incorporating the data into the monthly meetings that she and Secretary Murphy held with district superintendents and their leadership teams. "We felt that the sooner we could share it with them, the sooner they could start acting on what the numbers revealed," she said.²⁰

Each "chiefs" meeting began with a plenary session in which Secretary Murphy presented specific state-level educator data, such as key findings on teacher development or retention. Kerr noted, "We are lucky to have a secretary of education who is so data savvy. I think it's remarkable that he took the time to understand the data so deeply, and it sent a strong message to the local leaders about the value that we placed on the data."

After the plenary, DDOE staff facilitated small group discussions based on structured questions. In one of the most influential meetings, the chiefs looked at specific data elements across all of the Delaware districts and identified those that were beating the odds. Leaders from these districts then talked about what they were doing so that others could learn from them.

Kerr reflected:

Our goal was to first build awareness of the problem, then look at what LEAs [local education agencies] were already doing or *not* doing to drive improvement. We used the diagnostics to have honest conversations about where we were strong and where we were not doing well. One of the biggest values of SDP was putting richer, broader data in our hands to do that. In fact, it became one of the most powerful tools in our arsenal to drive change at the local level because the discussions helped a lot of people recognize that they were nowhere near where they needed to be.

Secretary Murphy also began to carry printouts of the data around in his briefcase and referring to them every chance he could. "When I'm talking to people," he said, "I often pull out the data and say 'Check this out.'"²¹

The Delaware Way

At the same time, Ruszkowski and Alleyne were rolling out the data to other groups in a dissemination effort that one observer called "nimble and opportunistic." By the end of December, they shared the diagnostic analyses with Governor Markell and his staff, who incorporated some of the findings into his January 2013 State of the State address. Over the following weeks, they presented the results to district leaders and personnel directors, the teachers and principals unions, and community partners such as teachers of the year, PTA groups, and chambers of commerce.

In late February 2013, Ruszkowski appeared before the state's Professional Standards Board to share the analysis findings and answer questions posed by the board members.²² The next day, Alleyne made a similar presentation to the state's higher education institutions, showing the retention trajectory of newly hired teachers, teacher turnover data by district, the percentages of new teachers by degree-granting institution, and more.

In mid-April, Alleyne shared the near-final version of the SDP Human Capital Diagnostic results with the Data Analysis Work Group (DAWG), a new entity composed of data leaders from school districts across the state. He had launched the group at the suggestion of Jeff Klein, the research and evaluation

coordinator for Appoquinimink School District. The two had agreed that there was a great need for data, research, and evaluation heads from school districts across the state to come together on a regular basis to discuss shared challenges, learn from each other, and vet upcoming DDOE research projects. Klein had tried to pull such a group together before but “couldn’t get folks to come together until the state convened us.”²³ Despite the state’s small size, this was the first time that many of the district data leaders had ever met face-to-face.

During his presentation to the Data Analysis Work Group, Alleyne walked the district data leaders through a deck of slides summarizing the diagnostic analyses—showing, for example, the racial/ethnic characteristics of Delaware’s educators vs. its students, teachers’ impact on student achievement over time, differences in how novice vs. experienced teachers were assigned, teachers’ impact on student achievement, attrition rates over time, and more.

The data leaders had numerous questions throughout the presentation. Some wanted to know more about the methodology while others wanted to delve into the root causes of the results. Near the end of the session, Alleyne urged those present to reflect on their own school districts. *What types of human capital analyses do you currently conduct? How do the leaders in your district use—or not use—this information? What more could you do?* The participants talked enthusiastically about what they knew and did not know about their districts’ educator workforce, and about analyses they could do or wished they could do.

Alleyne and others within the DDOE perceived that Delaware’s size was a great advantage in enabling conversations like this, as leaders from across the state could all be brought together in one room. This was not only possible; in fact, it was expected. State leaders would later explain in their request for a federal waiver from certain requirements of the Elementary and Secondary Education Act (ESEA), “Collaboration among the many constituency groups in Delaware is common and expected. While there is not always agreement on every aspect, there is mutual respect and a willingness to listen by all parties. This has served Delaware well in the past and continues today.”²⁴

There was a term, in fact, for Delaware’s penchant for bringing people together: the Delaware Way. Some pointed out that the term sometimes had a negative connotation, as in, “We don’t get anything done without getting everyone into a room to agree to it.” But most embraced the Delaware Way as a unique and important aspect of the state’s culture. In particular, they believed that it allowed state leaders to secure broad understanding of and support for difficult changes.

The Growing Demand for Data

Just as the Data Analysis Working Group had a mixture of reactions to the SDP Human Capital Diagnostic data, so too did other groups to whom the findings were presented. Rebecca Taber, Governor Markell’s education policy advisor, later remembered:

Generally speaking, there were three kinds of reactions to the data. One was, I agree with the methodologies, the findings, and what to do about them. The second was, I agree with the findings, but we disagree about what to do about it. The third was, I disagree with methodology and the findings. The number of folks in the third category was very limited. For the most part, people accepted the data, though they often disagreed about the root causes or what to do about it.²⁵

Not surprisingly, discussions about the SDP Human Capital Diagnostic findings frequently sparked more questions, and when this happened, Alleyne and the other fellows pursued the answers with help from

the CEPR analysts. Agency Fellow Mitchell emphasized, this was precisely what the SDP partnership was meant to do: “The diagnostics are set up to create demand for more data.”

And the demand seemed to be growing by leaps and bounds. The governor and his staff often sought additional data to reinforce his public remarks on education topics and to inform his policy making. One morning in the spring of 2013, for example, Taber emailed Mitchell asking for some bullet points “ASAP” on what the state’s teacher preparation programs were doing to increase the diversity of teacher candidates. An hour later, Mitchell sent a detailed reply with copious information and examples.²⁶

Ruszkowski saw tremendous value in the DDOE’s ability to respond rapidly to these kinds of data requests. “I would ask a question, and by the end of the day, one of the data fellows or someone at SDP would come back with an answer,” he recalled. “This was not just helpful; it was essential to the work we were doing.”

Department leaders found the ability to conduct rapid, focused analyses especially valuable in their efforts to hold school districts accountable for implementing their RTTT commitments. For example, when the leaders of the Christina School District—Delaware’s largest school system—tried to gloss over high rates of educator attrition in their highest-poverty schools, DDOE leaders used the diagnostic analyses to highlight the severity of the problem and to press district leaders to respond with an appropriate plan. “This was no longer a question of ideology,” Ruszkowski emphasized. “It was about a district’s unwillingness to look at the data in front of them and invest resources in solving the problem.” Ultimately, the DDOE withheld nearly \$2.4 million in RTTT funding from the district, using the diagnostic analyses as a core component of their justification.

To disseminate answers to some of the follow-up questions stemming from the diagnostic data, Alleyne created a new monthly TLEU publication called *The Set*, which highlighted particular findings of interest. Although the briefs were only two pages long, they were packed with small, colorful graphs so that users could quickly extract the key points. In January 2013, for example, *The Set* profiled the state’s principals. In February, it highlighted retention patterns for teachers in the state’s highest need schools. The March issue focused on teacher preparation (see Attachment G).²⁷

Alleyne appreciated the fact that Ruszkowski gave him the latitude to pursue new projects such as this. “I like that he lets me go rogue a little bit,” he said.²⁸ He also hoped there would always be a place within the DDOE to go for the kinds of analyses that he and his colleagues were doing. Secretary Murphy agreed and began contemplating how best to institutionalize the DDOE’s research and evaluation work, perhaps by creating a new unit with the Department. “I believe this is the state’s role, but it’s not a role that this state has traditionally played,” he said.

The Public Release

After many months of preliminary sharing, the SDP Human Capital Diagnostic findings for Delaware were formally released to the public on April 18, 2013. Shortly after opening a meeting of the State Board of Education, Board President Teri Quinn Gray recessed the meeting so that the board members could attend the release of the SDP Human Capital Diagnostic findings, led by SDP Research Director Page.²⁹ Governor Markell attended the presentation, as did an array of state leaders, DDOE staff, the SDP Fellows, and many others.

The event was held in a historic building near the DDOE in room filled with children’s artwork. “While it was an official setting,” Page recalled, “being surrounded by work of children was a powerful reminder of why we were there.”

Before Page’s presentation, the head of the teachers union spoke about the importance of being clear and transparent with data—and about celebrating what is working while also honest about what is not. Next, the teacher of the year made a few remarks. Page later remembered, “He talked about what his own experience had been as a new teacher and how it took several years to truly understand what he was doing. That was a nice set-up for some of the data that I would be presenting.”

Next it was Page’s turn to speak. The first slide of her presentation, which bore SDP’s crimson logo, was titled, “Delaware Educator Diagnostic: An Analysis of the First State’s Workforce.” The second highlighted SDP’s mission: to transform the use of data in education to improve student achievement.

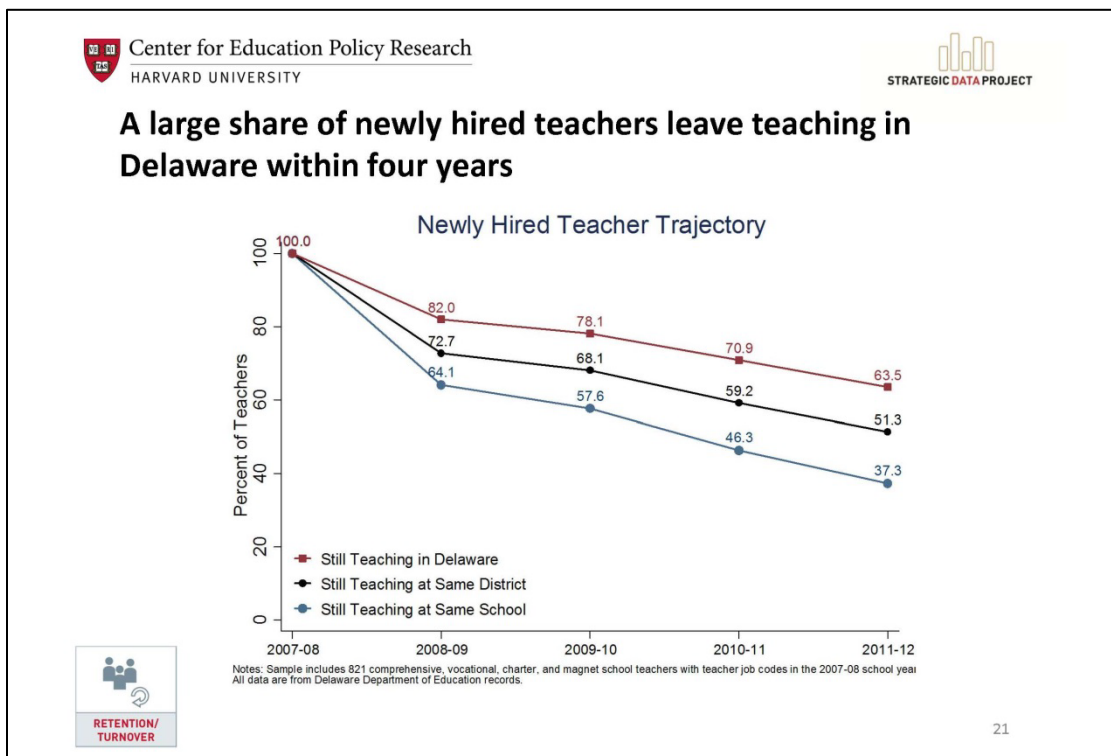
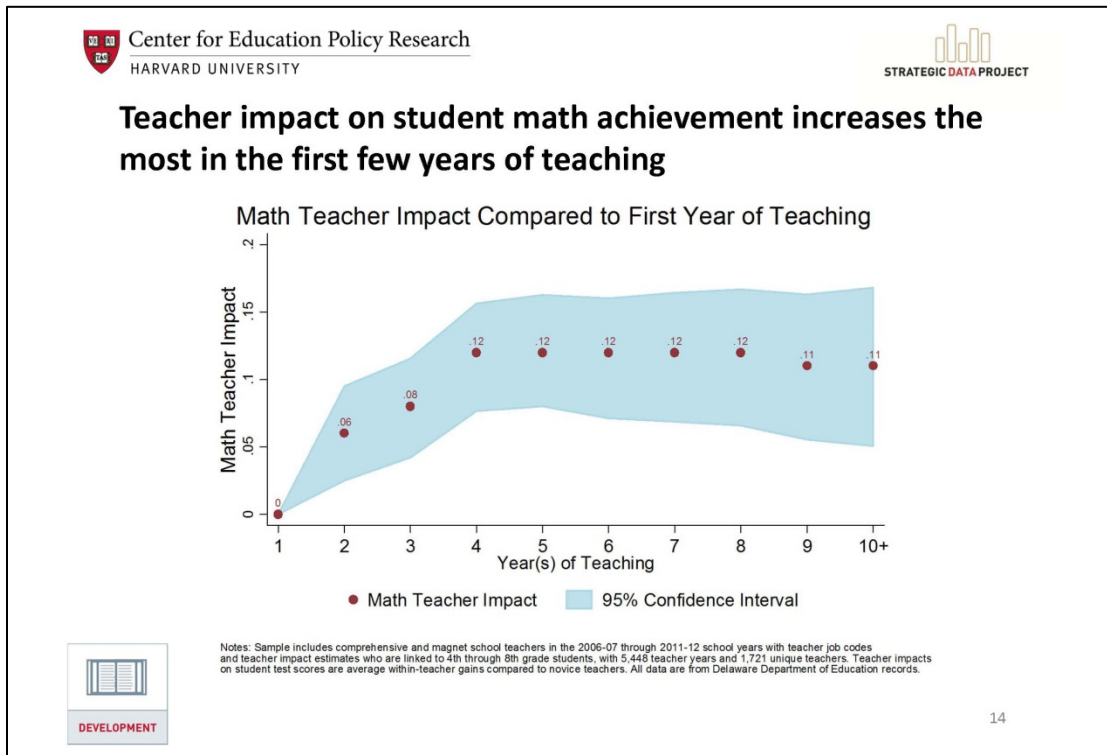
Today, she explained to the audience, she would be presenting results of the SDP Human Capital Diagnostic, which examined five major stages in the teaching pipeline: recruitment, placement, development, evaluation, and retention. She then described the diagnostic results step by step, highlighting key findings through a series of now-polished graphs (see Attachment H).

As Page walked through the data slides, many in the room leaned forward to study the graphs on the screen, along with their explanatory titles. A bar chart on one slide, for example, showed that the least academically prepared elementary students in Delaware were more likely to be placed with the most inexperienced teachers. The next slide revealed that even within a school, inexperienced teachers were most likely to be placed with the most academically challenged students.

In a series of slides on teacher development, Page showed that Delaware teachers’ impact on students’ math achievement increased the most during the first few years of teaching, then plateaued (see Figure 2). Teachers’ impact on student achievement in their third year of teaching was therefore highly predictive of their future impact.

Still another graph revealed that there was essentially no difference in impact on student achievement between teachers who had earned a masters degree and those who had not—a finding that caused murmuring across the room since Delaware’s single salary schedule awarded salary increases to educators based on years of teaching and advanced degrees, rather than on their demonstrated impact on student achievement. In the final part of the presentation, which focused on teacher retention and turnover, a simple but powerful line graph showed that only two thirds of newly hired educators in Delaware were still teaching in the state four years later.³⁰

Figure 2: Sample Graphs from Public Release of Data from the SDP Human Capital Diagnostic for Delaware – April 18, 2013



The release of these analyses of Delaware’s educator data attracted considerable coverage in the local news media, and the Rodel Foundation also highlighted the findings on its blog:

They say a picture is worth a thousand words. Yesterday, a portrait of Delaware’s teacher workforce was unveiled as part of the Strategic Data Project. The preliminary results show both the value of data and areas of improvement here in the First State. . . . We now have data that was available but never unearthed. This information is critical to helping determine what’s working and what isn’t so that the state can make smarter decisions around human capital. . . . [We] believe Delaware has the courage and creativity to continue pushing forward in implementing strong new policies, based on research and with local innovation, as part of a coherent strategy—which will no doubt reap benefits for our students for generations to come.³¹

The day after Page’s presentation to the governor and lawmakers, she made a follow-up presentation that included “fewer political people and more community members.” Because this was a longer meeting, Page recalled, “we had more time to roll up our sleeves, and it became a conversation rather than just a presentation. There was a lot of passion among those present around what the data showed.”

Later that same day, the State Board reconvened for the continuation of its work session. During the meeting, Executive Director Donna Johnson led the group of leaders in a frank conversation about educator preparation programs in Delaware, and about existing requirements for licensure and certification. She then highlighted the findings of several recent research studies and identified specific areas in which educator preparation in Delaware fell short of their recommendations.

After Johnson’s presentation, Taber provided a short synopsis of the governor’s education policy agenda. In particular, she emphasized Governor Markell’s strong support for legislation that would make educator preparation more rigorous. The state had promised to do this work in its RTTT proposal, and it was time to act on what the data showed.

A New Law

On April 24, 2013—about a week after the SDP Human Capital Diagnostic data were released—Delaware Senator David Sokola (D-Newark) introduced a new bill, Senate Bill 51: An Act to amend Title 14 of the Delaware code relating to educator licensure, certification, and preparation programs. The bill, which was cosponsored by Representative Darryl Scott (D-Dover) and many other members of the Senate and House, contained seven provisions:

1. Require teacher candidates to have a minimum GPA of 3.0 on a 4.0 scale, or in the top 50th percentile for coursework completed (in high school or the first two years in college);
2. Require teacher candidates to pass a test normed to the general college-bound population (likely including the SAT and ACT) and achieve a minimum score to be determined by the Professional Standards Board and State Board;
3. Require candidates to pass a content readiness exam and performance assessment;
4. Allow the aforementioned requirements to be waived for up to 10% of students admitted, so that teacher preparation programs could admit qualified candidates with special needs or other challenges;
5. Require all candidates to achieve a passing score on an examination of content knowledge;

-
6. Ensure that all candidates have access to high-quality student teaching experiences and ongoing evaluations throughout their practice teaching; and
 7. Require all teacher preparation programs to collect and annually report data on their graduates' performance and effectiveness.³²

About a week later, Sen. Sokola introduced an amendment to SB 51 that tweaked some of its language in response to input from the DDOE and various stakeholder groups.³³ With this amendment, the Senate unanimously approved the bill, 21–0.

Over the next two weeks, the bill wound its way through the House Education Committee and onto the floor. On May 16, House members introduced two amendments that would weaken or remove some of the bill's core provisions. Representatives Charles Potter Jr. (D-Wilmington North) and John Kowalko (D-Newark South) proposed to eliminate the minimum GPA requirement. "I know there's hope that the better product we get going in, the better product we get going out," Kowalko commented, "but we can't ignore the products that are not as highly polished at that moment in time, which is what we're doing by law." Their amendment was defeated.³⁴

Another congressman proposed eliminating the requirement to track the performance of Delaware's teacher preparation programs. "It introduces a dangerous direction of micromanaging our colleges and universities by our state Department of Education," he said. But that amendment was also soundly defeated, and the House moved on to approve the bill 37–2.³⁵

On June 12, 2013—less than two months after it was introduced—Governor Markell signed SB 51 into law.³⁶ It was a pivotal moment, and one that would have long-lasting ramifications not only for Delaware's teachers and the colleges and universities that prepared them, but also for its students.

The next day, the governor posted a video online in which he acknowledged the important role that DDOE's partnership with SDP had in influencing the new legislation and the state's reform work as a whole.

Just as our teachers are now using data better in the classroom, we've been working to use data better at the state level. The Strategic Data Project . . . has been a key partner in our efforts to transform the way we use data to inform our practices and to drive our strategies. The SDP Fellows have improved our analytical capacity to work with our state's education data. Through this collaboration, and using the SDP Diagnostics, we now have information about our teachers and students that we've never had before. Having results like these at our fingertips has enriched the discussions among education leaders and policymakers in Delaware and allowed us to be more strategic and targeted in our efforts to reform education.³⁷

Secretary Murphy agreed that the SDP partnership and the analytical work had been transformative for Delaware. He later reflected, "What we saw is that in a period of several months, you can go from having very little information to having really good information and taking it public. Then you can create a situation where you have both support and pressure: support to make changes in policy, combined with pressure on schools, districts, and legislative leaders to make better human capital decisions. That is remarkable."

The Work Continues

The impact of the SDP Human Capital Diagnostic findings did not end with the passage of SB 51. In the months that followed, DDOE leaders continued to use the data to propel other reform measures. The data on students' differential access to quality teachers, for example, reinforced the need for a state program called the Delaware Talent Cooperative, which provided recognition and financial rewards to effective teachers willing to transfer into (and remain in) the state's highest need schools.³⁸

Furthermore, based on the teacher attrition findings, DDOE leaders began working more closely with districts across the state to ensure that they provided more support and coaching for teachers over their first four years. Alleyne explained, "The diagnostic data, along with results from our new TELL-Delaware teacher surveys, helped state leaders make a much stronger case for the importance of mentoring novice teachers."³⁹

In the meantime, Mitchell was developing the scorecards that would be used to track the performance of the state's teacher preparation programs beginning in 2014, in keeping with the requirements of SB 51. She was also bringing a data-driven perspective to her new role as head of the state's Professional Standards Board.

As the ripple effects of the SDP Human Capital Diagnostic continued, the separate analyses for the SDP College-Going Diagnostic were nearing completion. Just as they had done with the SDP Human Capital Diagnostic data a few months before, DDOE leaders held meetings with various stakeholder groups to share the preliminary results, explore root causes, and develop new policies and interventions to improve the outcomes.

DDOE Chief Academic Officer Michael Watson, who was leading the development of the state's new delivery plan for college and career readiness, was finding the college-going data deeply useful as a way to dispel complacency:

Because Delaware had won Race To The Top, most people assumed we were on a trajectory of success. However, the diagnostic data was disturbing and disruptive. When Atnre presented the college-going data to groups of counselors, they had never seen data like this before. The first reaction was shock. The second was, "Tell me more." And the third was, "What do we do about it?"

SDP fundamentally changed the conversation in the state by helping us look at data and think about data differently. The data are allowing us to challenge assumptions, define core measures of success, and create trajectories for implementation. All of this will ultimately lead to improvement. In fact, behavior is already changing as a result of these data.⁴⁰

Reflections and Lessons

As the summer of 2013 drew to a close, Delaware's participation in the two-year SDP program was nearing an end, and state leaders were determined to find ways to sustain its impact. Alleyne began incorporating some of the key indicators from the diagnostics into existing DDOE processes and reports so that they would live on. He was also focused on helping district leaders develop the internal capacity needed to conduct their own diagnostic analyses. "Our goal," said Agency Fellow Mitchell, "is to teach them how to fish."

To that end, Alleyne traveled to Boston for several days to learn from CEPR’s analysts how to use their graphing code to create district-specific diagnostic reports, then shared what he learned with district data leaders. From Taber’s perspective, “that was a really big win in terms of the sustainability of the work.”

In September 2013, DDOE leaders also mapped out a series of organizational changes to address the analytic challenges that Alleyne and the other SDP Fellows had uncovered through the diagnostic work—for example, defining research priorities within the DDOE; facilitating communication and cross-training among analysts in different units within the department; standardizing processes for data collection, cleaning, and analysis; establishing a data quality review process; and developing new research and data use tools for DDOE workgroups and local education agencies.⁴¹

As they thought about the impact of the work of the past few years, Alleyne and his colleagues within the DDOE—and the governor himself—agreed that undertaking the analytical work and participating in the partnership had further strengthened the culture of data use in Delaware, not just at the state level, but also for districts. Perhaps most importantly, they had learned that even in a state that was considered exemplary in its use of education data, there was always room to grow.

As one observer noted:

From the outside, Delaware earns high marks for its reform agenda, for taking bold steps, and for being data driven. From the inside, staff are constantly throwing up their hands in frustration over the challenges—handling competing data requests, gaining access to the right data, or managing the length of time needed to obtain the data they need.

The reality is that both sides are true. Delaware was miles ahead of everyone in terms of reform initiatives, but it had some significant gaps on the research side. There was so much more that they needed to do, and *could* do, in terms of gathering and using system-level data. SDP was there at the right time because those gaps are now being recognized and filled.

Facts About Delaware's Public Education System, 2012–13

State Statistics

- ❖ 96 miles long with an area of 1,954 square miles, making it the second-smallest state in the United States
- ❖ Estimated population on July 1, 2012, of 917,092, according to the U.S. Census
- ❖ The state is divided into three counties: Kent, New Castle, and Sussex.

District, School, and Student Statistics (2012–13)

- ❖ 19 school districts in the state, including 3 vocational technology districts
- ❖ 234 public schools:
 - 218 traditional public schools enrolling 131,514 students
 - 22 public charter schools enrolling 8,680 students
- ❖ Student demographic characteristics:
 - 49% White
 - 32% African American
 - 14% Hispanic
 - 4% Asian American
 - 52% low income (eligible for free or reduced-price lunch)
 - 6% English language learners
- ❖ 8,449 public school teachers
 - 7,809 in traditional public schools
 - 640 in charter schools⁴²

All statistics above were retrieved from the following publication available on the DE DOE website: State of Delaware. (2014). State Summary for 2012–13.

Attachment A: About the Strategic Data Project

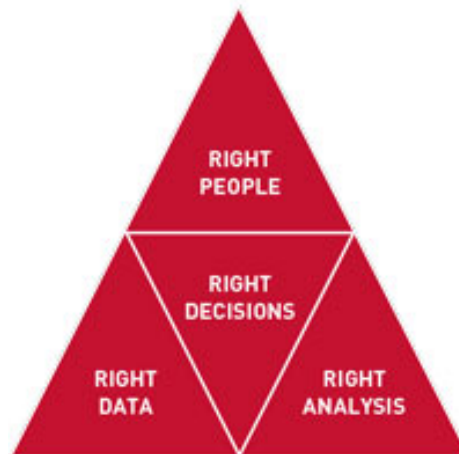
Since 2008, the Strategic Data Project (SDP) has partnered with school districts, charter school networks, state education agencies, and nonprofit organizations to bring high-quality research methods and data analysis to bear on strategic management and policy decisions. **Our mission is to transform the use of data in education to improve student achievement.**

Part of the Center for Education Policy Research (CEPR) at Harvard University, SDP was formed on two fundamental premises:

1. Policy and management decisions can directly influence schools' and teachers' ability to improve student achievement.
2. Valid and reliable data analysis significantly improves the quality of decision making.

We believe that if we bring together the right people, assemble the right data, and perform the right analysis, we can help leaders make better decisions—ultimately improving student achievement significantly. To make this happen, SDP pursues three strategies:

1. Building a **network of top-notch data strategists** who serve as fellows for two years with our partners (e.g., school district, charter management organization, nonprofit, or state education agency).
2. Conducting **rigorous diagnostic analyses** of teacher effectiveness and college-going success using agency data.
3. Disseminating **our tools, methods, and lessons learned** to the education sector broadly.



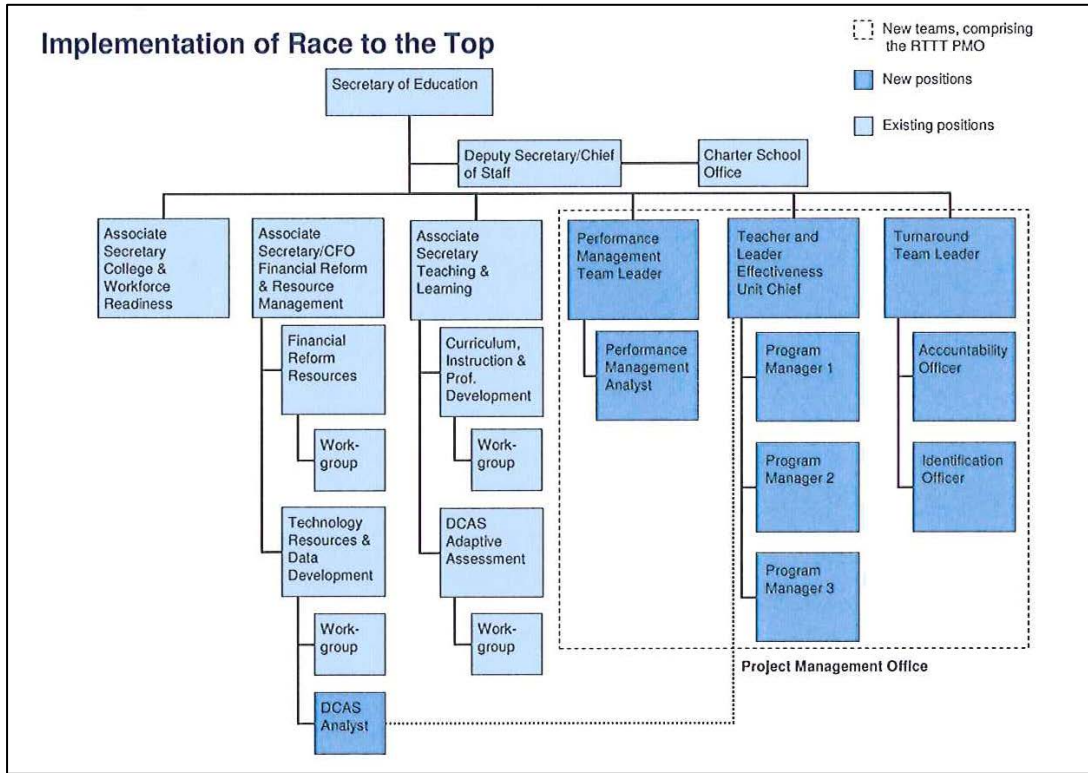
**Attachment B: Key Events in Delaware’s Recent Education
Reform History and Partnership with the Strategic Data Project, 2006–13**

Oct. 2006	Delaware’s <i>Vision 2015</i> education plan is released
2007–08	<i>Vision 2015</i> is the centerpiece of the 2008 gubernatorial race and candidate Jack Markell’s education policy platform
Nov. 2008	Markell is elected governor; Barack Obama is elected president
Jan. 2009	Governor Markell appoints Lillian Lowery as Delaware’s new secretary of education
Mid-2009	Obama U.S. Department of Education initiative Race To the Top (RTTT) competition is announced; state leaders begin working on application
2009	Delaware joins the Common Core Standards Initiative
Mar. 2010	Delaware is selected as one of two states to win first-round RTTT funding
Fall 2010	Delaware Department of Education (DDOE) creates and staffs new organizational units to implement the RTTT reforms: Delivery Unit, Teacher and Leader Effectiveness Unit, and School Turnaround Unit
Oct. 2010	Initial meeting between Delaware leaders and Harvard leaders regarding the state’s potential participation in the Strategic Data Project (SDP)
Sept. 2011	Delaware becomes the first state to participate in SDP; initial SDP Agency Fellows Donna Mitchell and Alan Phillips are identified; first SDP Data Fellow is selected and placed in the agency
Nov. 2011	First SDP Data Fellow leaves
Dec. 2011	National Council for Teacher Quality (NCTQ) gives Delaware an overall grade of “C” for its state teacher policies
Apr. 2012	Mark Murphy is appointed as Delaware’s secretary of education
July 2012	New SDP Data Fellow Atnre Alleyne is selected and placed in the DDOE
Aug. 2012	Bellwether Education Partners provides a mixed review of Delaware’s teacher quality policies and practices
Mid-2012	CEPR and Alleyne work to collect and clean data to produce initial SDP Human Capital Diagnostic analyses. Initial work also begins for SDP College-Going Diagnostic.
Oct. 2012	CEPR presents preliminary SDP Human Capital Diagnostic results to the Delaware’s SDP Steering Committee
Nov. 2012	Governor Jack Markell is re-elected
Jan. 2013	Governor Markell’s State of the State address references data points from the SDP Human Capital Diagnostic

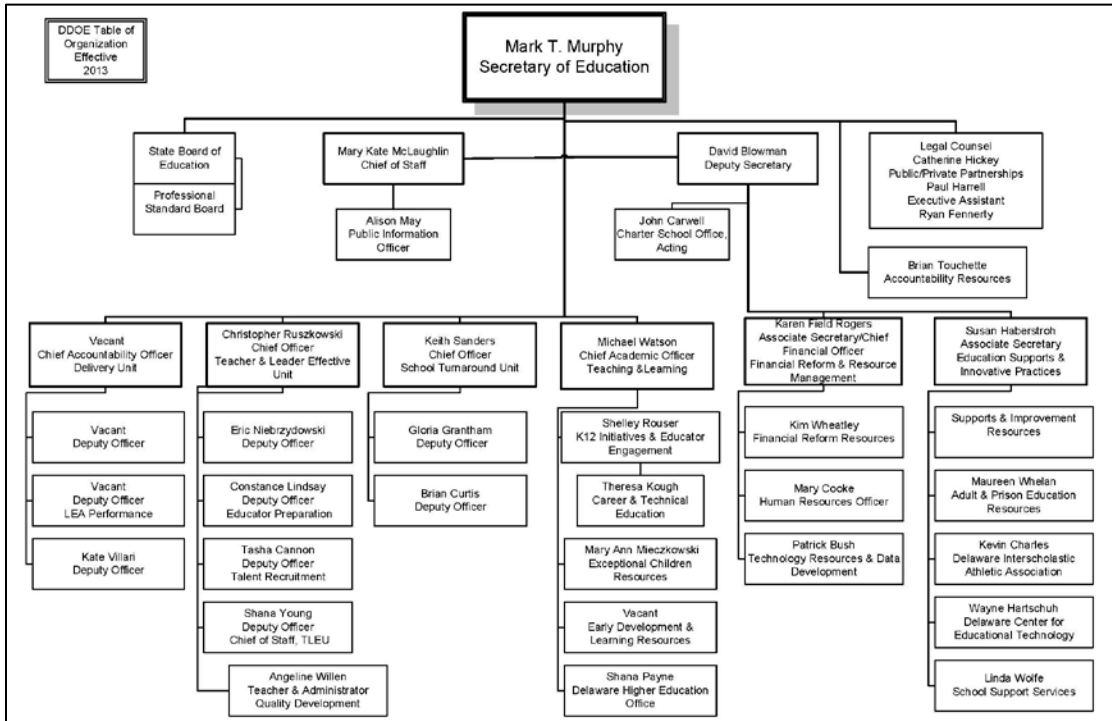
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- Jan. 2013** CEPR presents preliminary SDP College-Going Diagnostic results to the Delaware's SDP Steering Committee
- Apr. 2013** Alleyne convenes the first Data Analysis Working Group
- SDP Human Capital Diagnostic data are formally released at a State Board of Education meeting
- Senate Bill 51 (An Act to amend Title 14 of the Delaware code relating to educator licensure, certification, and preparation programs) is introduced
- June 2013** After passing both the Senate and House by very large margins, SB 51 is signed into law by Governor Markell
- July 2013** SDP College-Going Diagnostic results are released

Attachment C: DDOE Organizational Charts

DDOE Organizational Chart from the RTTT Application, 2010



DDOE Organizational Chart, 2013



Attachment D: Strategic Data Project Fellow Job Description



STRATEGIC DATA PROJECT
FELLOWSHIP

Transforming the use of data in education to improve student achievement.

Every day, education leaders make important decisions that effect the lives of students across America.

How can you make a difference? If you want to influence strategic management and policy decisions in K-12 education using high quality research methods and data analysis, apply to become a Strategic Data Project Fellow.

What is the SDP Fellowship?

The SDP Fellowship places **talented analysts** in partner agencies where Fellows work to influence policy decisions that impact student outcomes. Upon acceptance to the program, Fellows are immediately placed in full-time analytic leadership roles reporting to a cabinet-level position (e.g. Chief of Data and Accountability, Chief Academic Officer, or other top executives) within the agency. SDP Fellows are:

- ✓ entrepreneurial **change agents** dedicated to transforming how key policy and management decisions are made in public education.
- ✓ critical in helping partner agencies break through strategic issues that benefit from **robust analyses**.
- ✓ talented **analytic leaders** that support key projects in the agency.
- ✓ key contributors in a network of analytic leaders committed to impacting **education reform through research and data**.

Who can become an SDP Fellow?

Fellows come from diverse professional backgrounds, but share an interest in effecting change in education organizations and a commitment to making a difference in the lives of students across the country. SDP seeks candidates who possess:

- an advanced degree (Master's level or higher)
- at least four years of work experience
- a strong background in quantitative analysis
- a demonstrated passion for education reform

What are benefits of the Fellowship?

- **Impact and leadership:** The opportunity to take a leadership role on analytic, policy-oriented projects that impact decisions about students, teachers, school districts, and education organizations.
- **Ongoing professional development and support:** Eight professional development workshops over two years to strengthen skills in three primary areas: measurement and analysis; leadership and change management; and education policy. Access to Harvard based faculty and researchers throughout the program.
- **Access to the SDP Network:** A new national network of analytic leaders and policymakers impacting education reform through research and data.
- **Compensation Package:** \$80,000-\$90,000 annual salary plus benefits; \$2,000 professional development account.

How do I apply?

Applications for Cohort 4 of the SDP Fellowship will be made available on our website on March 19, 2012 at www.gse.harvard.edu/sdp.



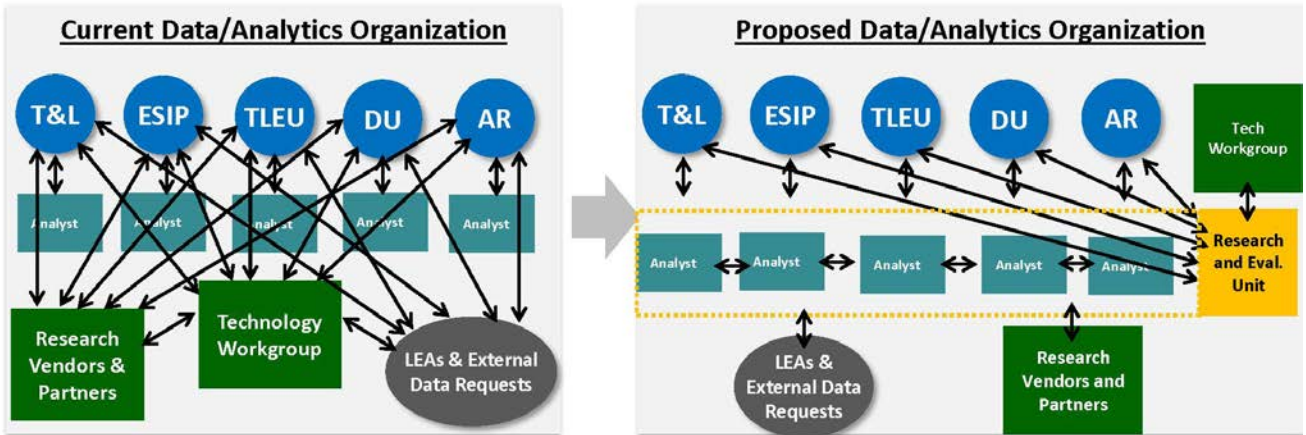
Attachment E: Bellwether Education Partners' Analysis of Delaware Laws and Regulations Related to Teacher Effectiveness, 2012

(Based on analysis of Delaware Code Title 14, Chapter 12 S 1270; Delaware Performance Appraisal System Guides; SB 263)

Criteria	Explanation	Score
Are teachers evaluated at least annually?	Generally, yes. Delaware code requires annual evaluation for all teachers, but allows a waiver for teachers rated highly-effective. Teachers may not receive two consecutive waivers. The student improvement component must be evaluated annually.	
Are principals, as well as teachers, evaluated?	Yes. Delaware has established DPAS II for teachers, specialists, and administrators.	
Is evidence of student learning a factor in teacher evaluations?	Yes. Student improvement is one of five components in a teacher's evaluation: 1) planning and preparation 2) classroom environment 3) instruction 4) professional responsibilities and 5) student improvement. Teachers cannot be rated effective or highly-effective overall if student growth expectations are not met.	
Do evaluations differentiate between multiple levels of educator performance?	Yes. Four-level rating system: highly-effective, effective, needs improvement, and ineffective.	
Are parents and the public provided clear information about teacher effectiveness?	Law neither precludes nor mandates reporting of teacher effectiveness data. Under Race to the Top, Delaware has developed and is implementing a new monitoring and reporting system for the DPAS II. Aggregated information on DPAS effectiveness will be reported on the Delaware Department of Education website.	
Are educator preparation programs accountable for graduates' effectiveness?	Although not specified in law, the state's data system has the capacity to link student achievement data back to the programs where their teachers and principals were prepared. This will enable the Delaware Department of Education, LEAs, and the general public to more clearly see which programs are producing effective teachers and principals.	
Is tenure linked to effectiveness?	In order to receive the highest level of notice and hearing protections, teachers must complete at least three years of teaching in Delaware, two of them with the employing school board, and must have earned at least two years of "satisfactory" ratings in the student improvement component of the teacher evaluation.	
Does state provide clear authority to dismiss ineffective teachers and a reasonable process for doing so?	Performance on the teacher evaluation system may be used to establish a "pattern of ineffective teaching," which, once established, can be used to terminate a teacher for incompetency. A pattern of ineffective teaching includes two consecutive years "ineffective" ratings or three consecutive years of combined "unsatisfactory" and "ineffective" ratings. Delaware has not created a streamlined process for dismissals based on ineffectiveness. Under pre-existing law, a teacher charged for dismissal may request a hearing before the local school board, which may elect to designate a hearing officer to hear the hearing. Evidence at the hearing may only address the stated reason for dismissal. A teacher may appeal dismissal to the County Supreme Court, which must uphold the board's decision if "substantial evidence" supports it.	
Is effectiveness, rather than seniority, the primary consideration in reductions in force?	Not addressed in legislation or regulations. Delaware's Race to the Top application commits the state and its LEAs to develop new programs and policies to ensure that evaluations are used as the primary factor in personnel actions, including teacher and principal dismissal and retention.	
In cases of teacher excessing, is there a process for teachers to secure new positions through mutual consent, and for those who cannot do so to eventually be discharged from employment?	Not addressed in legislation or regulations. Delaware's Race to the Top application commits the state and its LEAs to develop new programs and policies to ensure that evaluations are used as the primary factor in personnel actions, including teacher and principal dismissal and retention.	
Do principals have authority to decide who teaches in their schools?	Not addressed in legislation or regulations. Some local collective bargaining agreements may include provisions that provide for flexibility in hiring and transferring that is not solely based on seniority.	
Does the law protect students from being consecutively assigned to ineffective teachers?	Not addressed in legislation or regulations.	
Are effective teachers rewarded with increased compensation?	Delaware law provides a state salary schedule and allows, but does not require, LEAs to provide additional compensation, which could be based on performance. As part of Race to the Top, Delaware has developed a Teacher Attraction and Retention program that will provide a bonus to certain "highly-effective" teachers.	

Attachment F: Leveraging DDOE Data Resources for Organizational Success
(Excerpt from Presentation to DDOE Leadership Team, September 2013)

DDOE Data/Analytics Organization: Current and Proposed



- Current Data/Analytics Organization:**
- Technology Workgroup responds to numerous requests for data /analytics from all stakeholders.
 - Workgroups rely upon their analyst(s) for their data/analytics needs; minimal collaboration among analysts across groups
 - Workgroups rely heavily on research vendors/consultants to fill capacity and skill set gaps.
 - External stakeholders rely upon publicly available data produced by Technology Workgroup for basic data needs.
 - Customized or complex external data requests are received by various analysts and workgroups and passed around until appropriate contact is found. These requests ultimately reach the Technology Workgroup in most cases.

- Proposed Data/Analytics Organization:**
- Technology Workgroup partners with a Research and Eval. (R&E) Unit on data governance, design of internally and externally available reports/cubes to meet data/analytics needs, and to respond strategically to data requests.
 - Analysts remain embedded in workgroups but report to R&E Unit for administrative purposes and to a workgroup director for programmatic purposes; analysts meet regularly in R&E unit for reporting, collaboration and information sharing.
 - R&E Unit works closely with workgroup directors to identify and support research priorities and to manage external research consultant/vendor relationships

Note: T&L = Teaching and Learning; ESIP = Education Supports and Innovative Practices; TLEU = Teacher and Leader Effectiveness Unit; DU = Delivery Unit; AR = Assessment Resources.

Attachment G: Example of *The Set*

'The Set': Where are Delaware's Teachers Prepared for the Profession?

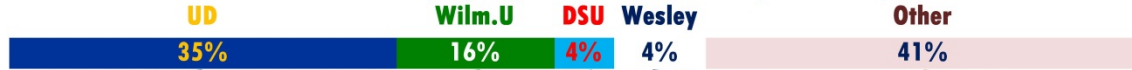
March 2013

Monthly Data Briefs from the Delaware Dept. of Education's Teacher and Leader Effectiveness Unit

A quarter of teachers employed in Delaware's schools have 5 or fewer years of education experience*. This brief explores where this group of teachers was prepared for the profession.

60% of Delaware's teachers with 5 or fewer years of education experience received their bachelor's degrees in DE, 18% in Pennsylvania, 5% in Maryland and the remaining 17% in other states or countries.

Share of teachers with five or fewer years of experience in DE public schools by Bachelor's Degree Institution



- 90% are white, 5% black and 5% other race.
- 76% are female

- 89% are white, 7% black and 4% other race.
- 84% are female

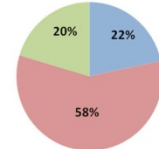
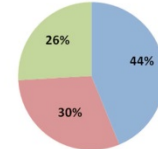
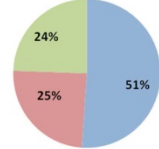
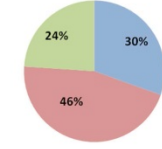
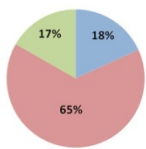
- 57% are white, 40% black and 3% other race.
- 65% are female

- 88% are white, 5% black and 7% other race.
- 69% are female

- 85% are white, 8% black and 7% other race.
- 74% are female

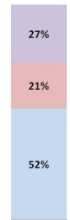
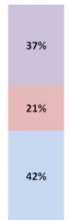
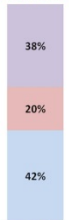
In which counties are these teachers working?

■ Kent ■ New Castle ■ Sussex



At what grade levels do these teachers work?

■ Elementary ■ Middle ■ High



Top 3 districts where teachers with 5 or fewer years of experience from each program are teaching

Christina (15.9%)
Red Clay (11.5%)
Appoquinimink (11.4%)

Red Clay (13%)
Indian River (11.3%)
Christina (10.1%)

Capital (17.6%)
Smyrna (11.0%)
Lake Forest (7.7%)

Capital (13.5%)
Caesar Rodney (13.5%)
Red Clay (9%)

Christina (18.6%)
Red Clay (12.3%)
Brandywine (8.4%)

- 18% are teaching in a high-need** school

- 27% are teaching in a high-need school

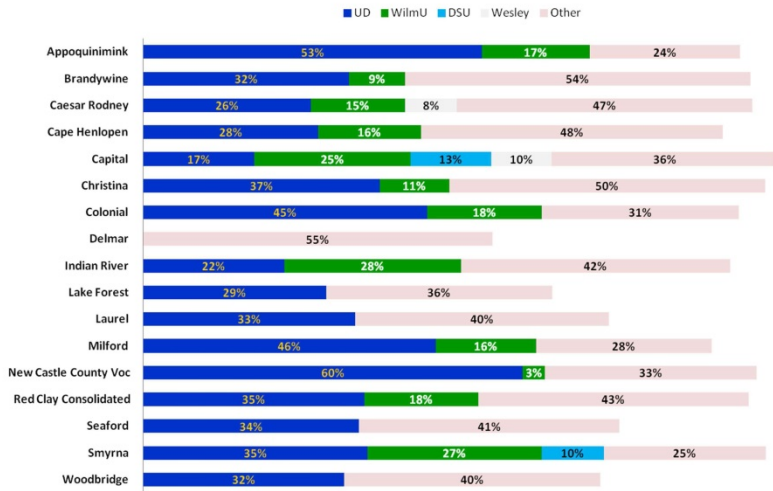
- 18% are teaching in a high-need school

- 17% are teaching in a high-need school

- 26% are teaching in a high-need school

*Sample includes the 2,191 teachers with five or fewer years of education experience employed in DE traditional, special, charter, magnet, and vocational schools in the 2011-2012 school year. This sample is used for the entire section presented above. ** High-need designation is based on DDOE specifications for the Delaware Talent Cooperative program.

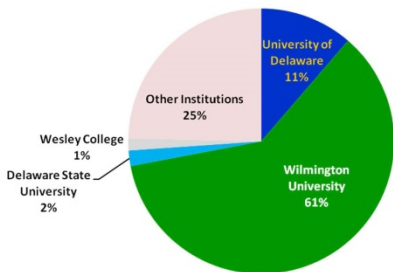
Share of Teachers with 5 or Fewer Years of Experience By Bachelors Degree Granting Institution and District



Note: Districts or bachelor's degree institutions with fewer than 10 teachers are not included in the district figures.

- Nearly half of the teachers with five or fewer years of experience working in the Colonial SD (45%) and Milford SD (46%) received their bachelor's degrees at the University of Delaware. In New Castle County Tech and Appoquinimink school districts, the majority of teachers with five or fewer years of experience received their bachelor's degrees at UD (60% and 53% respectively).
- The majority of teachers with five or fewer years of experience working in Delmar (55%) and Brandywine (54%) school districts received their bachelor's degrees in institutions other than the main teacher Delaware teacher preparation programs.
- Half of the teachers with five or fewer years of experience in Christina received their bachelor's degrees in "other" institutions and nearly half did the same in Caesar Rodney (47%), Cape Henlopen (48%), Indian River (42%), Laurel (40%), Red Clay (43%), Seaford (41%) and Woodbridge (40%).
- Appoquinimink is the district with the lowest share of teachers (24%) with five or fewer years of experience prepared by "other" institutions.

Share of 2012 Delaware Teachers with Five or Fewer Years of Experience by Masters Degree-Granting Institution



Where did these teachers receive their master's degrees?

- 44% of teachers with five or fewer years of experience working in Delaware's schools have a master's degree.
- Of these teachers with a master's degree, 61% received their degrees from Wilmington University, 11% from the University of Delaware, 2% from Delaware State University, 1% from Wesley College and 25% from other institutions.
- Of the teachers with five or fewer years of experience working in Delaware's schools with a bachelor's degree from the University of Delaware, 35% have a master's degree. Of those prepared at Wilmington University, 32%; Delaware State University, 25%; Wesley College, 30%; and Other institutions, 45%.

Notes: Sample includes the 2,191 teachers with five or fewer years of education experience employed in DE traditional, special, charter, magnet, and vocational schools in the 2011-2012 school year. Sample for master's degree chart includes 954 teachers.
 Source: Delaware Department of Education administrative records
 For more information contact: rtt-tleu@doe.k12.de.us

**Attachment H: Summary of Key Findings From
the SDP Human Capital Diagnostic for Delaware,
Presented to the State Board of Education, April 18, 2013**

RECRUITMENT

- More than one quarter of Delaware’s teachers (28%) have five or fewer years of teaching experience.
- Fewer than one in 12 teachers are new hires each year.
- High-poverty schools have larger shares of new hires (5%) than low-poverty schools (3%).
- Teacher characteristics (race, gender, years of teaching experience) differ markedly between high- and low-poverty schools.
- Teachers are less likely to be minority than their students.

PLACEMENT

- The least academically prepared students (elementary and middle school) are more likely to be placed with the most inexperienced teachers.
- This is also true when we look at student placement within schools.

DEVELOPMENT

- Teacher impact on student achievement increase the most in the first few years of teaching.
- There is little difference in impact on student achievement between teachers with and without master degrees.

EVALUATION

- Teacher impact on student achievement varies widely across the state.
- On average, a math teacher’s impact on student achievement is predictive of future impact— but there is movement between impact groups.
- In 2011–12, among teachers participating in Delaware’s new teacher evaluation system, more than two in five teachers were rated “Exceeds Expectations.”

RETENTION/TURNOVER

- More than 15% of teachers do not continue teaching in the same school the following year.
- A large share of newly hired teachers (> 36%) leave teaching in Delaware within four years.
- Charter schools tend to have higher turnover than traditional schools.
- High-poverty schools have higher rates of teacher turnover.
- Retention trajectories are similar for newly hired teachers graduating from different programs.

ENDNOTES

¹ Markell, J. (2013). 2013 State of the State – January 17, 2013. Retrieved from http://governor.delaware.gov/2013_sots_address.shtml.

² The *Vision 2015* effort began in 2006, when a steering committee of 28 Delaware leaders—representing K–12 and higher education, teachers unions, philanthropies, business and civic groups, and the nonprofit sector—was tasked with developing a road map for creating a world-class school system in Delaware. The plan was developed through extensive input and collaboration with teachers, school leaders, local education agencies, parents, and the public. Initially, implementation of the *Vision 2015* recommendations faltered due to a lack of state funding and political champions. But in 2008, business leader Jack Markell made *Vision 2015* the core of his education agenda during his gubernatorial campaign. His election to office, and his subsequent appointment of veteran Delaware educator named Lillian Lowery as secretary of education, provided the momentum needed to move forward on the plan’s recommendations. For more information, see *Vision 2015. (2011). Executive Summary, October 2006*. Retrieved from <http://www.vision2015delaware.org/wp-content/uploads/2011/08/Vision-Plan-Summary.pdf>.

³ Delaware Department of Education (DDOE). (2010). *Race to the Top: Application for Initial Funding, Narrative, The State of Delaware*. Retrieved from http://www.doe.k12.de.us/rttt/DE%20RTTT%20Narrative%20Final%20-%20100119_0116.pdf.

⁴ Ibid.

⁵ P. Herdman (personal communication, July 8, 2013). Unless otherwise indicated, all quotes from Mr. Herdman are from this interview. The Rodel Foundation is an operating foundation based in Wilmington whose mission is to develop a world-class school system in Delaware.

⁶ D. Mitchell (personal communication, July 9, 2013). Unless otherwise indicated, all quotes from Dr. Mitchell are from this interview.

⁷ The Rodel and Longwood Foundation were crucial partners and provided generous funding for the SDP engagement.

⁸ In each district or organization selected for the program, SDP paired one or more agency fellows (existing employees of the organization) with one or two data fellows (new agency employees recruited by CEPR). Fellows from all agencies convened for a series of 10 professional development workshops over the duration of the two-year program and received support from an SDP Faculty Advisor. The SDP Faculty Advisor for DDOE was Dr. Bruce Sacerdote.

⁹ As fellows, Mitchell and Phillips attended periodic convenings in which fellows from various districts and organizations across the country came together to learn about a variety of research and analytic topics and to participate in leadership development. They also participated in regular conference calls with Harvard research and analytic staff, who provided resources and help with various issues that arose, and were invited to join Web-based discussion groups to connect with other fellows engaged in similar work.

¹⁰ C. Ruszkowski (personal communication, July 8, 2013). Unless otherwise indicated, all quotes from Dr. Ruszkowski are from this interview. Note: Ruszkowski is a former teacher who had served in leadership roles with Teach for America and The New Teacher Project (TNTP).

¹¹ M. Nipson (personal communication, July 18, 2013). Unless otherwise indicated, all quotes from Ms. Nipson are from this interview.

¹² As part of the SDP College-Going Diagnostic analyses, students’ K–12 data were linked with postsecondary enrollment information from the National Student Clearinghouse.

¹³ Strategic Data Project, Harvard University. (n.d.). About the diagnostics. Retrieved from <http://www.gse.harvard.edu/sdp/diagnostics/about-the-diagnostics/index.php>.

¹⁴ This would later change with the arrival of the state’s new chief academic officer, Michael Watson, who took the lead on Delaware’s efforts to increase college-going rates.

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- ¹⁵ National Council on Teacher Quality. (2012). *2011 State Teacher Policy Yearbook: Delaware*. Washington, DC.
- ¹⁶ Mead, S. (2012). *Recent State Action on Teacher Effectiveness: What's in State Laws and Regulations?* Bellwether Education Partners.
- ¹⁷ As part of its RTTT application, Delaware had pledged to create a longitudinal data warehouse and performance management dashboards, to facilitate data-driven decision making throughout the state's education system. The state received a \$4.6 million grant from the Institute for Education Sciences (IES) in June 2012 to help fund this work.
- ¹⁸ The analysis process is more fully described in the SDP Toolkit, which can be found online at <http://www.gse.harvard.edu/cepr-resources/files/news-events/sdp-toolkit-introduction.pdf>.
- ¹⁹ L. Page (personal communication, October 28, 2013). Unless otherwise indicated, all quotes from Ms. Page are from this interview.
- ²⁰ S. Kerr (personal communication, July 10, 2013). Unless otherwise indicated, all quotes from Ms. Kerr are from this interview.
- ²¹ M. Murphy (personal communication, July 11, 2013). Unless otherwise indicated, all quotes from Secretary Murphy are from this interview.
- ²² He began by explaining that as a result of data coverage issues in the current DDOE system, information on teachers' degrees and preparation were only available for 42% of teachers in schools in 2012. Coverage was much better for teachers with five or fewer years of experience, however, so the analyses were limited to these newer teachers.
- ²³ J. Klein (personal communication, July 9, 2013). Unless otherwise indicated, all quotes from Mr. Klein are from this interview.
- ²⁴ DDOE. (2012). Application for ESEA flexibility, February 28, 2012, p. 11.
- ²⁵ R. Taber (personal communication, July 9, 2013). Unless otherwise indicated, all quotes from Ms. Taber are from this interview.
- ²⁶ D. Mitchell (personal communication, May 2013).
- ²⁷ Copies of *The Set* briefs can be found on the DDOE's website: <http://www.doe.k12.de.us/tleu.shtml>.
- ²⁸ A. Alleyne (personal communication, July 8, 2013). Unless otherwise indicated, all quotes from Mr. Alleyne are from this interview.
- ²⁹ Also attending the meeting were SDP Research Manager Meg Nipson, SDP Fellows Atnre Alleyne and Donna Mitchell, and CEPR research analyst Olivia Chi.
- ³⁰ Page, L. (2013). *Delaware Educator Diagnostic: An Analysis for the First State's Workforce*, Presentation for the Data Analysis Working Group, Strategic Data Project, Center for Education Policy Research, Harvard University, April 17, 2013.
- ³¹ Rodel Foundation of Delaware. (2013). *Painting a Portrait of Delaware's Teachers*. Wilmington, DE.
- ³² Bill 51: An Act to amend Title 14 of the Delaware code relating to educator licensure, certification, and preparation programs. (2013). 1st reading April 24, 2013, 147th General Assembly, Delaware.
- ³³ SB51 Senate Amendment 1: (1) specifies that the content-readiness exam and performance assessment for initial licensure for educators will be determined in collaboration with Delaware educators, the Professional Standards Board, and the State Board of Education; (2) establishes that supervised practical experiences shall satisfy the student teaching requirement for "specialists"—educators other than teachers who engage in professional support services; (3) removes a provision that allows candidates for licensure who failed to achieve a passing score on one section of Praxis I to satisfy the requirement with a passing composite score; (4) lists examples of standardized tests that may be used by educator preparation programs in setting entry requirements; and (5) makes several other small, clarifying changes.

³⁴ Dawson, J. (2013, May 16). Bill to strengthen teacher preparation heads to Governor Markell’s desk. Retrieved from <http://www.wdde.org/44241-bill-strengthen-teacher-preparation-heads-governor-markells-desk>. You can watch this video online at <http://www.gse.harvard.edu/news-impact/2013/05/delaware-governor-jack-markell-comments-on-sdp/>.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Ibid.

³⁸ For more information on the Delaware Talent Cooperative, see <https://sites.google.com/site/detalentcoop/>.

³⁹ TELL Delaware: Teaching, Empowering, Leading and Learning is an anonymous statewide survey of licensed school-based educators to assess teaching conditions at the school, district and state level. <http://www.telldelaware.org/>

⁴⁰ M. Watson (personal communication, July 9, 2013). Unless otherwise indicated, all quotes from Mr. Watson are from this interview.

⁴¹ DDOE. (2013, September). Leveraging DDOE Data Resources for Organizational Success. Wilmington, DE.

⁴² State of Delaware. (2014). State Summary for 2012–13. Retrieved from <http://profiles.doe.k12.de.us/SchoolProfiles/State/Default.aspx>.



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