



Making the Routine Routine: Administrative Support and Improvement in New York City's High Schools

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Making the Routine Routine:
Administrative Support and Improvement in
New York City's High Schools

Doctor of Education Leadership (Ed.L.D.) Capstone

Submitted by Jefferson Pestronk

To the Harvard Graduate School of Education
in partial fulfillment of the requirements
for the degree of Doctor of Education Leadership.

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Abstract

Modern schools are complex organizations, tasked with wide-ranging responsibilities. Too frequently, schools have few tools and limited support to carry out those responsibilities. Much attention has been paid to instructional improvement in schools, but there has been less focus on improving administrative processes that consume substantial time and have an underestimated impact on whether students graduate from high school. In New York City, these tasks include programming students for the courses they need to graduate and registering them for required Regents exams.

New Visions for Public Schools, the non-profit based in New York City where I did my residency, is a support organization for a network of 80 New York City public high schools. For the past two years, New Visions has been developing tools and resources to help schools carry out core administrative tasks. While these tasks sound straightforward, schools regularly miss routine opportunities. The accumulation of missed opportunities over the course of a student's high school career can be the difference between graduating and dropping out.

During my residency, I worked closely with a large comprehensive high school, attempting to implement New Visions' tools and strategies as part of an organizational improvement process. I also worked on the development of these tools and strategies internally at New Visions. In my capstone, I reflect on the challenges of building infrastructure to change longstanding practices in mature schools from the position of an intermediary. I also analyze a new structure called the "strategic data check-in" (SDC) that we use as a primary strategy for capacity building and behavior change. I argue that the project of building administrative infrastructure is important, that New Visions' progress has been hampered in part by an inability to create protected time and space for this work, but that the SDC approach is a promising approach to support learning by both New Visions and schools given these constraints. These lessons learned about creating tools to help manage schools as organizations, and the need for protected space in changing behavior, are generalizable to a wide range of challenges the education sector faces.

Introduction

Calls for education reform in the United States are nothing new. For decades, blue-ribbon commissions, academics, practitioners, and the public have made similar cases that the American education system is not up to the challenges of a changing world, and that absent substantial change, we will be left behind as individuals and as a nation (Klein & Rice, 2012; National Commission on Excellence in Education, 1983). While these reports often generate “national conversations,” the actual practice of education seems little changed (e.g., Elmore, 1997). Much of the policy-driven reform seems to fizzle, as the aims of policy seem disconnected from the daily practice of school staff (Cohen & Moffitt, 2009; Elmore, 1997). As Ball & Forzani (2011) write, “...improving educational outcomes for young people depends on developing and supplying skilled instructional practice. Such practice is complex and involve[s] much that is not natural or intuitive.” (p. 18) However, efforts to improve education often ignore this complexity. Great faith is placed in the instruments of policy as mechanisms for driving change, but simply telling educators that they need to improve will have little effect if they do not know how to improve (Elmore, 2010).

Much the same is true for school leaders, who in addition to thinking about instruction must also pay attention to running their schools.¹ School leaders oversee

¹ I intentionally use the term “school leaders” rather than “principals” here and throughout the capstone. While it is clear that the principal of a school plays a leader role, others such as assistant principals, guidance counselors, and lead teachers also play a major part in the operation of a school. This is particularly true in larger schools, which may have hundreds of employees and where leadership responsibilities may be dispersed across a team.

complex organizations, in some cases with staff numbering in the hundreds and budgets in the tens of millions of dollars. They operate under conditions of political uncertainty, serving challenging constituents, whether defined as students, families, or the general public. Yet, the tools they have available to manage such organizations in these conditions are, at least in New York City, primitive. School leaders' limited ability to understand what is occurring in their building at any point in time, and the subsequent challenges they face when ensuring that a set of actions critical to the success of challenged students take place, are serious barriers to improvement. Absent reliable ways of managing even basic administrative processes reliably, carrying out more ambitious goals of improving instruction is hard to imagine.

From July 2014 through the writing of this document in spring 2015, I was a resident at New Visions for Public Schools, a non-profit organization dedicated to the improvement of public schools in New York City. When I joined New Visions, roughly two months before the start of the 2014-15 school year, the organization was a partnership support organization (PSO), one of several types of support organizations that provide direct operational, administrative, and instructional support to district schools in New York City, but the work of the organization was in the process of changing. As I conclude the residency, the work has crystalized in many ways. A set of reforms put in motion by the Chancellor of the New York City Department of Education (DOE) may change the relationship between New Visions and the schools we work with. In New York City, education is always fluid. Co-evolution with the DOE has defined New Visions' over much of its history, so I begin with some brief context for that relationship.

New York City and New Visions

The New York City school system is an extraordinarily complex endeavor. From one perspective, it is difficult to consider without abstraction. Nearly 1,700 schools serve one million students across the City's five boroughs. More than 134,000 employees work in the system, including nearly 90,000 teachers. Were it a city, the number of students and staff in the New York City school system would make it the ninth-largest in the United States, the same population as Dallas. The total budget for the system is \$26 billion (New York City Department of Education, 2015a). Were it a corporation, the total budget of the school system puts it on par with the revenue of American Airlines, the 112th largest company in the United States (Fortune, 2014).

Yet the task of the school system is also remarkably personal: to "...ensure that every child graduates from high school prepared for college, a career, and a future as a productive, critically thinking adult" (New York City Department of Education, 2015b). In some ways, it is a simple mission that is taken for granted as what a school and a school system should do for all students. At the scale of New York City, though, it requires enormous coordination and collaboration.

At the high school level, reaching graduation involves coordination and collaboration. New York State has unusually stringent high school graduation requirements. Each student must accumulate at least 44 credits, including specific numbers of credits in English, math, science, social studies, foreign language, art, physical education and health. Students also must pass five New York State Regents

exams, one each in math, science, English language arts, global history, and U.S. history.²

For many years, even before the establishment of these stricter graduation standards, the high school graduation rate in New York City hovered around 50 percent, with little variation year over year (New York City Department of Education, Undated). This is a startling number: in the largest school system in the United States, a student had roughly the same likelihood of not graduating as of graduating. And those odds differed dramatically depending on the demographics of the student. Even after graduation rates began improving in the early 2000s, white and Asian students remained 50-100% more likely to graduate in four years than black or Hispanic students.

Between 2002-2010, this long-term trend changed. Graduation rates improved, on average, more than two percentage points a year. The system-wide graduation rate rose from 50 percent to 70 percent before plateauing again (New York City Department of Education, Undated). These years roughly coincided with the mayoralty of Michael Bloomberg and the chancellorship of Joel Klein at the New York City Department of Education. The extent to which the set of policies that they put into place caused this improvement is beyond my scope; the debate over what led to this improvement – or even whether the improvement actually happened in an educationally meaningful way – has been fierce. However, New Visions played a substantial role in this improvement, and the organization’s current status as a PSO is the result of Bloomberg-era policies.

² During my time at New Visions, this requirement changed to allow students to pass one exam each in English, math, science, and social studies, plus one additional exam in math or science or social studies. This new option is known as the “4+1” option, but it applies only to exams and does not change the credit requirements.

New Visions (2015) defines its mission as “...ensuring that all New York City public school students, regardless of race or economic class, have access to a high-quality education that prepares them for the rigors of college and the workforce.” Its relationship with the New York City Department of Education (DOE) and the work it does has changed several times, but this New York focus has been constant. The organization likely is best known for its role in supporting the creation of small schools of choice (SSCs) across New York City. In 2001, New Visions launched the New Century High Schools initiative, in partnership with the DOE and other stakeholders (Quint, Smith, Unterman, & Moedano, 2010). This effort overlapped with later efforts by the Klein-led DOE to shutter large, historically low-performing high schools and replace them (primarily) with smaller schools. In total, this effort closed more than 20 comprehensive high schools and opened more than 200 new schools (Bloom, Levy Thompson, & Unterman, 2010).

Early public assessments of small schools painted the work as disappointing: Bill Gates, whose eponymous foundation funded the creation of many of the small schools, said “...[s]imply breaking up existing schools into smaller units often did not generate the gains we were hoping for” (Gates, 2008). Beginning in 2010, however, the research firm MDRC has published a series of rigorous evaluations of SSCs that came to a far more positive conclusion. MDRC called SSCs “...an unusually promising educational initiative — reliably demonstrating for the first time that transformation in a large urban school system at scale, serving disadvantaged students, is possible in a relatively short time period.” (Bloom et al., 2010, p. 65) A recent follow-on report found that the SSCs increased on-time graduation by nearly 10 percentage points, with larger gains among

historically disadvantaged students. Equally important, given the mission of the DOE to prepare students for college and beyond, was the finding that SSCs increased college enrollment by over eight percentage points and college persistence through the fall of students' fourth year in college by nearly six percentage points (Unterman, 2014).

New Visions currently is a player in another wave of major reform in New York City schools that began during the Bloomberg mayoralty. Between 1969 and 2003, much of the administrative control of and support for schools funneled through 32 community school districts, though high schools remained under the control of the chancellor (Hemphill & Nauer, 2010). The reforms that granted Bloomberg mayoral control over the school system enabled him, in 2003, to consolidate these 32 districts into 10 regions. DOE leadership argued that the new structure would increase accountability and decrease bureaucracy (Brennan & Campbell, 2009). In summer 2007, the Department of Education announced another reorganization, abolishing the regional support structure and using the resources saved to provide schools with funding to select a support organization, from a list vetted by the DOE, that the school believed would best suit its particular support needs (Hemphill & Nauer, 2010). These organizations came in three types: an empowerment support organization, which was part of the DOE and was an extension of the earlier autonomy reforms; learning support organizations, which also were part of the DOE and generally led by former heads of the regions; and partnership support organizations (PSO), non-profits authorized by the DOE to offer services to schools that selected them (Nadelstern, 2012). New Visions submitted an application and was selected as one of these PSOs; it has remained a PSO since.

In 2010, Klein again reorganized school support and created Children First Networks (CFNs). These CFNs are responsible for both operational and instructional support, though in New Visions' case the responsibilities are largely divided between New Visions staff (whom I will mean when I use the term PSO) and DOE staff (who I will mean when I use the term CFN). New Visions has primary responsibility for strategic support of schools, incorporating both administrative and instructional issues. The CFN has primary responsibility for day-to-day operational and compliance issues, such as managing the student enrollment process or mediating budget disputes. If the lines between the CFN and the PSO seem blurry rather than bright, that reflects the reality on the ground for both organizations (as well as, I suspect, for schools seeking support on a certain set of issues).³

New Visions in 2014-15

During the 2014-15 school year, my residency period at New Visions, the PSO consists of 80 schools across the five boroughs, with nearly 50,000 active students. All 80 are secondary schools, but four distinct school types are part of the network: 49 small high schools enrolling roughly 42% of the total PSO students, 6 large high schools enrolling another 36%, 14 schools spanning grades 6-12 and enrolling roughly 16% of students, and 11 transfer high schools enrolling the remaining 6%. These 80 schools are

³ In January 2015, Chancellor Carmen Fariña announced yet another reorganization of the school support structure. The new structure looks in many ways like the pre-2007 support structure, with empowered superintendents and field support centers tasked with providing both administrative and instructional assistance to schools as needed (Wall, 2015). Exactly how this new structure will work, what types of supports schools will receive, and the level of satisfaction with the new structure all remain to be seen.

divided into three geographic networks: one for the Bronx, one for Manhattan and Queens, and one for Brooklyn and Staten Island. The heterogeneity of schools presents both opportunity and challenge for the organization: a huge range of practice and expertise existed were we able to tap it, but each school perceives its needs as differing from other schools. It is not hyperbole to describe New Visions as a system within a system, though as I will discuss later, we lack some of the benefits of formal authority (but also likely some of the challenges).

The way in which New Visions offered support to the schools in its networks was in the process of shifting as I arrived and continued to evolve during my time at New Visions.⁴ For most of the organization's history as a PSO, school-facing support activities centered on individuals who at different times had been called Leadership Development Facilitators (LDFs) or School Support Facilitators (SSFs). These individuals had caseloads ranging from 2 to 9 schools, depending on a variety of factors, including size of schools, individual capacity, personal relationships with schools, and other idiosyncrasies. These individuals largely defined the scope and focus of the engagement between New Visions and the schools in their caseloads, and owned the implementation. Overseeing these individuals were three network leaders, each responsible for one of the three geographic networks and the staff working for those networks. The backgrounds of

⁴ As context, the PSO is only one part of the larger New Visions organization. While I will frequently write about the PSO and New Visions as if they are synonymous, in addition to operating the PSO, New Visions also operates 6 charter high schools in New York City; runs teacher and principal training programs; and carries out multiple grant-funded projects.

network leaders and the SSFs varied, but most had deep experience in New York City schools and had been school leaders, district or regional administrators, or both.

In advance of the 2014-15 school year, New Visions announced a new structure for school support in the PSO. Under this structure, each geographic network now consists of only two individuals, a network leader and a deputy network leader. Most of the remaining members of the direct school support team have become specialists in various policy and practice areas, such as academic policy, special education, or budget. This structure puts primary responsibility for overall strategy on network leaders and deputy network leaders, while providing schools access to a broader range of the expertise that exists at New Visions: instead of interacting largely with only the single SSF, specialists can work across the PSO and schools can call on their expertise as needed. This change also provided the structure within which to standardize a number of school support activities, through the strategic data checkins discussed later.

In addition to the direct school support work, three other teams make up the rest of the PSO.⁵ Largest is an instructional support team, which develops curricular materials, provides training on those materials, and offers coaching to individual teachers. Second is a data team, which over several years has built a data warehouse and a set of tools and processes for accessing and analyzing data drawn largely out of DOE source systems. Third is a systems team, which has developed expertise in Google Apps Script,

⁵ The formal organizational structure is slightly different than this, but for most purposes, this simplified structure suffices.

a programming language that allows them to build tools that extend the Google Apps platform.⁶

Over the course of the year, what I believe is an even more substantial change in the form of New Visions support began to take shape. We began implementing strategic data checkins (SDC). I will describe these in further detail later, but briefly, SDCs are protocol-driven conversations that take place with nearly every school in the network at critical points during the school year. These conversations serve multiple purposes: to build internal and external capacity in the data tools that the systems and data teams had built; to provide information about whether schools had completed important administrative tasks; to identify opportunities for near-term improvement if schools missed opportunities in those tasks; and over the long-term, to routinize the execution of these administrative tasks.

During the year prior to my arrival and during the year I was at New Visions, then, the PSO was in the midst of substantial change. The vision for school support changed from one that was generally determined by individuals to one that was largely standardized across a set of specific activities and conversations that would occur over the course of a school year. In the background of all of this work, the DOE also was changing: Chancellor Farina was undoing a number of policies put in place under Joel Klein's chancellorship, implementing new structures, and broadly changing the tone from technocratic and data-driven to more traditional (Wohlstetter & Houston, 2015).

⁶ The Google Apps platform is an umbrella term for a set of web-based programs, such as Gmail, Google Docs, and Google Sheets - email, word processing, and spreadsheet software, respectively. New Visions uses this platform extensively. All schools in the PSO use this platform, to varying degrees. The DOE does not use this platform.

What has remained consistent throughout New Visions' work as a PSO is important, as well. The support that New Visions provides is targeted primarily at a school's principal. While we interact with many other staff in PSO schools, including assistant principals, guidance counselors, and teachers, the paramount relationship is with the principal – and building the principal's capacity as both an administrative and instructional leader is a primary goal.

The organization is working across multiple areas, but the one that I will explore in this capstone is the investment in improving schools' abilities to execute and school leaders' abilities to manage core administrative processes that take up an enormous amount of time and energy in New York City schools. These are activities that fall at the juncture of administration and instruction, such as enrolling students in courses necessary for graduation or preparing them for the Regents exams. Ensuring that all schools are able to reliably and effectively carry out these activities that directly affect students' ability to graduate on time has great potential to show near-term results on important, visible metrics such as graduation rate. I will argue that New Visions is building out a form of administrative infrastructure: tools, supports, and structures for making sense of the chaotic environment of New York City schools.

Review of Knowledge for Action

In this review, I argue that infrastructure for improvement is critical to the ability to improve school performance at scale. The lack of administrative infrastructure limits the ability of school leaders, particularly inexperienced leaders, to manage key processes and to improve their own organizations. I further argue that once the infrastructure exists, strategies to support its adoption, use, and ongoing improvement are necessary. I explore select literature on organizational learning, which offers a possible mechanism for learning to use infrastructure to support improvement. Lastly, because New Visions' authority over its schools is informal, I examine the role that third-party or intermediary organizations may play, as well as the challenges they encounter, in the creation of such infrastructure, in particular through the lens of literature on the diffusion of innovation.

The Concept of Infrastructure

Multiple scholars have identified the lack of infrastructure as an explanation for the failure to improve educational outcomes (Cohen, 2011; Cohen & Bhatt, 2012; Cohen & Moffitt, 2009; Cohen, Peurach, Glazer, Gates, & Goldin, 2014; Cohen & Spillane, 1992). As Cohen and Bhatt (2012) define it, educational infrastructure includes, "...examinations, curricula or curriculum frameworks, teacher education, inspection systems or other means to observe and improve instruction, and a teaching force whose members succeeded in those curricula and exams as students" (p. 118). Cohen and Moffitt (2009) argue that previous reform efforts—including Title I, which in the last half-century has poured hundreds of billions of dollars into low-income schools – have

failed to produce meaningful changes in practice because “...public education never developed the common instruments that influence teaching and learning; it lacked the education wherewithal – the infrastructure – that would make it possible for governments to guide what happened in classrooms” (p. 3). Ball and Forzani (2011) claim that an infrastructure of “common instruments” is critical for large-scale improvements to education because it allows a shift away from the status quo of “...independent practitioners making it up based on personal preference and inventiveness.”

The fragmentation of the American governance system for public education, with responsibilities variously assigned to federal, state, and local entities, contributes to the failure to develop infrastructure (Cohen & Bhatt, 2012; Cohen & Spillane, 1992; Mehta & Spillane, 2010; Smith & O’Day, 1990). The “system...of overlapping and often conflicting formal and informal policy components...and...a myriad of contending pressures for immediate results” that characterize the American school system and system of governance contribute to “the lack of a coherent strategy for allocating the resources we do have or for overcoming problems in both quality and quantity when they arise” (Smith & O’Day, 1990, p. 238). Mehta and Spillane echo this argument, noting that “[d]ivided government with no clear division of responsibility or jurisdiction can frustrate efforts to build infrastructure. Or, these arrangements can make it difficult, if not impossible, to muster the political will and resources necessary to put it together.” (Mehta & Spillane, 2010, p. 49) If there is no commonality across systems, then there is no chance to build common infrastructure; and even if there is overlap, the fierce locality of governance can overwhelm the energy of those who desire to build instructional support systems. Instead, the United States has tended to rely on what Cohen and Moffit (2009)

have called the “exoskeleton” of standards and assessments, assuming that those who work in schools (both teachers and school leaders in my conception) will then be able to build or gather the resources necessary to improve, guided by (or constrained within) the exoskeleton. Smith and O’Day’s (1990) germinal conception of infrastructure envisioned standards and assessments as central to the goal of improvement. However, if those expected to implement the policies lack the skills or knowledge necessary to implement them, the result is limited change at best, and incoherence and incompetence at the worst (Cohen & Bhatt, 2012; Cohen & Moffitt, 2009; R. Elmore, 2010). This seems to have been the result.

Infrastructure Should Exist for School Leaders

Particularly in a school system such as New York City, where over the past several decades hundreds of new schools have opened, a central challenge comes in training school leaders. Compared to spending on teacher training and development, where the authors above argue there is insufficient activity, there is even less focus on school leader training (Aarons, 2010). Placed at the helm of a complex organization, leaders often have little executive experience yet are called on to be both managers and instructional leaders and expected to figure it out. Based on conversations with school leaders and former school leaders in New York, the bewildering set of responsibilities that fall on a school leader include:

- improving their students’ academic performance, as measured by relatively traditional metrics such as credit accumulation, passage of the New York State Regents exams, and graduation from high school;

- making choices about the use of limited resources, which is especially complex in New York because of a series of recent reforms that placed more funding under the direct discretion of the school leader;
- satisfying a set of operational and statutory requirements, such as collecting lunch forms to qualify for federal funding or ensuring that students receive mandated services for special needs or language;
- managing a complex political environment in which they must satisfy district leadership (managing up, in a sense), the staff within their schools (managing down, in a sense), and particularly in a system like New York with a moderately strong form of school choice, the parents who send their students to the school (managing out, in a sense).

While there has been some focus on supporting school leaders to be instructional leaders, there seems to be less support for the challenges of becoming organizational leaders tasked with complex and varying administrative responsibilities.

This is true, despite administrative and management issues ranking as or nearly as highly in reviews of the most substantial challenges affecting teachers and school leaders, across multiple years (Kennedy, 2001; Markow, Macia, Lee, & Harris Interactive, 2013). The tools that are at the disposal of school leaders in New York City to manage processes and coordinate others are limited.⁷ The data system that underlies much of the work of the New York City Department of Education, a platform known as Automate the System

⁷ This is true despite a profusion of source systems that contain data: ATS for demographic and administrative data; STARS for transcript data; SESIS for special education information; BESIS for ESL information; Galaxy for budget information; and so on. These systems communicate with each other in only limited ways.

(ATS), was originally built in the 1980s. Based on personal experience and conversations with staff that interact with the system regularly, it is widely viewed as challenging to use and lacking many features that would support effective management of student outcomes. A subsequent student data management platform built to support use of student data in guiding instruction, ARIS, is being phased out after limited use and high user frustration (Charles, 2014).

If infrastructure is necessary to support the creation of a highly-skilled instructional workforce, it seems reasonable to hypothesize that a similar structure is important to support the creation of skilled leaders and managers for schools. Under the Bloomberg mayoral administration, the Department of Education created a Leadership Academy, helmed by the former CEO of General Electric Jack Welch, in an attempt to train leaders to step into these complex roles (Goodnough, 2003). Nevertheless, based on my conversations during my residency with school leaders and others in New York, I found many leaders felt unprepared for the set of responsibilities they would encounter. Establishing the infrastructure to train and support school leaders in carrying out their administrative responsibility, complementing the instructional responsibility, seems to be an unmet need. Such an administrative infrastructure would include not only the set of tools necessary to reliably carry out administrative responsibilities, but also clear articulations of what these responsibilities are and how they affect school success, supports necessary to help school leaders learn how to carry out these responsibilities, common metrics to assess how well a school is carrying out such tasks, and so on.

Any Sustained Infrastructure-Building Is Rare in the United States

There are relatively few examples to point to of sustained infrastructure building in American education. As Cohen & Spillane (1992) point out, this is not the result of little activity in the administrative realm, rather an “...administrative expansion [that] added little to central capacity in the core areas of education such as curriculum and instruction. The collision between optimistic policies and cautiously designed government have produced fractured and duplicative administration” (p. 10). Still, there are several relevant examples.

Sustained efforts in New York City’s District 2 included the creation of some of the elements of infrastructure. In-depth and sustained professional development explicitly aligned with targeted improvement areas drove reform. District leadership installed several key beliefs in these activities, notably that simply exposing teachers to new ideas and methods would be insufficient to drive meaningful change in practice if teachers did not have the opportunity for extended practice and coaching in their classrooms; and that change cannot occur in all parts of a complex system at once, or in all areas of teaching and learning at once (Elmore, 1997). Similar themes appear in writings about improvement efforts occurring alongside California math reforms and the development of pilot schools in Boston, among others (Cohen & Hill, 2000; French, 2001). While most analyses of the District 2 work frame it as a success, dissenting authors have argued that success was more a result of demographic change than real improvement (Ravitch, 2010).

Some charter networks have invested heavily in the infrastructure of teaching. Achievement First’s (AF) efforts to build supports for teacher improvement are particularly noteworthy. AF has created a system that incorporates both the technical

elements of infrastructure – the standards, assessments, curriculum, and lessons - and invests heavily in coaching and mentoring, so that teachers have opportunities to practice and develop. AF’s supports, such as its Cycle and Essentials of Effective Instruction, define good instruction but focus on the process of achieving it, instead of prescribing interaction between teacher and student (Rosenberg, 2012).

School districts and charter networks demonstrate that it is possible to create infrastructure from a position of formal authority over the schools that the infrastructure affects. The New American Schools reforms and the Comprehensive School Reform (CSR) designs that emerged show that it is possible to improve schooling at scale, from the position of a third-party (Rowan, Correnti, Miller, & Camburn, 2009). Cohen et al (2014) examine three CSR models in particular: Success for All (SFA), America’s Choice (AC), and Accelerated Schools Project. These three, all private organizations, focused on school improvement by taking “individual schools as the primary unit of intervention ... [and] they build systems of schooling and design those systems to support improvement in the smaller systems that we call schools” (Cohen & Bhatt, 2012). Of the three, Success for All and America’s Choice succeeded in the ultimate objective of improving student outcomes across networks of schools that, at least in SFA’s case, expanded to over 1,000 schools nationwide spanning district and state governance. In Cohen et al’s (2014) analysis, “one reason that AC and SFA schools improved more than AS Plus’s was that SFA and AC invested much more in the staff and organization to support schools’ work. And one reason that state and local school systems have been unable to make much progress in school improvement is that they had little of the infrastructure that the interveners developed” (p. 173). SFA’s infrastructure included

curriculum and lesson plans detailed to the point of scripting the teacher's interaction with students. AC did not begin with this level of detail, but over time it shifted in that direction in recognition of the power of such support in scaffolding teachers' practice change (though it did not reach SFA's level of prescription). Both models included dedicated school-based coaches and structures that allowed teachers to practice the aimed-for pedagogy while receiving support and coaching.

While the CSRs succeeded in changing practice, and subsequently outcomes, in the schools with which they worked, when the funding that allowed the CSRs to expand ran dry, substantial portions of the knowledge and expertise that had been generated was lost (Cohen et al., 2014; Peurach & Glazer, 2011). One possible way of understanding why this occurred is that the private infrastructure replaced the need to build the same in the public sector, and even though the latter was funding the effort, the CSRs' efforts did not succeed in creating the internal capacity to maintain the changes in practice in the long-term.

Any Improvement Relies on Sustained Changes in Practice

What then might be necessary for sustaining changes in practice? The examples above demonstrate that the existence of infrastructure does not mean that it will be used, that the intended objectives will be realized, or that even when infrastructure is used, that it will endure.

One process by which change in organizations occurs is through organizational learning. Argyris (1977) describes organizational learning as "...a process of detecting and correcting error." He further differentiates "single-loop learning," which "enables the

organization to carry on its present policies or achieve its objectives” from “double-loop learning,” which makes an organization “capable not only of detecting error but of questioning the underlying policies and goals as well as its own program” (p. 116). In their review of organizational learning, Levitt and March (1988) incorporate and build on this definition in describing such learning as happening through a process of organizations “...encoding inferences from history into routines that guide behavior” (p. 320). This distinguishes their definition from that of Argyris both by describing the mechanism by which learning occurs and by centering it on the learning of the organization rather than individuals. Together, these definitions describe a process by which organizations identify areas in which they fall short of what would be necessary to achieve their outcomes and use experiential data to improve their performance. These learnings then become part of the behavior of the organizations moving forward.

Cook and Yanow (1993) approach the question of organizational learning somewhat differently. They focus on what it means to say that an organization has learned to do something, writing “the ability to play basketball games or perform symphonies ... is only meaningfully attached to a group, not to individual players” (p. 377). This leads to their definition of organizational learning: “the capacity of an organization to learn how to do what it does, where what it learns is possessed not by individual members of the organization but by the aggregate itself ... when a group acquires the know-how associated with its ability to carry out its collective activities, that constitutes organizational learning” (p. 378). This definition seems particularly useful to the task of education because, in a modern educational system, no single individual can be responsible for all of the actions that allow a school to operate or that lead to a student

graduating from high school. Rather, it is the collective actions of many individuals. Cook and Yanow further describe a flutemaking workshop, where the division of labor and constant interaction between those working on instruments "...resulted in two very important things. First, it has made sure that at any one step of manufacture not only had work been done properly with respect to the work each flutemaker needed to accomplish, but it was also done properly from the perspective of the next flutemaker who needed to base her work on that of the former. The second result has been that when a flute reached the final inspection at the end of manufacture, almost without exception, it required no further work. The hand-to-hand checking of the flutes has amounted to a very successful, informal quality control system" (p. 380). That organization learned not only how to build a flute, but how to build a flute reliably where that reliability is a characteristic of the organization itself, not of any particular individual.

A way in which infrastructure and organizational learning may be related, then, is that infrastructure offers the framework within which individuals work to build the knowledge and skills necessary to carry out work, while organizational learning is the process by which the organization becomes able to use the tools and resources of infrastructure over time (D. Cohen, personal communication, March 17, 2015). It seems plausible that a well-defined infrastructure would include elements to support this learning process – things like routines – and that the organizational learning process would both identify gaps in the infrastructure in need of plugging and generate artifacts that would help plug the gaps.

High-reliability is one term that appears in the literature to describe organizations that have learned successfully produce a consistent result, time after time (Weick &

Sutcliffe, 2007; Weick, Sutcliffe, & Obstfeld, 2008). Particularly important in Weick, Sutcliffe, and Obstfeld's definition of reliability is the recognition that "...reliable systems often must perform the same way even though their working conditions fluctuate and are not always known in advance" (p. 35). In education, this is true at multiple levels: the prior discussion of building infrastructure identified the challenges associated with frequently-changing political and other environmental context in education; additionally, students, staff, and the other people involved in education are highly variable (much more so than the materials used to manufacture a flute).

The traditional definitions of organizational learning put forth by Argyris and Levitt and March identify learning from mistakes as a primary driver of the need for organizational learning. However, the types of organizations to which the term high-reliability organization is applied largely lack this, as "...all operate in an unforgiving social and political environment, an environment rich with the potential for error, where the scale of consequences precludes learning through experimentation, and where to avoid failures in the face of shifting sources of vulnerability, complex processes are used to manage complex technology" (Weick et al., 2008, p. 32). This seems extreme for education, where the consequences of failure generally are not viewed as catastrophic as they are in a nuclear plant or on the deck of an aircraft carrier, the contexts from which high-reliability theory derived. Still, the uncertain environment and desire to limit failure with individual children make the school context at least somewhat similar.

Weick et al (2008) identify core processes that allow organizations to perform with high reliability and to avoid failure. Three of these core processes are particularly relevant to New Visions' work with schools: preoccupation with failure, in particular a

focus on “analyzing near misses” rather than failures as learning opportunities; reluctance to simplify interpretations; and a sensitivity to operations including “integrated big picture of operations in the moment” and “awareness of production pressure and its effects on judgment and performance” to avoid overloading any individual.

The core concept of high-reliability organization has been applied to fields where individual failure is not catastrophic, but the collection of multiple failures is. In medicine, it has been used to understand how to move towards more consistently evidence-based practice, in organizations where extremely high levels of reliability are not the norm. This is challenging in part because it attempts to improve “routine processes where the immediate result of a defect is not catastrophic ... and not to those processes where a defect would be immediately catastrophic” (Resar, 2006, p. 1678).

Resar identifies four common themes for why a “reliability gap” exists in medicine:

- “improvement methods ... are excessively dependent on vigilance and hard work”
- “current practice of benchmarking to mediocre outcomes ... gives clinicians and leaders a false sense of process reliability”
- “permissive attitude toward clinical autonomy creates and allows for wide, and unjustifiable, performance variation”
- “processes are rarely designed to meet specific, articulated reliability goals” (p. 1680-84).

These themes are similar to challenges that have been identified in education. A single failure to schedule a student for the right class, or to prep a student for a high-stakes exam, is unlikely to on its own lead an individual student not to graduate; repeated failures with an individual student do, though, and failures across a large population of

students do as well. Resar (2006) identifies three, largely sequential steps to improve practice: first, to use standardization of processes to ensure that a defined process exists; second, to identify specific failures in the standard process and address these; and third, to explore “critical failure modes” that are the underlying reasons for failure and redesign the entire process.

Support Is Necessary for Changes in Practice

To improve schools at scale, as New Visions aims to do, it is not sufficient to build a single high-reliability organization. The spread of knowledge, beliefs, and tools relies on some type of diffusion process. Rogers (2003) defines such diffusion as “...the process in which an innovation is communicated through certain channels over time among the members of a social system” (p. 5). There are five main factors that affect the rate of adoption of an innovation: relative advantage, how much better than alternatives an innovation is perceived to be; compatibility, how well an innovation fits with the adopter’s values, experiences, and needs; complexity, how difficult adopting and using the innovation is perceived to be; trialability, the extent to which an adopter can test the product before making a choice to adopt or not; and observability, the extent to which results of the innovation are visible to others.

A key role in the innovation diffusion and adoption process is the change agent. A change agent is an “...individual who influences clients’ innovation-decisions in a direction deemed desirable by a change agency.” This individual follows a generalizable set of steps to increase the likelihood of sustainable adoption of an innovation: “develop a need for change” in the mind of the adopter; “establish information exchange

relationship”; “diagnose problems” and identify why the innovation is the best means of addressing them; “create an intent to change in the client”; “translate an intent into action” on the part of the adopter; “stabilize adoption and prevent discontinuance” so that the innovation and related behavior stick with the adopter; and “achieve a terminal relationship” where the adopter carries the innovation forward. (Rogers, 2003, p. 366-69)

Different types of knowledge, and sharing of knowledge, also play a key role in the diffusion of innovations. Potential adopters of an innovation go through stages in their decision process, including an initial decision to adopt which relies on three types of knowledge: knowledge that an innovation exists; knowledge of how to use an innovation; and knowledge of the principles underlying the innovation and how it works. (Rogers, 2003) These types of knowledge represent part of the capacity building required to ensure that infrastructure gets both adopted and used. Nonaka’s SECI model is similar in describing the ways in which new knowledge is created and put into use within companies (Ikujiro Nonaka, 1991; Ikujiro Nonaka, Toyama, & Hirata, 2008). He describes a four-stage, recurring process: socialization, in which tacit knowledge is passed from one individual to another; externalization, in which tacit knowledge is formalized into explicit knowledge; combination, in which different types of explicit knowledge are combined and integrated; and internalization, in which new explicit knowledge becomes tacit again through use. Both taxonomies are similar to the ideas of know-what, know-how, and know-why (Hulme, 2014), which I prefer for the simplicity and descriptiveness. The development of these types of knowledge – at an individual level and at an organizational level – is crucial for the creation or adoption of an innovation.

One plausible way to support the use of an innovation is by embedding its use in organizational routines, which are a key part of organizational culture. Feldman (2000) argues that the definitions of routines has historically been “...repeated patterns of behavior that are bound by rules and customs and that do not change very much from one iteration to another” (p. 611). Gawande’s (2007) writings about the power of checklists makes clear why having these types of rules and customs can be powerful. He identifies two primary benefits of checklists when used in medical settings: “...they helped with memory recall, especially with mundane matters that are easily overlooked ... [and also] make explicit the minimum, expected steps in complex processes.” In this way, they define a routine for carrying out particular actions, and their invariability is a substantial benefit. However, Gawande also notes that the use of checklists “...pushes against the traditional culture of medicine, with its central belief that in situations of high risk and complexity what you want is a kind of expert audacity....” In this, Gawande mirrors Resar’s writings about challenges of reliability. The permissive attitude and wide latitude granted to the individual practitioner is unquestionably a feature of education, where it has been described as teachers “closing the door” and practicing as they see fit (Lampert & Graziani, 2009; Lortie, 1975).

There may be limits to the advantages of static organizational routines. One is that the routines themselves do not necessarily create the skill necessary to carry out the actual embedded actions; Nonaka’s ideas about creating knowledge are one way of doing this. Mehta and Fine (2014), writing about the pursuit of teaching that fosters deeper learning, identify another limitation that they call “...a core paradox associated with recent reforms—namely, the methods used to ensure consistent baseline achievement can

preclude opportunities for more powerful learning.” Cohen et al (2014) also observed this in the implementation of Success for All: after a decade of work, “...an estimated 75% of teachers were locked into a pattern of novice, mechanistic implementation of low-level routines...” (64). If followed slavishly, or if overprescribed, routines can preclude learning or growth: people learn to follow the routine but do not learn the thought processes that the routine is meant to embody.

More recent scholarship identifies how routines can play an important role in helping change organizational culture. Weick and Sutcliffe (2007) write that “...James Reason and others argue that it is harder to change attitudes and beliefs directly than it is to change acting and doing, which can then lead to changes in thinking and believing. ... Organizations act their way into what they become” (p. 114).

Pentland and Reuter (1994) analogize routines to grammar, which does not define a single bit of language but does introduce constraints on the structure of language, and define organizational routines as “...not a single pattern but, rather, a set of possible patterns - enabled and constrained by a variety of organizational, social, physical, and cognitive structures – from which organizational members enact particular performances” (p. 491). Feldman and Pentland (2003) extend from this to point out that these variations in patterns in response to circumstances can produce variations in outcomes, which can lead to changes in the routines in a manner that seems evolutionary in nature. Crucial to this process is a distinction between “ostensive” aspects of routines – “the ideal or schematic form of a routine” - and “performative” aspects of routines – “specific actions, by specific people, in specific places and times. It is the routine in practice” (p. 101). Examining where the performative aspects of a particular routine differ from the

ostensive aspects, and then identifying to the extent possible the effect on the desired outcome of the routine, routines may suggest a way out of the limiting aspect of routines that Mehta and Fine identified. In this way, an organization can improve a routine, either by stripping out negative aspects of the routine or selectively harvesting variations that produce better outcomes and incorporating these back into the ostensive structure of the routine.

Cossentino (2005) describes the progression from practice to belief as consistent with an orthopraxic tradition. “Drawn from the Greek terms ‘ortho,’ meaning correct, and ‘praxis,’ meaning action, [orthopraxis] was coined to mark a contrast between belief-driven versus practice-driven religious activity. In orthopraxic traditions, correct actions (as opposed to correct beliefs) are encoded in ritual responsibilities (particular ways of praying, dressing, feasting, or fasting). Within the orthopraxic frame, practice not only supersedes belief, practice is the gateway to belief” (p. 233). Rogers’ (2003) role of the change agent relies on a similar mindset: “change agents could perhaps play their most distinctive and important role in the innovation-decision process if they concentrated on how-to knowledge, which is probably the most essential to clients in their trial of an innovation at the decision stage in the innovation-decision process” (p. 173). This observation is particularly powerful, as it implies that focusing on how to put an innovation to work (which is often what a client is most interested in) does not preclude

later efforts to change culture. The use of routines to help individuals experience a new practice may actually help change their beliefs about the beliefs underlying the practice.⁸

Catalyzing Changes From the Role of an Intermediary Is Difficult

Building management infrastructure and using it to support the transition to high reliability would be a challenge for any organization. Doing so as a third party seems particularly difficult, as it requires understanding the context and culture of the developing organization, that of the target organization, and pushing behavior change from a position of informal authority. This is the situation in which New Visions finds itself, as an external organization working with a group of schools to support improvement in those schools. Ultimately, if the work of New Visions does not change what occurs in the schools, the creation of the management infrastructure itself is of little value. Thus, while institutionalizing routines in other organizations is likely to be challenging, it is critical if New Visions wishes to build other organizations' capacity to carry out complex activities largely independent of ongoing assistance from New Visions.

Cohen et al (2014) detail many of the challenges that the CSRs encountered as reform support organizations. They entered into systems where they had limited authority to make changes yet substantial responsibility for negotiating the range of dysfunctions

⁸ Note also that there are connections to diffusion theory that result from a focus on routines to help individuals experience a change. This provides the individuals both trialability – they can test out the innovation through associated routines – and for well-designed routines provides observability – they should be able to see from the routines, or relatively shortly thereafter, whether the innovation has made a difference.

that they encountered. They were forced to navigate shifting priorities – both those of the individual schools and the different systems in which they were embedded. While their status as outside actors gave them some distance from the political turbulence of districts, they could not necessarily count on continuing funding, year-over-year, as districts can. Each of these raises questions about whether and how a reform support organization works to build infrastructure.

Rosenberg (2012) identifies four roles that a charter network plays vis a vis the schools in that network: scaffold, safeguard, shield, and barrier. Achievement First's infrastructure served as a scaffold that "...lent support and structure to, individual and collective professional learning and practice" and helped focus efforts on common goals; as a safeguard "...to reliably meet the goals the network set" at the same time that it was developing new organization processes; as a shield "...sheltering [school staffs'] beliefs, work, and opportunities to learn from some of the disorder of the broader educational system"; but also as a barrier to growth and learning where the infrastructure and culture overspecified action and left little room for creativity (p. 195). The roles of safeguard and barrier, in particular, are similar to the promise and limitations of methods that Mehta and Fine identify. These four roles are plausible descriptions of roles that an intermediary might aspire to (or in the case of barrier, might find itself in). An intermediary organization such as New Visions fills such roles, in part because it has the ability to look across a wide range of schools and identify high-performing schools (defined broadly, for example by graduation rate, or narrowly, for example by specific student subgroup), analyze their activities, and surface possible promising practices.

Trust and rapport are central to the ability of any individual or organization to generate change, and this is even more critical for an intermediary. Three of the factors that Rogers (2003) identifies as positively associated with change agent success seem closely related to building trust: client orientation, such as being "...more feed-back minded...and bas[ing] their diffusion activities primarily on clients' needs"; compatibility with clients' needs, such as being "...aware of their clients' felt needs and adapt[ing] their change programs to them"; and empathy, such as understanding the specific context of a client (p. 375-77) All would serve to inculcate the understanding that the change agent is working in and understands the interests of the client. Weick and Roberts (1993) reinforce this in their discussion of organizational conditions that support reliability: they argue that "[r]eliable performance may require a well-developed collective mind in the form of a complex, attentive system tied together by trust." (378) If this is true within an organization, it seems eminently reasonable to argue that it is even truer for an external entity seeking to catalyze change.

Theory of Action

Drawing largely from the RKA, my initial theory of action was:

If I am able position myself as a change agent both internally at New Visions and externally at the schools with which I am working, bringing both the frame of high-reliability and a specific set of tools to realize that goal; if my work both internally and externally contributes to building out infrastructure and helping both New Visions and schools learn how to apply it; and if early use of this emerging infrastructure generates improvement in areas that are important both to New

Visions and to the schools with which I'm working; then this will facilitate the enduring adoption of administrative infrastructure and change behavior in carrying out key administrative activities.

Strategic Project

My strategic project involved both internal New Visions work and external school-based work. Internally, I focused on creating structures at New Visions that would reliably focus our limited support capacity on the most critical issues in our PSO schools. Externally, I worked to implement New Visions' tools in a large high school that we believe has the opportunity for substantial improvement in performance as a result of administrative improvement. To protect the privacy of school staff taking part in this difficult work, I will pseudonymously call the school Aaron Burr High School and will not use individual names.

Reflection on how I actually pursued my theory of action has led me to view my work in several overlapping, ongoing phases that are common to my external and internal work. None of these phases has a meaningful end point, and all require constant reinforcement. Below, I discuss each phase: building trust, creating structures, and doing "the work".

Building Trust and Understanding

As I came in to New Visions, and as I subsequently started consistent work with Aaron Burr HS, I identified the need to build initial trust and credibility with the people with whom I would work in both organizations. The need to do this was in some respects a reaction to feedback I had previously gotten. I had neglected this activity, to my detriment, in my job prior to beginning the EdLD program: my exit feedback indicated that those on my team did not feel connected to me as a person. In this instance, I largely

came out of nowhere to people in both organizations. At New Visions, I was relatively quickly associated with PSO leadership: I began to get requests for things like scheduling time with Mark Dunetz, my supervisor and the lead of New Visions' school support work. In the mind of others in the PSO, I seemed to be some combination of executive assistant and chief of staff.

To open the conversation about why I was at New Visions, and to understand the people with whom I would work, I had lunch or coffee with roughly 15 different people at New Visions, beginning with the senior management team members but also including others whose work either would intersect mine, whose work I knew little about, or whose work I just generally found interesting. These conversations were informal, and it turned out that I spent most of the conversation asking questions about the path that the individual on the other side of the table had taken to New Visions and listening. This let others tell me their story as they understood it and helped me understand how they saw themselves. It provided me valuable information about expertise and past experience that did not necessarily show up as part of an individual's job title. As importantly, most people seemed eager to be asked, as if it were (and it might have been) an unusual occurrence for someone new to come in and ask about them.

I also attempted to understand the organization itself and its history, particularly that of the PSO. I searched for articles, case studies, and research reports about New Visions; read the blog posts that staff had written over time about different elements of the organization's work; and I scoured the proposal and contract that New Visions had with the DOE. This provided me with context about what the organization had tried in the past and what had happened.

Most importantly, though, I spent time understanding the organization as it currently is. A central theme of New Visions' work over the past two school years has been building systems to help schools carry out key administrative processes. For a student to graduate high school on time, multiple individuals within a high school must carry out interrelated tasks. Among these tasks are several activities that sit at the juncture of administrative and instructional activities:

- monitoring student attendance and intervening if it declines
- scheduling students for the courses they need to graduate
- registering students for the Regents exams they need to graduate
- providing students with academic supports and interventions to ensure they pass their courses and Regents exams

As Mark Dunetz, New Visions' vice president of school support and former principal of a high-performing small school has written, "...there are systems which surround and support the classroom which tend to receive far less attention [than do instructional activities] and the weaknesses in these systems fundamentally undermine the potential impact of improved instruction." (Dunetz & Farrell, 2014) In this context, New Visions defines a system as a set of relationships, responsibilities, and expectations - often including technological supports - that allow a group of people to reliably accomplish tasks like the ones listed above.⁹

⁹ It is worth stressing that the focus on these systems does not imply that instructional activities are less crucial, but instead that attempting to improve instructional systems without also addressing administrative and managerial challenges in schools dramatically reduces the likelihood that latter efforts will succeed.

Though the focal systems are ones that must function reliably under variable circumstances, the single failure of any one of these systems for a single student is unlikely to be catastrophic. Failure is more creeping, as the accumulation of failures across multiple of these systems over the course of a student's school career can be the difference between a student graduating on-time from high school and failing to graduate or even dropping out. In some ways, though, this demands greater vigilance on the part of individuals managing these processes in schools.

To support the execution of these tasks, New Visions has built a set of Google Apps-based tools, populated with data combined from multiple disparate DOE source systems, that enable school leaders to manage these essential systems. The core tool, which New Visions refers to as the Student Sorter (see Appendix A for greater detail), collects in one place key demographic, course, and state examination data. Increasingly, New Visions is building additional tools that spin off the sorter to help schools manage processes such as graduation planning, course programming, and academic interventions. Each of these tools allow school leaders and staff to move back and forth relatively easily from the macroscopic - looking at performance in their school by graduation cohort or for all special education students, for example - to the microscopic - drilling down to examine information about individual students such as their performance across years in a single subject.

Critically, this means that it should be possible to manage student need at the individual student level, regardless of the size of the school. Because these tools are based on the Google Apps platforms, they also are unusually easy to extend to a new school. In what is only a slight oversimplification, once a school adopts the Google Apps

platform, New Visions is able to clone a generic set of tools and populate those tools with data specific to the new school. Because the tools are in a sort of constant beta testing, we are also able to modify them quickly and easily in response to newly-identified needs.

I spent significant time experimenting with the tools that New Visions had built, particularly the Student Sorter, and getting myself involved in various work that was going on in office. Getting involved was another way of building credibility. Later on, it let me speak knowledgeably about broad swaths of the work. It also helped me understand how the actual practiced work related to the espoused beliefs of the organization.

I underwent a similar process several months later as I began working with Aaron Burr. The work with Aaron Burr emerged over the course of my first few months at New Visions, largely because the school seemed ripe for substantial improvement. A quick analysis I conducted in the fall, at Mark's request, confirmed the school as a particularly promising candidate to improve its graduation rate by managing administrative processes more closely. The most direct evidence that supported this was the school's large population of students who concluded their senior year having passed the five Regents exams necessary to graduate but who lacked the specific credits needed to graduate. This pattern was striking, because most schools manage to pass students in courses, which is almost entirely in the school's direct control, but not on the Regents exams, which are out of the school's direct control. I enthusiastically pursued the opportunity to work with Aaron Burr on an ongoing basis because it aligned with my own developmental objective of spending more time in schools. As someone who came into education work from the

policy rather than the practice side, I wanted to better understand the daily operations of schools and to understand conditions in schools that enabled or inhibited change.

At Aaron Burr, credibility was less of an immediate issue as I was able to “borrow” credibility from New Visions’ relationship with the school. That ensured that I would have at least an initial audience. At Aaron Burr, I felt I needed to build trust that I would be there to support the school and its staff. I made several key decisions in support of this as I began working with Aaron Burr. Perhaps the most important was to advocate with leadership at New Visions for me to be physically at Aaron Burr a full day a week. This was important to me because it would allow me to get to know individuals and the school environment more deeply, but also because it would normalize my visits and the difficult conversations I expected they would include. It seems a simple sell, but it pushed in the opposite direction of the shift away from the SSF role that I discussed previously.

The other decision was to spend time building on top of the tools that New Visions already offered (in some cases myself, in others with the systems and data teams) to create functionality that was important to staff at Aaron Burr. In some instances, this work actually was at cross purposes with New Visions’ belief, but I felt it important to demonstrate a client orientation (Rogers, 2003). For example, one of the staff groups that I began working with early on was guidance counselors, who played a more central role at Aaron Burr than at many other schools. The assistant principal requested a new Sorter functionality that would make it easier for counselors to print some information from the Sorter, so they could file it in the physical binders containing information about students that she had asked them to keep. Philosophically, this approach ran contrary to one of the key reasons to have the Sorter: it was a single, commonly-accessible and up-to-date

source of this information that did not require someone to take the time to print!

However, any harm from creating this feature seemed minimal in the near-term, while the benefit from being responsive to this request was considerable.

Building Structures

As I focused on building trust and understanding, I also tried to pay attention to what organizational structures existed and what others might need to be created. I largely defined these structures as predictable, recurring meetings during which key leaders and staff in the organizations could set aside their individual work within the organization to focus on the collective work of the organization. Put another way, these structures could create “space” for doing the new type of work that the PSO strategy demanded. I hoped that these opportunities would lead to greater internal coherence as well as greater alignment between the work of New Visions and the work at Aaron Burr.

Here, I use the term coherence intentionally. My analysis section below explains my emerging clarity about what I was looking for, but briefly, it was evidence of a shared understanding of the connection between three different things: the goals and purposes that we are articulating for New Visions’ work, the work of the PSO schools that we are trying to influence, and, connecting those two, infrastructure that we are trying to build.

Ultimately, the new set of structures at New Visions included three types of meetings:

- monthly PSO Leadership meetings, which bring together directors of different functional teams that comprise the PSO: network leaders; the directors of

- instructional work, the data team, and systems team; and Mark, Nikki Giunta (who serves as an aide to Mark and an academic policy specialist), and me
- weekly Network Leaders meetings, which brings together the network leaders and their deputies, along with Mark, Nikki, and me
 - monthly Specialist check-ins in each of the specialist areas, with each of the specialists, network leaders and their deputies, along with Mark, Nikki, and me

My original, envisioned purpose of the meetings was that they would bring key players together for both up-front decision-making and post-hoc reflection about the success of the PSO work. More than expected, I have been setting the agendas for these meetings, which I discuss in the Analysis section below.

The activity that has consumed increasing amounts of time and represents structure-building both internally and externally has been what we call “strategic data check-ins”, or SDCs. SDCs are protocol-driven conversations that occur at several points during the school year and focus on key administrative and instructional activities that all high schools must execute over the course of the school year: graduation planning, course programming, Regents prep, and academic interventions. There are multiple objectives of the SDCs: they direct attention to crucial activities; they support school leaders’ use of the New Visions data tools; they improve the reliability of those activities’ execution by catching oversights and errors; and they model the administrative theory embedded in New Visions’ work that focusing on these administrative tasks is an essential part of maximizing graduation rate. Further, they generate data that New Visions and schools can use to identify gaps in their performance and, by addressing them, to improve performance in the near-term.

Each SDC has a roughly-consistent set of elements. The most visible element is the data tool, which is either the Student Sorter itself or a tool that spins off the Sorter. This tool frames the conversation between New Visions and school staff, generally including the principal and the individual responsible for carrying out the task under discussion, for example, the school's course programmer in the case of the Credit Gaps SDC. Each conversation roughly follows a New Visions-created protocol that each SDC owner is meant to use interventions (see Appendix B for a sample protocol and other related artifacts). The protocol defines the objectives of the conversation, lays out the core activities and questions of the conversation, and provides pacing for the conversation. It also identifies specific next steps that likely come out of each conversation.

My weekly visits to Aaron Burr, at least initially, often centered specifically around an SDC conversation. During these visits, I also focused on identifying key individuals in mid-management who have both an interest in working with the Sorter and its associated tools and the potential to realize benefit in the near-term. This benefit ideally takes the form of improved student academic outcomes, but it can also be time or aggravation saved that frees up staff to focus on other priorities while still carrying out administrative tasks reliably. As I have attempted to motivate the work of the SDCs, I have encountered skepticism about the heavy focus on process and execution, so an example of why it is important (at least at a school like Aaron Burr) can be helpful and is a segue into “doing the work.”

Doing the Work

I will call the third phase of my effort “doing the work.” Both externally and internally, vignettes help provide an insight into the work.

Actually implementing the SDCs is the central element of the external work (see Appendix B for an example of the protocols and materials for an SDC). The variability of the schools with which New Visions works, and the extent to which many of the practices and beliefs embodied in different schools go unexamined and unarticulated for long periods of time, makes this process challenging. Thus, though the SDCs share a common structure, the mapping of that structure onto how schools carry out a particular task is imperfect. I had limited understanding of the extent to which this is true prior to my work with Aaron Burr.

New York State has very specific graduation requirements. Students have the opportunity to take Regents exams to satisfy these graduation requirements at three different points during the school year: in January, June, and August. During the period of time when Regents exams were offered, regular classes are not in session, so students are either taking exams or not in school. Generally, the June administration is viewed as the “regular” examination period (in part because most Regents-culminating courses are full-year courses) and January and August are sometimes considered early and make-up opportunities. This means that a student in theory has 10 opportunities to pass five

exams.¹⁰ The extent to which schools take advantage of all opportunities is very much an open question.

The third SDC of the fall focused on Regents Prep for January, and the work was supported by what we called the Regents Prep tool. This tool creates a comprehensive list of all students the school plans to sit for a Regents exam and matches that exam to the student's course schedule to check whether the student is enrolled in a class that prepares him or her for the exam. If not, the tool helps the school to create a centralized list of prep activities, assign students to the activities, and then take attendance at the activity sessions.

New Visions rolled out the Regents Prep tool to school leaders at our fall Principals' Convening, on November 17. Nearly all 80 school leaders attended, and the convening included a session to train school leaders on the use of the Regents Prep tool. The days leading up to the Convening were hectic, particularly because there were multiple elements of the training that needed to come together: the work of quality checking the tool and the data that it generated extended up until the day of the convening; the discussion protocol for the training session, owned by different members of the team (including me) ambitiously aimed to frame the tool as a manifestation of the broader systems approach New Visions was attempting to teach to schools in the PSO; and agreement on how to group the schools into relatively homogeneous clusters for the purpose of training was slow-emerging. This all left relatively little time for the New

¹⁰ It is ten rather than twelve (three administrations a year multiplied by four year) because few students take Regents in January of freshman year, when they have not completed any full-year high school classes, and the August administration of a student's senior year would not represent on-time graduation.

Visions staff, who would lead the training, to build our familiarity with the tool and to norm on leading the convening sessions. This is not meant as criticism of the planning or execution of the session, merely to convey realistically the growing pains of building out innovative work.

After the convening, I continued to work on Regents assignment and prep with Aaron Burr. Like in most New York City schools, at Aaron Burr an on-track student should pass a math exam (usually Algebra) and science exam (using Living Environment, which is biology) during freshman year, usually during the June administration. Still, large numbers of students do not pass one or both of the exams. In both math and science, students then have the opportunity to retake the exam or to attempt to satisfy the graduation requirement by passing a different exam in the same subject area (for example, Earth Science rather than Living Environment, or Geometry rather than Algebra).

While I supported Aaron Burr staff to use our tool to plan Regents activities, I also did some analysis on my own to understand which students the school planned to sit in January. One analysis that I performed looked at students who met several criteria:

- Were general education sophomores during the 2014-15 school year
- Had taken the Algebra or Living Environment examination previously and nearly passed
- Were scheduled to sit for at most one Regents exam during the January exam period
- Were not scheduled to sit for the Algebra or Living Environment exam

My naïve categorization of the students who met those criteria was as students who were close to passing an exam required to graduate, who had time during Regents Week in January, but for some reason were not registered for the exam. Several things jumped out at me about this. First, there were students on both lists, but the number of students who met those criteria was dramatically larger in Living Environment. Second, based on my conversations with New Visions staff and school staff, many students who did not pass an exam on their first try would go multiple semesters before re-taking an exam. These students run a particular risk of forgetting core content and reducing their likelihood of ever passing the exam.

I shared this finding with the principal and asked several questions. After discussion of the policy, it became clear that it was long-standing policy to re-sit few students during the January administration. The policy had not been re-examined in some time, and while the decision not to sit the students was not wrong per se, a characteristic of the highest-performing schools in the PSO is that they aggressively use exam opportunities. Ultimately, after sharing the list with other school leaders and getting similar responses, we decided on a course of action that involved the departmental assistant principals reviewing students who met the criteria above with the presumption that they should sit for the exam, and removing them if there were specific reasons not to sit, such as a student who was long-term absent from school.

The SDCs have catalyzed a number of conversations like these, in which I have been able to use Aaron Burr's own data to help it evaluate policies that it has in place and their impact on its performance. Being able to compare with other schools across the PSO makes this even more powerful. Though I label this example in doing the work, it also

doubles as the work of building trust when I point out things like this in a non-evaluative or punitive manner. Particularly as an outsider, it is simple to offer data that strikes me as interesting and make sense of it with the school staff in a collaborative process.

The SDCs and the data involved also provide a useful tool for examining our internal behavior and capacities. For several weeks of the network leader meetings, we chose to spend an hour or more with one member of the team presenting data about a challenge they were encountering in a school with which they were working, or results from an initiative that was underway in a school that they believed to be successful. Then, the rest of the group would similarly look at the data, ask a series of probing questions, and offer thoughts about the interpretation offered by the presenter.

Each time, these reviews would reveal an assertion made either by the presenter, or by a principal and not questioned by the presenter, which could be verified or challenged by data that we were actually collecting in the Student Sorter or a spin-off tool. For example, in discussing preparation for Regents exams, a presenter relayed a principal's assertion that his school scheduled all students who needed instructional support in preparation for the exam for that support during the regular school day, so the school did not feel the need to offer evening or weekend prep. Even a year earlier, it would have been extraordinarily time consuming to gather the data and check this claim for even a single school. In this meeting, though, a participant pointed out that we could actually check to see whether this assertion was true. We did and discovered that it was nowhere close to accurate. Why the principal believed this was the case (or even whether the principal actually did or was just making a careless statement) was still unknown, but

the data offered an opening for the presenter to question the principal's belief using descriptive data instead of simply questioning the claim's veracity.

Still, while this work is important, it felt somewhat more opportunistic than strategically focused on moving the PSO towards a shared purpose or set of goals. In the late fall, I realized that I could not succinctly articulate the strategy of the PSO. After speaking with Mark, it was clear this was a shared challenge across members of the network leadership team: we thought that we were acting in accordance with an underlying set of beliefs, but struggled to articulate them. So, as part of a PSO Leadership meeting, we included time during which we asked everyone in the meeting to speak about his or her team's work in the context of the PSO strategy. Again, while the language people used was similar, there was no clearly-articulated shared understanding of the overall strategy. Subsequently repeating a similar exercise in a cross-network meeting (the closest thing to a staff meeting as exists for the PSO) resulted in much of the same.

One activity that attempted to address this challenge was making elements of our systems design more explicit. New Visions has adopted the approach of creating driver diagrams to articulate core elements of our work (Bryk, Gomez, & Grunow, 2010). Within the PSO, we began creating a set of "systems frameworks" that articulate the key elements that must be in place at the school level in critical operation and instructional areas. The initially-identified areas were attendance, course programming, academic interventions, and instructional systems.

Another activity that aimed for coherence was creating common timelines and expectations around the SDCs. Because successful execution of an SDC involves efforts

by multiple teams at New Visions – systems, data, networks – before even reaching the point of being able to schedule conversations with school leaders, the SDCs require substantial planning and coordination. During the fall SDCs, this had been coordinated largely informally, but moving towards the spring I attempted to incorporate some more-formal project planning elements to the process. In part, this was because I needed this level of predictability to be able to plan my work with Aaron Burr, but I believed based on multiple conversations that the uncertain timeline of fall SDCs had made it difficult for other SDC owners to work effectively with their schools, and the inconsistent quality review process before releasing tools for school use and inconsistent understanding of norms for carrying out the SDC conversations had made it more difficult for SDC owners to convince schools to trust the tools.

To manage the former concern, I created a timeline for the second semester SDC conversations, which incorporated the work of the multiple teams involved: data, systems and school-facing (see appendix B for the calendar and for an example of a norming email that established roles and timelines for a specific check-in). To manage the latter concern, I attempted to shift the quality review from a process that relied primarily on the systems development team to one that incorporated efforts from across the group of SDC owners.¹¹

My residency work continued to develop in many of these areas beyond this point in time. However, it was at this stage that I turned my attention, for the purposes of the

¹¹ Such quality checking work serves the additional purpose of helping familiarize New Visions staff with the tool we would subsequently deploy with schools.

capstone, from implementing the work to collecting results and beginning to make sense of what was going on in a more holistic manner.

Results to Date

My strategic project as described above includes both school-facing and internal work, so I present a set of results to date similarly broken out into the external work and the internal work. Both elements of the work are ongoing, so I also include information about how the results and data gathering continue to evolve in both.

In both cases, I have chosen to look for evidence of demonstrable behavior change, rather than alternatives such as using surveys or semi-structured interviews asking about beliefs to try to understand whether belief change was preceding behavior change. In part, this reflects a belief in changing mindsets through changing behavior: so if behavior does not change, it seems clear - at least at the particular moment - that mindsets have not yet changed (or that changing mindsets have not yet translated to behavioral changes). This is essential because specific administrative actions need to occur for students to graduate. Over time, beliefs about the value of the New Visions approach likely need to change for it to be sustainable, but in the near term, ensuring that specific key decisions are made and actions are taken should translate into improved, real-world impact on students.

The evolution of New Visions data tools has also made looking specifically for evidence of behavior change plausible. Increasingly, the data tools generate analytics about usage and we can see evidence of the decisions that schools make at both granular and more summary levels. Often, this means we have greater visibility into whether the actions that we advocate have happened than do most school leaders. Because we use the

same tools that we offer to schools, though, a data-savvy principal could use the New Visions tools in much the same way we do.

Table 1 below presents a brief summary of the key external and internal indicators, followed by a brief discussion to assist with interpretation.

Table 1

Key External and Internal Indicators

<u>External Indicator</u>	<u>Reason for Inclusion</u>	<u>Result</u>	<u>Success?</u>
January Regents registrations for students re-taking exam	Indicates shift toward taking advantage of more opportunities for students to pass key exams	Few identified students re-sat the exam, for example, 1 of 33 students re-sat for Living Environment and 2 of 12 students re-sat for Global History	No
Attendance at Regents preparatory activities, tracked in Student Sorter	Indicates more intentional targeting of high-priority students and data collection in actionable form	Few identified students participated in preparatory activities, for example, 7 of 224 students attended an Algebra Saturday prep. ¹² Attendance was tracked on paper rather than using Sorter tools	No
Performance on January ELA Regents	Indicates potential impact of a shift in school policy based on analysis of practice	School doubled number of students who passed the required ELA Regents exam during January of junior year, from ~30% to 60% of graduation cohort	Yes
Usage of the Student Sorter	Directional indicator of adoption of New Visions tools	School adopted Sorter as primary tool for conducting SDC-related processes, including Credit Gaps and Regents Planning.	Yes
<u>Internal Indicator</u>	<u>Reason for Inclusion</u>	<u>Result</u>	<u>Success?</u>
Adoption of shared timeline for spring SDCs	Indicates shift towards greater predictability in key processes	Timeline was created and agreed to by SDC owners. Target dates for completion of key processes were met for the Credit Gaps analyses	Yes
Adoption & participation in quality review process for Sorter tools	Indicates shift towards prioritizing greater reliability of data tools and shared responsibility for this task	Quality review processes took place with greater intention over the course of the spring, but responsibility for this process remained primarily with a small group	Mixed

¹² Because the Regents Prep tool that I used to collect these data did not contain information for all prep activities, students who did not attend Saturday prep may have received other forms of preparation. More than 90 students passed the actual Regents examination.

External Results

During the late winter and early spring, my work with Aaron Burr focused on identifying students to sit for Regents exams and students who needed additional academic support. The first metric I identified was whether Aaron Burr ultimately registered the set of students whom I identified as plausible candidates to take Regents exams in January. Second was whether seniors whom my work with Aaron Burr had identified as needing additional academic support – primarily because they were re-taking a required Regents exam but were not enrolled in the associated class –attended preparatory activities. Included in this metric is whether attendance at selected English and math Regents prep activities were tracked using Sorter tools. Replacing paper-based tracking with electronic tracking would enable the school to respond more quickly to students who needed prep but were not attending the available opportunities to receive it.

Judging by these two process metrics, my work with Aaron Burr during the fall was unsuccessful. Of the freshmen whom I identified as promising candidates to re-sit for Regents exams, few were scheduled to take the exam. Attendance records from English and math prep sessions show that few target seniors had attended. Additionally, attendance was taken on paper, as had occurred in the past. While this still supported post-hoc analysis, there was little evidence that the school had used the attendance records to encourage absent students to begin attending prep sessions. Between 25-50 students did attend each prep sessions, but digging deeper, I found that the students who attended the sessions were primarily sophomores or juniors who were signed up to take the exam for the first time, not the students we targeted.

I have also included a Regents indicator that I did not plan in advance. Analysis of Regents results I did in the late fall with Aaron Burr's principal and the assistant principal who headed the English department indicated that Aaron Burr offered the English Regents later than most other PSO schools: non-honors students took the exam for the first time at the end of their junior year, while the majority of students in other PSO schools took the exam for the first time by the end of the January administration during junior year. These data reinforced a decision to offer all of its general education juniors the English Regents in January. The result of this policy change is impressive: more than 60% of the 2016 cohort passed the exam after January, doubling the percentage of students in the prior cohort at the same point in high school.

Finally, the analytics that directly measure usage of the Student Sorter became available in late January. I therefore began reviewing these usage data as direct evidence of whether school staff used the tools we offered. Table 2 below shows two indicators of usage by Aaron Burr, compared with other schools, from late January to mid March. Because Aaron Burr is very large, simply comparing the volume of use to other schools is somewhat misleading, so I also include information about the frequency with which schools accessed tools.

Aaron Burr was at or near the top of the PSO on both metrics over this period of time. This result is encouraging in light of the other results: school staff were using the tool to carry out key processes, I believe in response to a set of changes I will discuss below. Still, use of the tools is not the end goal, and the amount of time put into reaching this point has been substantial and potentially not replicable across 80 schools.

Table 2

Indicators of Usage of Sorter-Based Tools From Late January to Mid-March

<u>School</u>	<u>Number of Edits</u>	<u>School</u>	<u>Days Accessed</u>
Aaron Burr	811	School C	33
School A	259	School D	30
School B	198	Aaron Burr	28
5 Schools	100-150	5 Schools	20-23
14 Schools	50-99	9 Schools	15-19
11 Schools	25-49	10 Schools	10-14
19 Schools	10-24	24 Schools	5-9
16 Schools	1-9	17 Schools	1-4
<hr/>		<hr/>	
Total Edits	3572	Total Days	42

Notes: New Visions’ analytics on Google Apps tools do not capture each edit explicitly, so “Number of Edits” likely underestimates the true tool activity. More accurately, they should be read as indicators of magnitude of activity. School A/B/C/D are used to show the individual schools with values close to Aaron Burr. They do not necessarily represent specific schools identified anywhere else, nor necessarily four different schools.

Source: New Visions internal data.

Internal Results

Internally, I attempted to improve the predictability and reliability of processes for building tools and implementing SDCs. To measure predictability, I examined whether the calendar/timeline that I created for SDC implementation was adopted and whether it defined the sequence and timing of our work with sufficient accuracy for it to be used with schools for planning purposes. To measure reliability, I gauged whether requests for additional staff to participate in the quality review process led to broader participation, largely based on anecdotal conversations with individuals inside New Visions.

The first effort has been largely successful. The timeline has become an agenda item in the recurring meeting - known as Systems Roundtable - that serves as the in-person coordination space for most of the SDC work. Through the first round of the spring SDC work - the Credit Gaps conversation - our execution timeline has matched what the group agreed to during the initial calendar conversations. The early results from spring SDCs are promising: within the two week window planned for these conversations, 62 of the 67 schools had a Credit Gaps conversation. It is difficult to compare this with our first semester efforts, though, as SDC owners did not reliably use the tracking tool to update the status of conversation in the early fall.

The quality review process is more mixed. Based on conversations with members of the systems team, their perception has been that the quality checking process during the spring SDCs is more robust. However, the participation in that process has not expanded in the way that I intended: requests for SDC participants beyond the systems and data teams went largely unheeded.

Analysis

In order to understand the successes and failures of my residency work, and particularly with Aaron Burr, I make a set of observations based on the work over the past months. These assertions revisit my theory of action, but they also address substantial shortcomings in the original theory of action. Where my behavior was concerned, identifying and addressing these shortcomings made me more effective almost immediately. I also explore some of the particular challenges of building infrastructure to serve mature organizations and experienced professionals, from the position of an intermediary with limited formal authority that is attempting to affect a set of processes which New Visions believes are critical to school improvement but are often overlooked. In many cases, I believe the observations are generalizable, to the work of others at New Visions and to the work of the organization moving forward, and to other intermediary organizations that attempt to engage mature schools in improvement efforts.

Observation One: Before I could advocate change, I needed to spend significant time understanding Aaron Burr as an organization, and understanding the people who worked there. My emerging understanding helped me identify multiple levers that have since helped generate greater buy-in and behavior change.

My initial theory of change began by articulating my role as a change agent. I would bring into Aaron Burr a set of practices and tools that would change it from a school that missed too many opportunities, to one that would prevent most missed opportunities and have structures in place to catch oversights and missed opportunities. I framed what I was trying to do through the high-reliability lens (Weick & Sutcliffe, 2007), reflecting a set of challenges that my analysis had identified at Aaron Burr. I

recognized that being able to lead change required buy-in from individuals at the school, and several of my early actions – such as making adjustments to our tools – were attempts to practice a “...client orientation, rather than a change agency orientation” (Rogers, 2003, p. 375). Rogers identifies three other factors in change agent success beyond client orientation: change agent effort, compatibility with clients’ needs, and change agent empathy. Effort was not a challenge for me, but the latter two factors were ones to which I paid insufficient attention in the early stages of my work and which played a limited role in my view of change agency. I did not so much overlook the need to demonstrate understanding as underestimate how much I needed to know.

When I first began working with Aaron Burr, I had limited knowledge of the organization, its processes, and the people who made it up. This made it difficult to understand the compatibility of our support with what Aaron Burr needed. My initial SDC conversations with school leadership and staff reflected this lack of knowledge: I conveyed the information that the SDC entailed – aided greatly by the protocol as a support to make up for limited knowledge – but focused on little more than getting through the conversation. An analogy for my work over the first semester is that of a teacher who reads the textbook several days ahead of class and then subsequently attempts to teach the material. I expected the work to just happen after the conversation.

Particularly given limited experience with the actual day-to-day operation of New York City schools, I was learning the New Visions tools just-in-time to work with Aaron Burr. I was largely unable to articulate connections between the activities, or to explain what the next stage of work for the school as part of the SDC protocol would be.

Equally limiting, I could not hypothesize why oversights and failures that I observed in the data might be occurring at the school level.

In the late fall, I reviewed Knowles' (1980) andragogical theory and began to reconsider the SDCs as adult learning opportunities.¹³ This helped me identify a set of adjustments that I could make, based on principles of this theory, to improve my conduct of the SDCs. I describe a selection of how I applied this in Table 3 below, with the first being an example of reframing work in a way that would resonate with the school. In addition to the changes I describe below, I began to articulate the broader arc of activities that the SDCs comprised, how they fit together, and why the activities themselves were important. This articulation was not available to me earlier in the work – I had too little experience to see it. Perhaps the most important result of my growing familiarity with the school over time is a greater ability to frame the work – both the analyses and the conversations with staff related to the analyses – in terms that are resonant for staff at Aaron Burr and that recognize ways of addressing both the needs of the school and what I am trying to get done. An implication that cuts across Knowles' principles is that adults require a greater understanding than do younger learners of the “why” behind what they are learning before they are ready to learn.¹⁴

¹³ Thanks to Jal Mehta for pointing out the utility of Knowles' work.

¹⁴ Knowles' principles also are consistent with Schein's (2010) model for culture change in a mature organization. Schein identifies the first stage of this process as “unfreezing”, meaning the individual or organization's need to recognize that the culture, routines, and so on that the organization has long relied on no longer meet the organization's needs or are contributing to the organization's failure to achieve its aspirations.

Table 3

Principles of Andragogy and Applications

<u>Principles</u>	<u>Example Application at Aaron Burr</u>
The teacher helps the learners diagnose the gap between their aspirations and their present level of performance.	I presented the students with credit gaps during the spring semester as a group of students without whom the school could not reach its internal graduation rate target for the 2015 cohort, rather than abstractly framing a credit gap as something that required addressing for its own sake.
The teacher seeks to build relationships of mutual trust and helpfulness among the learners by encouraging cooperative activities and refraining from inducing competitiveness and judgmentalness.	I explicitly discussed mistakes that I had made in the process of working with Aaron Burr's data, in part to normalize admitting mistakes and in part to show that I did not interpret making mistakes as being demonstrative of a lack of expertise or value. I was careful to frame challenges as systemic failures rather than individual shortcomings.
The teacher exposes his or her own feelings and contributes resources as a colearner in the spirit of mutual inquiry.	I made myself available to help school staff through a variety of media, particularly on days when I was not at Aaron Burr physically, to ensure support existed for learners who were taking on a new task.
The teacher involves the learners in developing mutually acceptable criteria and methods for measuring progress toward the learning objectives.	I spent extended time with the principal, assistant principal in charge of guidance, and assistant principal in charge of programming as a group, in order to arrive at a mutually agreed-upon process for which parts of the re-programming process for spring credits would be handled by which team, as well as the explicit timeline against which this would happen.

Source: Knowles, 1980.

A different form of understanding that only became apparent over the course of my meetings with Aaron Burr is that the approach we offer should greatly simplify the work of school staff in many ways. This complements an argument that relies on moral suasion - that a school has the obligation to maximize each student's chance of graduating on time from high school – but which can also be pedantic, with an argument framed around self-interest. A set of shared tools can simplify the work of individuals in schools who already feel overburdened, but being able to spot opportunities where this is true relied on an understanding of policy and practice that I did not initially possess.

Finally, I needed to identify the positive work that was going on in the school despite specific dysfunctions and acknowledge that publicly. Over multiple years, the school had been improving its Regents passage rates and its graduation rates by several points each year. As I described above, in the year that I worked with Aaron Burr, the school shifted its policy regarding the ELA exam and doubled the number of students passing that exam in the middle of their junior year. Calling attention to these types of improvements, along with acknowledging effort that I could tell was taking place in our tools based on the user analytics I presented earlier, changed the tone of my interactions at the school. I was learning how to do this improvement work with the school, rather than as someone coming in from the outside to change things that were already working.

My growing comfort with the school also changed the levers I had available to change behavior. What I describe above focuses largely on trust-building and persuasion, which I primarily relied on during the first semester. In some instances and with some staff, this was sufficient. However, individuals may take action as a result either of intrinsic motivation or as a result of extrinsic compulsion to do so. As the results I

presented from the fall semester demonstrate, relying simply on persuasion was largely unsuccessful. I began to use compulsion as well, relying on the formal authority of Aaron Burr's principal. I did this as a complement to persuasion. This path became more available to me as I developed rapport and trust with the principal. Initially, the principal had little reason to push staff to carry out recommendations that I had made or to hold them accountable for doing so. However, as we developed a relationship, and particularly as I began to frame the work in terms that the principal cared about, this path became more available and apparent.

Observation Two: Spending time at Aaron Burr and other schools reaffirmed my belief in the need for administrative infrastructure. The work I was part of at New Visions is a serious effort to build that.

My initial theory of action identified a broad purpose of New Visions' work as building administrative infrastructure. A plausible explanation for my mixed results at Aaron Burr, in addition to my personal capacity to lead this work (or lack thereof), is that this initial framing of the work was inapt and reflected limited understanding of challenges that schools confronted. Cohen's and others' definitions of infrastructure traditionally have been used in the context of instructional improvement, not to refer to administrative activities (see, e.g. Cohen, 2011; Lampert & Graziani, 2009). As I reflect on my residency experience, I believe that the concept of infrastructure can and does provide a helpful frame for understanding New Visions' work.¹⁵

In general terms, infrastructure consists of two categories of things: tools and resources, and a set of affordances that support the use of those tools and resources. The

¹⁵ Thank you to David Cohen for his willingness to think out loud with me as I worked through my views on this and many other topics.

specific things that fall in each of these categories will differ – the instructional infrastructure for an Achievement First school and a Montessori school would differ in their specifics, and administrative infrastructure would differ from instructional infrastructure – but the objective of creating the set of things that help large numbers of professionals make sense of their work, learn how to do it, and then do it, is similar.

The need to create a administrative infrastructure for schools comes from a similar place as the need for an instructional infrastructure: we often ask schools and the individuals leading them to carry out a large number of complex tasks, but provide few well-defined means of getting there (Cohen et al., 2014). And from the perspective of an organization like New Visions tasked with supporting a very large network of schools, infrastructure can be an enabler of influence and improvement at scale because tools and resources can both shape the work and provide a container for accumulated organizational knowledge and expertise (Cohen, 2011; Cohen, personal communication, March 17, 2015).

In New York City, particularly under the chancellorship of Joel Klein, the primary leadership focus was autonomy. DOE leadership believed one cause of the poor performance of the system was that school leaders had been too closely managed from above and that management had led schools in myriad incoherent and unproductive directions (Inzunza, 2007). As Nadelstern (2012) described, over a period of several years, much of the central bureaucracy was dismantled and school leaders were “empowered” to lead their schools as proto-CEOs. At the same time, hundreds of new schools were opening across the city as the DOE shuttered low-performing large schools and turned them into campuses of small schools, each with its own principal. New

structures such as the Leadership Academy sprang up to offer training to new school leaders, but based on my conversations with school leaders, many still feel overwhelmed and underprepared. If the knowledge and expertise is all localized in individual schools, as an extreme version of autonomy might have it, or if leadership training does not include a connection to the actual administrative tasks expected of a principal, as the Leadership Academy seemed to reflect, then this is unsurprising.

New Visions, particularly over the past two years, has taken on the responsibility of building supports for schools and school leaders that help them carry out a set of critical activities reliably and sustainably. This approach has at its core a belief that schools must function effectively on both the instructional and organizational fronts if they are to have any chance at sustainably achieving ever-increasing public ambitions. What I have encountered during my residency reaffirms that this type of infrastructure is important and that it does not exist in a meaningful form in New York City today.

Observation Three: A shared understanding of the high-level goals and purposes that the infrastructure supports is a critical first step of creating infrastructure and convincing schools to use it. At New Visions, we have not yet reached this level of common understanding. Though I identified a focus on building structure, I missed opportunities to use various structures to increase shared understanding.

It seems almost silly to point out that, between having no infrastructure and having a fleshed-out infrastructure, there exists a period of time when infrastructure is only partially constructed. This is where New Visions' work of building infrastructure lives at the moment, though. A set of tools and resources exists in first iteration, the SDC structure exists for helping schools learn how to use the tools, some internal structures

exist at New Visions to provide some practice space and learning space as we move forward, and so on. However, the ability to articulate the common purpose of this work is still inconsistent internally. Much the same is true of the schools that we are working with. All of us are learning how to make sense of what we are doing as we go along.

One objective of my internal work that I identified previously was to bring coherence to some of the work across teams at New Visions. When I first wrote that, it was largely a gut feeling: I did not have a specific definition of coherence, but rather I believe I was reflecting my own struggle to identify the thread that runs through all of our work. Upon reflection, the coherence that I was seeking was greater connection between three different things: the goals and purposes that we are articulating for New Visions' work, the work of the PSO schools that we are trying to influence, and the infrastructure that we are trying to build as the way of influencing.

Why is this type of coherence important, particularly in the period of time when the infrastructure is first being built? Put simply, if this type of coherence amongst the many individuals and teams that make up the PSO does not exist, it becomes very difficult to manage all of the work going on and ensure that it is pushing in largely the same direction. In this way, New Visions is not so different from the schools with which we work. On top of this, it is even more difficult to keep a group of schools, who are not exposed to our thinking every day or the repeated and obsessive discussion over key steps in school processes, engaged through the period of infrastructure building if they do not have a clear understanding of the end goal and the difference that will result from enduring the infrastructure-under-development.

Returning to Cook and Yanow's (1993) conception of organizational learning and Weick and Sutcliffe's (2007) observation about managing complex tasks helps clarify why this type of coherence is essential, particularly now. Cook and Yanow define organizational learning as the process by which organizations become able to do things that no individual or subunit within them could meaningfully claim to do on its own. Weick and Sutcliffe point out that the work of most organizations is too complex to be managed entirely by slavishly following pre-specified rules and routines; these elements of culture are critical, but they are more aptly understood as dynamic guides that still depend on some level of discretion in execution. A basketball team is useful: the team has plays that it runs, and the coach may call those plays, but there is a fair amount of improvisation on the court as players react to the circumstances of the game. However, what the organization has learned in the past allows the team to generally behave coherently. For the most part, passes do not fly out of bounds, players do not run into each other, and when a play breaks down, the entire team generally does not come to a screeching halt.

The work that New Visions is undertaking in building infrastructure, and the work that schools are doing in using it, seems analogous. Only New Visions as an organization – the systems team, the data team, curriculum and instruction, the network team – working together can meaningfully be said to provide the support we aim to provide to schools, not any of those teams on its own. During the period of time when we are establishing a new approach to this support work, as we are now, the objective is general coherence within the goals and purposes of what we are trying to do as an organization. This allows individuals and teams to move forward rather than wait for strict instructions,

but also for leadership to have some confidence that the actions that they take should contribute to the high-level organizational goals.

The articulation of the goals is tightening, particularly amongst a group of the organizational leaders, but I previously described conversations that made clear that this agreement is relatively shallow and not widely shared. During the fall, a group of which I was part began to develop systems framework for key elements of the strategy over the course of this year (see Appendix C for an example), which describe several things:

- the goal(s) for a process or school-based system
- the people who carry out specific things or activities
- the relationships and coordination among the multiple people carrying out activities
- the tools or means by which the activities are carried out, and which often provide the artifacts that provide evidence of the activities' completion

However, we did not push these statements forward as a priority after we began them.

Some are largely completed, and we continue to use them, but they are by no means created for the whole set of systems that we are trying to build in schools, let alone the set of four that we are focusing on this school year.

These statements are useful because, as currently envisioned, they articulate an end state in schools: a set of core competencies that a mature school would possess in

order to do this work and a routine for doing this work.¹⁶ They provide a stable set of competencies against which both schools and we can evaluate progress.

I missed opportunities to move this work forward. I was part of the team that developed the drafts of system statements in fall 2014, but I did not keep this particular work high on the PSO's collective agenda. This is a particular oversight because, as I mentioned previously, I often create the agenda for the network leader meeting. This could have been one space for ongoing work on the systems statements. Using that space would have had the additional benefit of involving in the development of these key documents a broad set of the school-facing staff at New Visions who would be essential in supporting school-based progress towards these systems.

Based on the results I presented above and conversations I have had, the connection between our high-level goals and the work that we do with schools is not always clear. If schools do not understand the end goal, then some of what we are trying to do will make little sense. For example, if schools do not understand that an intended outcome of our tools is the ability to manage progress towards graduation on an

¹⁶ Thanks to Jal Mehta for framing this point and for identifying these as potential core competencies. I will subsequently discuss the role of routines, but the literature on creating new organizational routines – which is a useful frame for understanding much of this work – also identifies a set of environmental conditions that support enactment of new routines. These include strong modeling by the organizational leader towards the new approach (Edmondson, Bohmer, & Pisano, 2001), trust that individuals who take risks and change behavior will not be punished for good faith efforts (Adler, Goldoftas, & Levine, 1999; Edmondson et al., 2001; Pentland & Feldman, 2008), and the provision of training and practice space that allows individuals to test out the new routine in advance of its implementation (Adler et al., 1999; Edmondson et al., 2001; Pentland & Feldman, 2008). Presenting the systems statements as a set of competencies seems reasonable, but offering schools a set of considerations to help them get there – particularly given the implications for the role of the school leader, our focal agent in schools, in modeling and creating a context – seems equally as important.

individual student level, no matter how big or small the school is and no matter the characteristics of students or staff; and if schools do not believe that managing in this way will lead to better outcomes for individual students and for the school as a whole; then what we are asking them to do in checking and double-checking decisions, taking advantage of every Regents testing opportunity, and so on, can seem like unnecessary, compliance-focused work – the diametric opposite of how we intend it.

An anecdote from my work with Aaron Burr clarifies this difficulty. During the review of spring credit gaps, we identified a high-performing senior who had transferred into the school after freshman year. I will call her Anna. In her prior school, she had taken US History and passed the US History Regents exam (one of the required exams). Aaron Burr followed a different social studies sequence, with US History following Global History, so when Anna transferred to Aaron Burr as a sophomore, she was scheduled into the third and fourth courses in the Global History sequence along with the rest of her cohortmates. At the end of the year, she easily passed the Global History Regents exam - but she had never taken the first two of the four required courses in Global History because of this sequence switch. In junior year, she was again scheduled for US History, though she had already passed it, and again sat for the US History Regents, though she had already passed it as well. Thus, by the time she reached spring semester of senior year, she had doubled up on US History courses and exams but had never taken two required semesters of Global History.

When we discovered this gap during the discussion of credit gaps, some individuals in the room were horrified, while others seemed to take the discovery with much greater equanimity. A reasonable interpretation is that, as part of a cohort of 1000

students, the student moved along in lockstep without sufficient mindful attention paid to her particular circumstances. For a school not managing at the level of the individual student – conducting numerous and layered reviews of credits earned, courses passed, and so on, such an oversight is understandable. Thus, a central challenge of support was the need to change behavior so that schools across the PSO would pay attention to these details - small in the scheme of a massive school like Aaron Burr, but critical for an individual student’s future graduation - while also creating the capacity to interpret what was occurring and to react in ways that would meet student needs.

Once infrastructure is built, it should reflect shared goals and can provide a container for tools, practices, and learning that reflect these goals. However, during its creation, having clarity about the goals and general coherence in the work seems particularly essential, especially when it is necessary to convince others to use a set of in-progress tools and resources.

Observation Four: Building and using infrastructure is made more difficult because New Visions lacks a set of important affordances, including the ability to protect a core agenda of work, availability of time and space for practice, and prerogatives like hiring staff.

What New Visions is asking its schools to do is dramatically different from the way most schools in the PSO currently operate. In interesting ways, the work places us at cultural odds with the ethic of both the Klein administration and the Fariña administration. It is a tightrope to walk in arguing that schools should exercise their prerogative to select a support provider by choosing one that will push them to standardize processes about which schools currently exercise substantial autonomy, and it

is unpopular to point out the breadth of the missed opportunities in areas that affect but are not specifically about teaching and learning.

Even after schools choose New Visions as a support provider, we rely entirely on informal authority and persuasion. Under the PSO model, a school can change its PSO provider, but New Visions relies on the DOE's authorization to continue our work with schools and relies on the resources that flow from schools' choice of us as a support provider.¹⁷ This forces us to allocate attention to things that we might otherwise deprioritize, in order to maintain a certain level of school satisfaction. These are not necessarily things that we would consider unimportant, but a focus on them at a particular point in time subtracts attention from something else that we consider more important at that moment. Moore (1995) refers to this as a dilemma in the authorizing environment, noting "At any given moment, the authorizing environments guiding and sustaining public managers have a distinct configuration: they sustain the managers' efforts in a particular form, at a particular scale, and on particular objectives" (p. 130). Rosenberg (2012) and Cohen et al (2014) identify the ability to buffer schools from a turbulent environment, similar to what Moore describes, as a key affordance in the construction of infrastructure. Control of, or even substantial influence over, this formal authorizing environment is the most important affordance we lack at New Visions.

One reason why this is such a crucial affordance is that even the best-designed infrastructure is not self-enacting.¹⁸ Being able to focus an organization on a new idea,

¹⁷ This observation is similar to one that Cohen et al (2014) make about the comprehensive school reform organizations.

¹⁸ Thanks to Jal Mehta and David Cohen for stressing this point until I heard it.

provide space to practice and make mistakes with limited risk, is hugely beneficial (Edmondson, Bohmer, & Pisano, 2001; Pentland & Feldman, 2008; Schein, 2010). For New Visions, it is doubly important because our approach mirrors one of which schools may be rightly skeptical. There is a checkered history of school leaders in New York City receiving meaningful data and analytical support. The failure of the ARIS data system, which the Klein DOE launched with great fanfare and which the Fariña DOE recently shuttered, stands as recent reinforcement of systems launched with great fanfare only to be shuttered several years later (Charles, 2014). Some of the systems that remain, such as ATS, were created so long ago that they literally include instructions from the mainframe computer era such as “Press RED Enter.”

Finding this practice space is challenging for several reasons. Part of this challenge seems like an almost-inevitable result of the intermediary relationship that New Visions has with its schools, and the friction between the approach we advocate and the approach that the DOE advocates. Schools that are part of our PSO live a double life: “[e]ach [school] belonged to a new professional community that stood outside the public schools, but each also belonged to a public system” (Cohen et al., 2014, p. 175). Schools are thus at the center of a tug of war: we would articulate one set of things they should pay attention to, while the DOE often times would articulate a different and sometimes incompatible set of things, all meant to be done in the same time. It seems unsurprising that we could receive less attention in this choice.¹⁹

¹⁹ It is worth noting that I took advantage of a similar dynamic within Aaron Burr, which I discussed above as one of my key learnings. I was able to align myself with the formal authorities in the environment of guidance counselors (their assistant principal) and

As an example, Aaron Burr has spent enormous time during this school year on special education compliance, because it is the area of expertise of a key DOE staffer who works closely with the school and a particular focus that the DOE has identified. Another school spent substantial time making sure its bulletin boards displayed sufficient student work because it was well-known as something the school's superintendent paid particular attention to during school reviews. From either school's perspective, focusing on this type of activity can be a rational choice, because it is the DOE staff, not New Visions, who rate the school, particularly the principal. Such easily-measured compliance activities thus take on great centrality, and consume much time. Whether one believes that either activity is important for increasing the likelihood that students graduate high school is not the point: those activities are not the ones that New Visions believes are more closely associated with greater numbers of students graduating, but if schools pay greater attention to formal authority, then the ability to protect our work is limited.

It is also challenging because there are few existing spaces for sustained practice in most schools. As other recent examples like Common Core implementation demonstrate, practice is not a standard prerequisite for the adoption of new process or policy in the educational sector. One way of sidestepping this challenge – which I attempted at Aaron Burr but with limited success as I have discussed – is to use different “cycles” of the same process as practice. Most schools consider the January Regents administration as an opportunity to make up missed exams, to accelerate students, and so on, while viewing the June Regents as the primary administration. This might create the

assistant principals (the school principal), which created greater motivation to do the work I was advocating.

opportunity to roll out new approaches in January, use that administration to practice and improve, and then consolidate those learnings in advance of the June Regents. This is still something of a perversion of the “practice” concept, though, as the January Regents is an actual opportunity for students to take exams; we are pushing schools to think of it even more as such. Viewing it as “practice” might confuse this message and implicitly authorize schools to take it less seriously.

A third affordance we lack is the ability to choose the staff in the schools with which we work.²⁰ The individuals within schools are another type of “authorizer” of our work. Pentland and Feldman (2008) describe the “‘agency’ view [which] leans toward social determinism, arguing that people are more or less free to choose the ways in which they use technology” (p. 242). This contrasts with a technologically deterministic view, in which the existence of our tools should carry the day. We are strongly encouraging school users to take advantage of the tools that we are building, but if they choose not to do so, we have limited recourse. We can lean on the school leader’s authority, as I did to some effect, but that is not an unlimited resource before we begin to breed resentment and mindless compliance. Ultimately, we want to reach a point where individuals choose to use this approach because they believe in it, and where schools have the capacity for mindful practice in these and other key processes.

Achievement First chose to hire largely new teachers because it found it more straightforward to inculcate their particular pedagogical approach when teachers did not need to unlearn prior practice (Rosenberg, 2012). New Visions works primarily with

²⁰ It might be more accurate to say that we choose to forego this affordance. We could be more selective in the schools with which we work, if we chose to do so.

existing schools, with school leaders and staff of widely varying experience and beliefs; we have limited say over who gets hired to work in those schools, so the type of alignment of theories of education or improvement that might be possible to target in a hiring process is difficult to achieve.²¹ One way to understand what we are doing, then, is trying to undo years or decades of professional learning on the part of the individuals we are working with, and decades of organizational learning on the part of the schools with which we work.²²

Returning to the previous example of Anna, when I was re-reading the Aaron Burr's handbook, I came across a note that I had missed the first time I read it: "All courses are annualized and students will continue with the same program in the Spring term. Program changes will only be made in the Spring for seniors with regard to Health and Physical Education and later College Now course changes" (Aaron Burr High School, 2015). The idea that a highly successful and motivated student could move through the school for nearly three years, with no adult catching the credit gap in Global History, seemed shocking to me, but the lack of review or correction of student schedules was encoded in the school's handbook. An experienced staff member, then, would have experienced this as part of the organizational culture and learned that a review did not

²¹ I say limited rather than no say because New Visions does offer hiring support to its schools and some opt in. Part of this activity is screening prospective candidates. Still, it is far beyond the current scope of New Visions' work to handle that responsibility for all 80 PSO schools, even if all 80 schools desired more intensive support in that area.

²² Either the Cook and Yanow definition or more traditional definitions are relevant here. Schools as organizations have learned to do particular things over time and to cope with challenges they're presented; functioning through a high-reliability mindset seems not to be one. From a more traditional lens, schools have adopted practices that have seemed to work for tasks other than catching the students falling through the cracks, or have lacked the supports necessary to catch those students.

happen consistently; a relatively new staff member who relied on the handbook to understand expectations – which would be entirely logical, as an organizational handbook should be an artifact of culture (Schein, 2010) – would learn this particular behavior.

Overall, New Visions has a bit of a Catch-22 that arises from the interaction between the district and school authorizing environments: in order to be credible with individuals, the New Visions tools and processes need to demonstrate results; they cannot demonstrate results without some implementation prior to results occurring; while concurrently, to remain credible in the face of opposition from the district-level authorizing environment, showing results quickly is essential to having space to operate.²³ If the design of the tools does not feel authentic to the tasks that schools must complete, the barriers to adoption and use are even greater and the likelihood that New Visions can show improvement in the near-term is much lower. Being able to demonstrate these results in the context described above is especially challenging.

²³ Even demonstrating conclusive results may not be enough to create space on its own. In the same New York Times profile (2015) mentioned earlier, Chancellor Fariña dismissed the results of a large-scale randomized controlled trial evaluating the effectiveness of New York’s small schools of choice strategy, saying the results were “...one view of things. There are many views about everything.” New Visions was deeply involved in this strategy in the early 2000s, so under a different chancellor this strong validation might have served to create space. As a recent article in Chalkbeat by Patrick Wall (2015) argued, though, New Visions’ continuing status as an affinity network is more likely the result of politics than recognition of the quality of the work.

Observation Five: Despite these challenges, the SDCs are a promising strategy for improvement. They incorporate key principles of adult learning, address some of the constraints that New Visions faces based on the lack of affordances, and create opportunities for ongoing learning and improvement.

Despite a challenging environment, the way New Visions is approaching school support this year offers hope. The strategic data check-in (SDC) is the primary support structure that New Visions is using with schools this year. The idea of an SDC is a cultural shift, as noted above, because it asks a large group of schools to focus intensely on a specific set of administrative processes, at common times, using a standardized set of tools designed to help improve reliability of the processes. This places particular pressure on the design of the structure if it is to lead to the results we desire: schools must be willing to engage of their own volition.

One reason why I believe the structure is particularly promising – and why I have been able to improve my effectiveness using the structure over time – is that it conforms to a plausible theory of adult learning. Beyond the specific principles of Knowles' (1980) andragogical theory that I described above, a number of additional principles are embedded in the general design of the SDC:

- the topic is relevant to the learner because the tools address real-life shared problems of practice, such as enrolling students in courses or scheduling students for exams
- the conversation is well-timed, at a moment in time when the particular objectives of the support should be primed because the conversation focuses on activities that must take place regardless of our involvement

- the data-based structure helps call attention to potential issues, but the focus on data supports low-inference observations with school staff making sense of data
- the structure is experiential, so the learners are able to authentically and rapidly apply what they learn to carry out a relevant task

In the long-term, the objective is for schools to learn how to carry out these processes themselves, so building the approach from a plausible theory of learning seems sensible. The form of the SDCs reflects how we intend them: as scaffolds to help individuals in schools learn how to do something new (Rosenberg, 2012). Valuably, as I alluded to with my early experiences, they also function as scaffolds for New Visions staff who are less comfortable with data tools, with the high-reliability approach, or with the specifics of policy in New York City. Performing the SDCs thus builds our staff’s skills at the same time they work with schools.

Increasingly, the SDC conversations also have wrestled with the need to balance uniformity in the conversation with flexibility in the approach to accommodate schools in different circumstances. The example protocol in Appendix B has mild, medium, and spicy “flavors” that provide some guidance on how to diagnose school needs and differentiate the conversation based on those needs.²⁴ Having the interaction with schools on each SDC was non-negotiable, but the particulars of the conversation could vary depending on both the technical and conceptual sophistication of the school audience. This reflects another of Knowles’ (1980) principles, namely “... a mutual process of

²⁴ Thanks to Jesse Spevack, who was the primary author of the particular protocol documents that I present in the Appendix.

formulating learning objectives in which the needs of the learners, of the institution, of the teacher, of the subject matter ... are taken into account” (p. 57).

The increasing predictability and routinization of the SDCs also is important. Though it is difficult for New Visions to formally create protected space for this work to occur, planning in advance for these conversations and following through with information that schools value likely makes school staff more apt to protect space on their own calendars, to the extent possible. Beyond scaffolding learning in appropriate ways, the SDCs also create a safer space for schools to experiment by reducing the likelihood that they will overlook specific students, similar to the “safeguard” role that Rosenberg (2012) identified. Working with Aaron Burr, I can relatively quickly identify a list of students who will not graduate even if they pass all of the Regents exams for which they are scheduled. This may be because a guidance counselor has made an affirmative decision that the student needs additional time to pass remaining exams, but my ability to double check “naively” – that is, not based on knowledge of the individual student but based simply on the data that presents itself – makes it less likely that oversights will slip through. This should increasingly contribute to a greater feeling of safety for schools and school staff to try something new, because we function as something of a safeguard for their mistakes as they learn the new approach.

Roughly standardizing our approach across New Visions staff and schools enables us to learn more and learn more quickly. That the conversations return to similar themes and rely on similar tools – both technical and conceptual – give individuals multiple chances to practice and apply their learnings to tasks where they can see relatively immediate results.

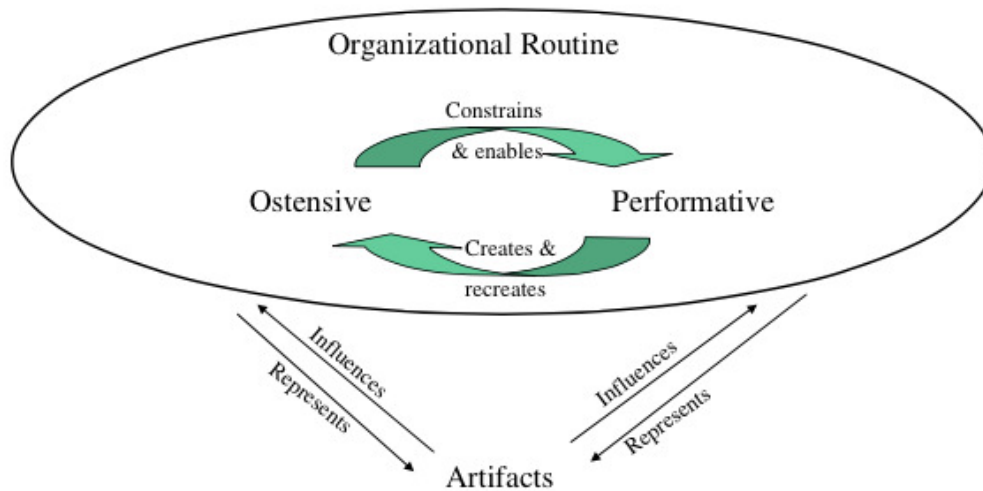


Figure 1. Relationship between routines and supporting artifacts.

Source: Pentland & Feldman, 2008

Nevertheless, this standardization need not preclude learning over time, as my experience demonstrates. Different SDC owners will implement even a structured conversation differently, but knowing what we aimed to do (ostensive) and what we actually did (performative) gives us valuable information to study as an organization (Feldman, 2000; Feldman & Pentland, 2003; Pentland & Feldman, 2008). Conversations after each round of SDCs have led to multiple changes in design of the protocols and of the tools, which in Figure 1 above would be considered artifacts that ideally are well-aligned with the routine - but which importantly are not the routine itself and, as discussed above, are things that school users can either adopt or not.

At Aaron Burr, my learnings from reviewing the results of the January Regents led me to prioritize conducting the Regents registration process for June in the Sorter itself, which is underway as I write. New Visions pre-populated recommendations for

which exams students should take in June in the Sorter, so this switches the default option for many students and exams to registering for an exam, rather than the default option being not registering; this is an example of using process design to make non-catastrophic processes more reliable, in this instance through a change in default option (Resar, 2006). It also represents a way in which the Sorter, as a technological artifact, can positively constrain a set of choices for school users who are carrying out the Regents planning process (Pentland & Feldman, 2008). At this point, conducting the entire Regents planning process in the Sorter is not the standard SDC approach, so this is a performative variation; if it proves valuable, it will be relatively easy to incorporate it into a modified protocol for use with all schools.

The SDCs are not without challenges, though. A particular challenge is the pace of improvement and change of the tools. New Visions now has much greater internal capacity to develop new tools than it has capacity to help schools learn how to use the tools and, critically, make meaning of what the tools and data analysis reveal. If the gap between New Visions' capacity and those of the individuals with which we work continues to expand, we may find ourselves in what Meadows (2008) refers to as an addiction trap, one of several systems failure archetypes she identifies. She writes,

“The trap is formed if the intervention, whether by active destruction or simple neglect, undermines the original capacity of the system to maintain itself. If that capability atrophies, then more of the intervention is needed to achieve the desired effect. That weakens the capability of the original system still more. The intervenor picks up the slack. And so forth” (p. 133).

In this particular instance, the risk seems less that our involvement with schools causes their current capacity to atrophy than that schools never had that capacity to begin with, and our support minimized the imperative to develop it. Schools know that we will do our best to avoid allowing them to fail. As we continue to build additional capacity to this end, we continue to shoulder more of the burden and the capacity does not develop in schools themselves. This is an issue that I have struggled with in my work with Aaron Burr and in interpreting results: one reason why the school has used our tools as much as it has is because I have been working so closely with the school leadership and staff. If I were to leave, I am not convinced the school would have the internal capacity to carry out the same scope of work again.

This is particularly challenging given what I previously called an “orthopraxic” approach. In such an approach, practice leads to belief in underlying principles (Cossentino, 2005). Our tools, and hopefully our protocols, reflect a set of principles: a belief that schools should manage these processes at an individual student level, that they should take advantage of every available opportunity to get a student required exams and credits, and so on. Particularly given our incomplete articulation of these principles internally and externally, if schools in particular do not practice with our protocols and tools, they may never understand what we are trying to do. It may be possible to get them to mindlessly follow a set of steps, but this does not build their capacity to make these decisions. At best, though, repeated performance using well-aligned artifacts should be able to re-structure both organizational processes and individual understandings of those processes, while also improving results in the near-term as that understanding develops.

Implications

The benefit of reflection on the substantial learning from the previous months makes clear numerous next steps and missed opportunities from my residency. Below, I offer key implications of my learning for three different levels of the system: my own work, the work of New Visions, and the relevance of this work for the sector as a whole.

Implications for Self

The systems thinking and data analytical components of New Visions' work come naturally to me and are well within my comfort zone. The human elements of systems - both from the perspective of individual capacity and organizational culture - are much less so. However, my experience over the past few months has made clear how important these considerations are. At the end of the day, it is combination of the people within schools or within organizations such as New Visions, and the affordances or constraints of the contexts within which they work, who have to make systems work.

Recognizing this, I need to pay more attention to and spend more time up front understanding the environment in which I am trying to work. This is particularly true in contexts similar to my work at New Visions, where I am an outsider coming in to work with individuals in a mature organization with an existing and well-understood organizational culture. Activities that I understand to have a very clear purpose and close connection to outcomes, such as identifying credit gaps and addressing them early in order to ensure students can graduate on time, may be outside the frame of reference of individuals with whom I am working.

At Aaron Burr, there were many reasons why this was the case: longstanding practice, large numbers of people who must work together to carry out interrelated elements of a process, few tools that would actually enable this type of work. This set of circumstances needed to inform the way I approached the work, as well as how I articulated the content of the work to those whom I was attempting to support. Once I recognized this and paid more attention to what might be inhibiting behavior, I was able to identify ways to work around things that had previously been barriers.

At the same time, I need to pay more attention to the levers available to encourage implementation. In the past, I leaned almost entirely on the lever of compulsion via formal authority (at least when I have my own formal authority or another's formal authority that I can borrow). This is a plausible approach for only so long, and it is particularly challenging in education. Even though autonomy for school leaders was a relatively new and controversial development under the Klein DOE, within schools individual autonomy has long been one of the distinctive elements of professionalism; being granted this autonomy is part of the professional respect that those who work in schools expect.

To some extent, I recognized this coming in to my work with Aaron Burr. In particular, I recognized that I personally had no formal authority over the individuals with whom I would be working, and frankly neither did New Visions. Some at New Visions had a certain level of informal authority and credibility as a result of their position at New Visions as well as their personal history within the New York school system, but even that is limited. Therefore, I focused almost entirely on persuasion as the motivator for my

work. This was too dichotomous a frame for complex work. It was not - and likely almost never is - either/or but rather both/and.

Nested authorizing environments like the one I found at New Visions and Aaron Burr require particular attention: the district authorizing environment and the school authorizing environment had many competing pressures on school staff. In both contexts, we need to demonstrate results in relatively short order in order to establish and maintain the legitimacy of our work. That arguably pushes in the direction of compulsion, where specific behaviors that connect to near term improvement are strongly encouraged and rewarded, and then the hopefully-positive results of these relatively small behavioral changes produce increasing momentum for additional reform. At the same time, because there are few individual consequences of opting out of participating in our strategies – particularly before we had analytics data to understand basic usage of our tools – individuals needed to be at least minimally convinced to try something new. I need to have both ways of encouraging implementation in my leadership toolkit and be able to mix them in the proper balance, not rely on one to the exclusion of the other.

From a more personal perspective, the pace of change at New Visions tested my focus. The risk for me is not inaction but inattention to priorities that will facilitate change in the longer run. Using spaces like the network leader meeting to practice our approach, or using resources like the systems frameworks to crystalize the end goal of the school-level work, are the types of opportunities that I failed to identify as critical. I shifted my attention elsewhere, to things that would make a greater impact in the near-term. Given the competing demands of the authorizing environment, this was not entirely foolish, but much as with lever for behavior change, the choice is not dichotomous.

Striking the right balance amongst competing priorities likely will require both steadfastness in believing what I have prioritized is important but also the humility to acknowledge and change when I have missed opportunities.

Finally, on the most personal note, the work with the leadership of Aaron Burr has given me a greater appreciation for just how difficult school-based work is, an appreciation which neither working as a consultant nor a policy maker helped me to develop. At the same time that I was working in coaching and support capacity with the principal of Aaron Burr, I was realizing that I could not do her job. The number of demands on the principal's time, the number of constituencies to keep satisfied, the relentlessness of the work are all overwhelming. I walked out of each of my weekly visits to the school physically and emotionally spent from having to encourage, cajole, frame, all of it while being on. I am used to having a few minutes to catch my breath between meetings, to get more coffee, to check the news, to reset. I had none of that on the one day a week I spent at Aaron Burr. Multiply this by five days a week, every week of the school year, while at the end of the day being the one held responsible for the performance of the school and whether hundreds of young adults walked out of the building with a diploma, ready for what's next, or faded away as a dropout, likely with dramatic deleterious effects on the rest of their lives. I am not sure there was any other way for someone like me to reach that level of understanding or to walk away with the empathy that I have for those who work in schools, but it is one of the most profound learnings I will take with me.

Implications for Site

Over the course of my residency at New Visions, I had the privilege to be a part of extraordinary work. The growing pains that New Visions is experiencing seem like an unavoidable stage in tackling a complex and difficult set of problems that traditionally has been ignored.

The approach New Visions is taking to improve school capacity and reliability seems like an authentic attempt at creating a new type of infrastructure. It creates new tools and resources, then creates structures to facilitate their school adoption. It does this while recognizing the very real challenges that dysfunctional operations create for everything else that a school attempts to do.

At the same time, though, New Visions as an organization is experiencing many of the same challenges in becoming an organization able to reliably and effectively execute its strategies as the schools with which we are working. From a purely technical standpoint, operational activities such as data pulls and tool updates take up huge amounts of staff time, and the structures to ensure that everything works as expected and to recover if not are still mostly ad hoc. Simultaneously, we continue to create new tools and involve ourselves in additional activities with our schools.

If this approach to problem-solving is to be sustainable, several things would be helpful. Most importantly, we need to define what we are trying to achieve. This means clarifying and sharing the goals and purposes that I wrote about earlier, with both internal and external audiences. This would be beneficial in myriad ways. It could increase coherence around our agenda, which would help New Visions prioritize amongst the activities of multiple teams at New Visions and at schools. It could establish more clearly

what we are really trying to achieve with the SDCs and help us evaluate the extent to which our current design addresses those purposes. It could identify elements of the infrastructure that we need to create or help schools create, both from a technical perspective (like the systems statements) and from an affective perspective (like the conditions within an organization that facilitate change).

We also should consider some standardization of our internal planning and execution processes so that there is greater predictability in the work. At some point, coordination and planning overly detract from the creativity and flexibility that has made New Visions' recent work exceptional; the literature on high-reliability organizations makes clear that they actually avoid excessive bureaucracy and organizational formalization, and that their ability to respond flexibly to challenges that are not prevented by vigilance derives in part from their loose organization and coordination (Weick & Sutcliffe, 2007). Still, we need routines to guide repeated work as much as any of our schools do. Our internal work is increasingly interdependent: school-facing staff rely on the data team to have data available in the tools for use with schools; the data team relies on the systems team to have built the tools that serve as containers for the data; and the systems team relies on expertise across the organization to help define the task and sketch what the tool should do. As we expand the areas of engagement with our schools, our internal routines will help guide when we conduct specific activities, how we carry them out, and so on.

New Visions also has been running so fast on execution as it has built tools and processes for supporting them that the structures for learning are still nascent. Routines help the learning process both by storing knowledge and by providing a reference point

against which to understand and evaluate deviation (Becker, 2004). Formal structures such as the PSO leadership team meetings, network leader meetings, systems roundtables, and others exist, but at the moment they function more as information sharing vehicles rather than collaborative learning opportunities. In part this is because of the coordination need as the SDCs and other new approaches have rolled out - after all, we were learning how to execute at the same time we were actually executing - but it feels as though the opportunity for substantial learning is being lost without more rigorous structures for capturing our work this year.

This is particularly true of the SDCs, both because they are already structured as routines and because of their centrality in our support work. They are powerful in part because they can help rapidly create a floor for performance: a school or a New Visions staff member can relatively quickly learn the mechanical steps to identify a student with a credit gap or a teacher with a lower-than-average passing rate for students who need courses in a particular subject area. However, if what individuals learn is the mechanical process of a particular action but not the conceptual understanding of why it is important, it can become a force for calcification. Again returning to Cohen et al (2014), Success for All (SFA) similarly relied significantly on structured routines and protocols to scaffold the instructional improvement of teachers in SFA schools. While this enabled rapid improvement, the lack of supports or structures to follow on the relatively basic routines that SFA initially created played a role in creating a ceiling of improvement.

Examining the SDCs through the lens of organizational routines seems like a fruitful next step. More explicitly building in learning principles, identifying school-

specific information that would help us target the SDC conversations to each school²⁵, and building in run-throughs of our tools are all examples of this type of activity. Given the observations that the establishment of routines can lead to calcification (Mehta & Fine, 2014), developing a better understanding of the circumstances that contribute to this outcome in contrast with the circumstances that contribute to routines becoming sources of learning (Feldman & Pentland, 2003), can also help us improve the design of our SDCs.

To a degree, the extant structure of the Systems Roundtable attempts to capture learnings from the execution of the SDCs. Bringing this to the forefront and examining the alignment between ostensive, performative, and artifactual should illuminate places where there is harmful misalignment, both internally and externally. Most of my analysis has focused on high-level considerations of New Visions' relationship with schools; a more granular examination of the SDCs, now that their centrality has been established, can help us learn more quickly.

Beyond the immediate considerations are questions about what New Visions does next. Even the highest-performing schools in our network continue to catch errors or oversights, enabled by our tools. Still, the potential for further improvement from administrative tools is limited. One possibility for what is next is increased focus on the instructional and curriculum development work that is already occurring. Implicit in the

²⁵ Here, I mean knowledge like how schools currently carry out their work so we know whether they conduct things like systematic reviews of student schedules, who owns specific pieces of work, and when schools begin processes like scheduling Regents exams. We have had internal conversations to this end, but specifying the contextual knowledge we need would be useful.

approach New Visions has taken is the argument that dysfunctional administrative systems make it more difficult to maintain focus on instructional improvement. Focusing on administrative improvement in its own right makes instructional improvement more feasible.

When combined with the work that New Visions has done in standardizing processes and the language of school management, this work opens up a third possibility: establishing a network in which the constituent members drive the improvement process and serve as substantial repositories of expert knowledge and practice (Bryk et al., 2010). Such a network could take multiple forms - one or more communities of practice, networked improvement communities, or another form entirely. Regardless, being able to share practice-based knowledge across 80 schools, in addition to the knowledge resident at New Visions, is an unusual opportunity. The creation of shared infrastructure that is happening now, including common expectations and language, make such a network approach much more plausible. With those elements in place it opens new possibilities for improvement that do not rely primarily on the inherently-limited capacity of New Visions.

While this is a vast scope of work, recent changes to the support structure at the Department of Education present the opportunity to address some of the constraints under which New Visions has been operating. Most significant of these changes is the likelihood that moving forward, all of the PSO schools will fall under the supervision of just two DOE superintendents. Currently, there are more than ten superintendents who oversee the PSO schools. There are several important implications of this switch.

First, it may provide the opportunity to align formal supervision, by the superintendents, and informal support, by New Visions. As discussed in the analysis section, the separation of these structures contributes to schools' membership in two distinct communities, with conflicting and potentially disruptive objectives, demands, and culture. With greater alignment, the behavioral incentives for schools to take certain actions may be substantially strengthened, while the ability to shield them from demands that are not coherent with our approach may also increase. Relatedly, working with a much smaller number of superintendents might deepen the relationship between New Visions and the superintendents. It may mean that New Visions will need to spend less time fending off external threats to our work and more time building the infrastructure and executing the work itself.

But for this to happen, we will need to be able to articulate our work compellingly and coherently. This returns to the first point and reinforces the importance of coming to shared understanding of our goals and purposes. It also seems prudent to define proactively how we measure the success of our support, particularly the near-term behavioral metrics. One clear implication of the shift in support structure at the DOE is increased oversight of support providers; given New Visions' special status – that is, the continued ability to work with a network of schools, the alignment with superintendents – scrutiny of our effectiveness seems poised to increase. A lesson from my prior work in government, but also seemingly echoed in the current debate over teacher evaluation, is that it is preferable to proactively define the dimensions of accountability that should be used to measure success, rather than to push back against accountability and in so doing allow those metrics to be externally defined.

Implications for Sector

Debate about improving the education system in the United States has centered on the need to change the instructional core in schools (see, e.g., City, Elmore, Fiarman, & Teitel, 2009). While that is unquestionably important, in my experience this focus gets translated into an argument that focusing on the instructional core is the only thing that matters. This ignores the reality that schools are both instructional entities and operating organizations with a range of complex tasks. Some of these tasks are administrative in nature but proximate to instructional responsibilities; the SDCs that New Visions implements with schools sit primarily at this juncture. Course programming, exam scheduling, and the like are not instructional activities in and of themselves, but without reliable and effective execution of these tasks, especially approaches that do not take up all of the time and energy available at a school, it seems hard to imagine that schools can reliably and effectively improve instruction.

New Visions' support approach enters the discussion about improving schools from a different place than many other reform efforts, by focusing on these activities at the intersection of operations and instruction, delivering targeted data to schools to help them identify missed opportunities, and providing support so that schools can build up the capacity internally to carry out these activities. Thus, at the highest level, New Visions is testing a different theory of action for improving schools that, if successful, would offer a complementary approach to improvement. Rather than replacing instructional improvement, this approach should make schools more capable of establishing and sustaining a focus on the difficult work of instructional improvement

than they would be if administrative and operational tasks continued to monopolize large chunks of time. The tools that we are developing also should help schools target instructional improvement, across subject areas, teachers, and students.

As importantly, the ongoing work at New Visions may be able to provide examples to the sector of the infrastructure that must be in place to support data use as a core strategy for school improvement. While the idea of data-driven decision-making is not new – it was a buzzword a decade ago when I first worked with the New York City Department of Education – the use of data to manage activity at the student level, on a day-to-day basis, is far more possible now than it was even several years ago. Still, it is neither easy nor straightforward, so the set of conditions under which the use of data for student-level management is both possible and plausible is important to identify. Below, I discuss several of those potential conditions.

The most basic condition is the existence of, or the possibility to create, the necessary technical infrastructure. In New York, New Visions had to create much of the infrastructure to deliver data to schools because the systems that existed often did not deliver useful data to school-level users. In order to be truly useful, though, the infrastructure has had to evolve to be able to deliver data more quickly to schools. One of the most substantial challenges in building new systems is establishing feedback loops that can get information in the hands of the right people quickly enough (Meadows, 2008). Data that might otherwise have been useful can simply add to frustration if it arrives too late to support decision-making, or requires too much effort to use.

A second condition is support for individuals to develop the set of technical skills necessary to manipulate and make sense of data, using whatever tools are in place. In

New Visions' case, the core tools are spreadsheets, which simplified our task because many individuals have experience using similar tools like Microsoft Excel. However, even basic functionality becomes far more challenging when the tools are shared, as are Google Sheets. Being able to work collaboratively with others in a shared spreadsheet requires a set of core technical skills (for example, understanding how to sort, filter, sum, and so on) but also the technical understanding to know what the impact will be of one's own actions on other users of the shared spreadsheet.

The technical challenges of data use, though, seem far less daunting than the behavioral and cultural challenges. At their core, the New Visions tools and protocols ask schools to standardize particular practices and to hold themselves accountable for a set of outcomes that are very much in their control. This request runs contrary to the system that has evolved over many years that resists centralization or standardization, that focuses and invests little on administrative systems, and that oftentimes insists that the real limiting factors in student achievement are outside the control of the school system and, particularly, outside the control of individual schools. While all of these may be true individually and to a certain extent, the work underway at New Visions posits that some of the performance challenge derives from things that are very much within schools' control and pushes schools to improve these elements so that future, unquestionably necessary reforms rest on a bedrock understanding of how to identify areas in need of improvement, change behavior, and then measure whether behavior change happened and outcomes improved.

Some of resistance to behavior change, though, may also stem from fear that individuals who try new things will get blamed when they do not work. These real fears

highlight the need for a comprehensive infrastructure for data use: tools such as those that New Visions has created, to be sure, because they help structure the work and act as a safeguard for when individuals do inadvertently make errors; but as importantly, the set of protocols to help individual understand both the what and the why of the work; the timelines that establish shared expectations for when work will be done; the process metrics that measure whether individuals did what they were meant to do, during the period of time when it remains unclear whether those behavior changes will lead to longer-term outcomes; and so on. Most public systems will not have the flexibility of Achievement First to establish the founding culture of a new network of schools and to select their own team to carry out their work, but instead will need to encourage behavior change. Following Elmore (2010), individuals may fail improve not because they do not want to but because they do not know how to; our existing accountability structure seems to assume implicitly that the greatest problem is motivating people to work harder. It may be true that individuals desire not to try new things because they fear being blamed if a new approach does not work, in which case it seems incumbent on leadership to create conditions that enable use of new approaches (Edmondson, 2001). When individuals are provided with a set of tools, training, and behavioral expectations, though, it seems reasonable to hold them accountable for taking the next steps. By establishing specific behavioral outcomes and the data systems to track them, this approach at its best also aligns the expectations of leadership (the principal) with the behavior of staff, while allowing leadership to monitor and manage against specific process outcomes.

For this to work, the process outcomes also must feel authentic to the individuals. This seems particularly true in education: individuals working in schools have seemingly

endless veto points or dilatory tactics, when they choose to exercise them. But when the outcomes feel authentically important to those doing the work – whether because they viscerally recognize the importance of the outcomes, or because they wish to be seen as a high-performer, or because they believe that using the tools to achieve those outcomes will make their life easier – this becomes less likely, as I found over time at Aaron Burr. At best, individuals can become active proponents for the approach.

Finally, the creation of tools and supports that allow school leadership to manage their school and their staff is symbolically important, as well. The lack of these tools diminishes the complexity of the task that school leaders are asked to do; devalues their time by requiring them to build their own tools to manage the most basic, shared, common activities; but also elevates stress levels when any mistake slips through. The takeaway from this work should not be that individual mistakes represent individual failures; humans will always make mistakes in detail-oriented, repetitive, and complex tasks. That these mistakes persist is a systemic failure, reflecting the confluence of weak institutional capacity and sector-wide culture that discourages and devalues this type of work. To the extent that this is not addressed systemically, school leaders must build these systems themselves, which perpetuates the disrespect for the difficulty of their task; work themselves to exhaustion and burnout to prevent errors; or live with such errors that have profound negative effects on the rest of a young person's life.

Conclusions

If the job of a high school principal consisted only of instructional or administrative responsibilities, it would be a difficult job. With both sets of responsibilities, it becomes almost unmanageable in the absence of strong systems. In the New York City public schools, supports to help schools carry out administrative tasks are rare. As a result, there is huge variability across the PSO network in how schools manage critical processes like scheduling students for the classes and exams they need to graduate. Schools that do have systems in place have spent huge amounts of time to build their systems, while schools without systems in place repeatedly miss opportunities to move students closer to graduation.

New Visions has stepped into this space over the past two years and constructed a broad set of web-based tools to help schools manage administrative tasks. In addition to the tools, New Visions provides support to schools to help implement the tools, to use them to manage challenging processes, and to offer an additional check on the completion of tasks that are very detail-oriented but crucial for individual schools. Together, the tools and resources form part of an administrative infrastructure (Cohen et al., 2014).

A major portion of my residency work was working with a large comprehensive high school, Aaron Burr, to help implement this emerging infrastructure. I viewed myself initially as a change agent, bringing outside tools and understanding into the school. However, the adoption of the tools – as well as the change in behaviors that the tools aim to encourage – has been uneven. This has been true both at Aaron Burr and at other schools across the New Visions network. In part, I attribute the unevenness at Aaron Burr

to my initial (lack of) perspective: I needed to better understand what was happening at the school before I could help school staff understand why a new approach was necessary. Confronting data that make the impact of repeated missed opportunities blindingly obvious – as in the case that I described above of Anna – was discomfiting but helped. Presenting the work differently to different audiences was even more important, but I could not do this until I had spent time understanding the school and the people. Simply coming in with “better” tools or a different approach was not enough.

I attribute the uneven adoption in part also to the dissonance between the theory of school administration that our tools espouse and the longstanding culture of administration. New Visions believes that many of the barriers to students’ on-time graduation from high school are well within the school’s control and result from a lack of attention to administrative systems; that every school, large or small, can and should be managing student performance for the individual student; and that to do this requires multiple people within a school to review student data on a regular basis to catch inevitable oversights. Schools can build higher-reliability systems (Weick & Sutcliffe, 2007). This is a different approach to school improvement than has been espoused under prior and the current administration. In the near-term, part of the recognition New Visions is trying to generate is of the need to be mindful: to prevent oversights and missed opportunities in the first place, but also to create layers of reviews and checks to catch the errors that will inevitable occur.

Such a change requires new behaviors and beliefs. Teaching adults how to use a new set of tools to become more mindful will require time and safe space for practice, two affordances that New Visions still figuring out how best to secure. These affordances

form the other necessary piece of the infrastructure we are trying to build, and connect the tools of the infrastructure to use in practice (Cohen, 2011). The strategic data check-ins have emerged as the most important innovation for practice and support. They provide space for schools to use the tools, supported by New Visions staff, to carry out real-world responsibilities. In the near-term, this likely is more time-consuming and challenging than simply muddling through, but schools increasingly seem to recognize the benefits of more systematic management.

Making this shift likely feels risky, though. There are bright spots and stories of success, but New Visions has not yet demonstrated a positive impact on student achievement of managing administrative tasks in this way. Over the course of my residency year, I became better able to articulate connections within and across the work – specific missed opportunities or policy changes that could affect student outcomes, how one tool connected to another – but articulating a fuller vision, and ensuring that schools and New Visions staff understand and can articulate this vision, is an important next step.

As New Visions moves forward in this work, it is struggling with many of the same issues as schools. The organization is learning how to do this work at the same time that schools are learning. We are improving with each SDC cycle, but still we are missing opportunities to build out and reinforce key elements of the work. Staff are learning how to use new tools and how to help schools understand at the same time that they are actually using them to work with schools. As my writing throughout the capstone hopefully makes clear, I do not exempt myself from any of these struggles, and I bear significant responsibility for contributing to some.

What is particularly intriguing about the approach, though, is that if New Visions can convincingly demonstrate the impact of managing administrative tasks more reliably, it should help encourage adoption. As schools become more familiar with the tools, working with their data will reveal oversights and inconsistencies. The conversations that confronting these data can catalyze should increase the school's capacity to use its own data to inform decisions. These decisions should lead to fewer students missing credits or failing exams, which then improves outcomes. The administrative system at the center of this work is the same whether the task is registering students for courses or planning academic supports, so schools should be able to reinforce their learnings over time. I articulated this positive reinforcement cycle in my original theory of action, and though I discovered that it was dramatically more difficult to create than I hoped, I still believe it to be true.

The success of this approach depends in part on a shift away from the individualistic focus that has defined educational practice – whether it is the teacher being able to close his door or autonomy being the ultimate objective of a system. There are common needs within and across schools, among them being the need to reliably carry out interrelated tasks that create, rather than miss, opportunities to move students closer to on-time graduation. No single individual within a school can do this work alone; it is the school as a unit that needs to learn how to build better systems (Cook & Yanow, 1993). But the individuals within schools should not have to do all the work required to make this shift themselves, particularly if many schools need to make this shift. The work of leading a school and of teaching a classroom of students is a difficult enough task without needing to build administrative systems anew in each school.

Postscript

One of the earliest organizational models that I explored during my time at New Visions was what Weick and Sutcliffe have called “high-reliability organizations.” The book in which they articulate this framework fully is called *Managing the Unexpected: Resilient Performance in an Age of Uncertainty*. I found the theory fascinating, but I had no idea how apt the title would be.

In the middle of this school year, the state board of education (known as the Board of Regents, hence the name Regents exams) announced a modification to the state high school graduation policy, colloquially called “4+1”. This policy changed, in a small but significant way, which Regents exams students needed to pass in order to graduate: students can now pass either rather than both of the social studies exams (Global or U.S. History) and substitute a second math or science Regents exam for the other, previously required social studies exam.²⁶ The old pathway using the same set of five exams is still permissible, but the new policy establishes multiple other pathways to graduation. This is particularly beneficial for students who struggled particularly in social studies to substitute a second exam in other subject areas where the students may prefer to focus.

For schools, this is the definition of the unexpected. There had been discussion about this policy change for months, but after it became official there was little support to help schools think about the implications of the policy change. Almost literally overnight, the required exams changed from a mandated set to a semi-individualized choice based

²⁶ The name “4+1” comes from a subject-focused view of the required exams: one exam each in English, math, science, and social studies, plus one more exam from any of the latter three categories. It is worth noting that the policy did not change the requirement that students pass courses in both global and U.S. history.

on a student's interests or strengths: is a student likelier to pass the geometry or earth science or global history exam, as a second exam? Should a student sit for multiple exams to have the best chance at graduation? Some schools immediately recognized the strategy that this introduced alongside changes in academic pathways, but others would have muddled through at best or made no changes at worst.

Because of the internal capacity that exists at New Visions, a team has been able to build tools and processes to support schools in making these choices. On February 13, a group sketched on a whiteboard a tool that would allow school users to see the information they needed to make exam choices for each student and then to actually make these choices, in a way that integrated cleanly with our other tools. Five weeks later, at our spring Principals' Retreat, we launched a web app available to all 80 schools that realized this vision (see Appendix D for a photo of the whiteboard and a screen capture of the actual web app). The tool has default choices built into it to help schools make smart choices in the first place; it has a workflow model built in so that guidance counselors or other staff can move fluidly through a group of students; school leaders can review the choices that individuals or teams in their schools make and flag students for review; and New Visions can look across schools to identify possible oversights within schools and differences in practice across schools that are worth examining. It reflects deep technical knowledge, but it also reflects an understanding of the work that schools actually have to do.

The process from concept to construction to diffusion to schools was the work of a team learning how to solve a problem that an individual could not. Ironically, as the focus instruction increasingly shifts towards the personalization, it likely is only teams

and organizations that will have the capacity to support that personalization. There is a future where school support means helping schools solve vexing issues, where what Mark Dunetz calls the “easy” work – the administrative work of scheduling students for class or identifying students for academic support – takes up less time and energy, so more is left over for the “hard” work of figuring out why a student is struggling with simultaneous equations. That future will only exist if we build systems to make the “easy” work actually easy, and that is the work that is going on at New Visions.

References

- Aaron Burr High School. (2015). Student Handbook.
- Aarons, D. I. (2010, March 2). More Funding for Principal Training Deemed Vital. *Education Week*. Retrieved from http://www.edweek.org/ew/articles/2010/03/03/23capacity_ep.h29.html?tkn=UZPFMjQQPTXmyeemJCIglaPSoW68TPjv2GJR&cmp=clp-edweek
- Adler, P. S., Goldoftas, B., & Levine, D. I. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science*, 10(1), 43–68.
- Argyris, C. (1977). Double loop learning in organizations. *Harvard Business Review*, 55(5), 115–125.
- Ball, D. L., & Forzani, F. M. (2011). Building a Common Core for Learning to Teach: And Connecting Professional Learning to Practice. *American Educator*, 35(2), 17–21.
- Becker, M. C. (2004). Organizational routines: a review of the literature. *Industrial and Corporate Change*, 13(4), 643–677.
- Bloom, H. S., Levy Thompson, S., & Unterman, R. (2010). *Transforming the High School Experience: How New York City's New Small Schools Are Boosting Student Achievement and Graduation Rates*. New York: MDRC. Retrieved from http://www.mdrc.org/sites/default/files/full_589.pdf

Brennan, J. F., & Campbell, S. (2009). *Accountability Reforms In New York City Public Schools Before and After Mayoral Control*. Retrieved from

http://assembly.state.ny.us/member_files/044/20090319a/report.pdf

Bryk, A. S., Gomez, L. M., & Grunow, A. (2010). *Getting Ideas into Action: Building Networked Improvement Communities in Education. Carnegie Perspectives*.

Carnegie Foundation for the Advancement of Teaching.

Charles, B. (2014, November 18). Phase-out of ARIS follows years of educator frustrations. *Chalkbeat New York*. Retrieved from

<http://ny.chalkbeat.org/2014/11/18/phase-out-of-aris-follows-years-of-educator-frustrations/>

City, E. A., Elmore, R. F., Fiarman, S. E., & Teitel, L. (2009). *Instructional rounds in education : a network approach to improving teaching and learning*.

Cambridge, Mass: Harvard Education Press.

Cohen, D. K. (2011). *Teaching and its predicaments*. Cambridge, Mass.: Harvard University Press.

Cohen, D. K., & Bhatt, M. P. (2012). The Importance of Infrastructure Development to High-Quality Literacy Instruction. *The Future of Children*, 22(2), 117–138.

<http://doi.org/10.1353/foc.2012.0012>

- Cohen, D. K., & Hill, H. (2000). Instructional policy and classroom performance: The mathematics reform in California. *The Teachers College Record*, 102(2), 294–343.
- Cohen, D. K., & Moffitt, S. L. (2009). *The ordeal of equality: did federal regulation fix the schools?*. Cambridge, Mass.: Harvard University Press.
- Cohen, D. K., Peurach, D. J., Glazer, J. L., Gates, K. E., & Goldin, S. (2014). *Improvement by design: the promise of better schools*. Chicago ;London: The University of Chicago Press.
- Cohen, D. K., & Spillane, J. P. (1992). Policy and Practice: The Relations between Governance and Instruction. *Review of Research in Education*, 18, 3.
<http://doi.org/10.2307/1167296>
- Cook, S. D. N., & Yanow, D. (1993). Culture and Organizational Learning. *Journal of Management Inquiry*, 2(4), 373–390.
<http://doi.org/10.1177/105649269324010>
- Cossentino, J. (2005). Ritualizing Expertise: A Non-Montessorian View of the Montessori Method. *American Journal of Education*, 111(2), 211–244.
<http://doi.org/10.1086/426838>
- Dunetz, M., & Farrell, T. (2014, June 24). Systems are Key to School Success.
Retrieved September 5, 2014, from
<http://www.newvisions.org/blog/entry/systems-are-key-to-school-success>

- Edmondson, A. C., Bohmer, R. M., & Pisano, G. P. (2001). Disrupted Routines: Team Learning and New Technology Implementation in Hospitals. *Administrative Science Quarterly*, 46, 685–716.
- Elmore, R. (2010). The Problem of Capacity in the (Re)design of Educational Accountability Systems. In M. A. Rebell & J. R. Wolff (Eds.), *NCLB at the Crossroads* (pp. 230–261). New York: Teachers College Press.
- Elmore, R. F. (1997, August). INVESTING IN TEACHER LEARNING: Staff Development and Instructional Improvement in Community School District #2, New York City.
- Feldman, M. S. (2000). Organizational routines as a source of continuous change. *Organization Science*, 11(6), 611–629.
- Feldman, M. S., & Pentland, B. T. (2003). Reconceptualizing Organizational Routines as a Source of Flexibility and Change. *Administrative Science Quarterly*, 48(1), 94. <http://doi.org/10.2307/3556620>
- Fortune. (2014, February 20). Fortune 500. *Fortune*. Retrieved from <http://fortune.com/fortune500/>
- French, D. (2001). The role of a third party organization in the Boston pilot schools network. In *14th Annual International Congress for School Effectiveness, Toronto, Canada*. Retrieved from http://www.bostonpilotschools.org/third_party_in_pilots.pdf

- Gates, B. (2008, November 11). Forum on Education in America. Retrieved February 26, 2015, from <http://www.gatesfoundation.org/media-center/speeches/2008/11/bill-gates-forum-on-education-in-america>
- Gawande, A. (2007, December 3). The Checklist. Retrieved September 2, 2014, from <http://www.newyorker.com/magazine/2007/12/10/the-checklist>
- Goodnough, A. (2003, January 14). Executive Who Saved G.E. Is to Train School Principals. *The New York Times*. Retrieved from <http://www.nytimes.com/2003/01/14/nyregion/executive-who-saved-ge-is-to-train-school-principals.html>
- Hemphill, C., & Nauer, K. (2010). *MANAGING BY THE NUMBERS: EMPOWERMENT AND ACCOUNTABILITY IN NEW YORK CITY'S SCHOOLS*. Center for New York City Affairs: The New School. Retrieved from http://www.centernyc.org/s/ManagingByTheNumbers_EmpowermentandAccountabilityinNYCSchools.pdf
- Hulme, P. E. (2014). EDITORIAL: Bridging the knowing-doing gap: know-who, know-what, know-why, know-how and know-when. *Journal of Applied Ecology*, 51(5), 1131–1136. <http://doi.org/10.1111/1365-2664.12321>
- Inzunza, V. (2007, April 20). Chancellor Calls for More Autonomy of NYC Public Schools. Retrieved from http://legacy.fordham.edu/campus_resources/enewsroom/inside_fordham/april_20_2007/news/chancellor_calls_for_25659.asp

- Kennedy, M. (2001, January 1). Top Ten: Issues Impacting School Administrators. *American School & University*. Retrieved from <http://asumag.com/maintenance-amp-operations/top-ten-issues-impacting-school-administrators>
- Klein, J., & Rice, C. (2012). *US education reform and national security (No. 68)*. Council on Foreign Relations. Retrieved from http://i.cfr.org/content/publications/images/csmd_ebook/PathwaystoFreedom/ChapterPreviews/PathwaystoFreedomUkrainePreview.pdf
- Knowles, M. S. (Malcolm S. (1980). *The modern practice of adult education : from pedagogy to andragogy* (Rev. and updated.). New York: Cambridge, The Adult Education Company, c1980.
- Lampert, M., & Graziani, F. (2009). Instructional Activities as a Tool for Teachers' and Teacher Educators' Learning. *The Elementary School Journal*, 109(5), 491–509. <http://doi.org/10.1086/596998>
- Levitt, B., & March, J. G. (1988). Organizational Learning. *Annual Review of Sociology*, 14(1), 319–338. <http://doi.org/10.1146/annurev.so.14.080188.001535>
- Lortie, D. C. (1975). *Schoolteacher; a sociological study*. Chicago, University of Chicago Press 1975.
- Markow, D., Macia, L., Lee, H., & Harris Interactive. (2013). *The MetLife Survey of the American Teacher: Challenges for School Leadership*. Retrieved from

<https://www.metlife.com/assets/cao/foundation/MetLife-Teacher-Survey-2012.pdf>

Meadows, D. H. (2008). *Thinking in systems : a primer*. White River Junction, Vt: Chelsea Green Pub.

Mehta, J., & Fine, S. (2014). The Elusive Quest for Deeper Learning. *Harvard Education Letter*, 30(4), 1–3.

Mehta, J., & Spillane, J. (2010). Unbundling Promises and Problems. *Phi Delta Kappan*, 92(3), 48–52.

Moore, M. H. (1995). *Creating public value : strategic management in government*. Cambridge, Mass: Harvard University Press.

Nadelstern, E. (2012). *The Evolution of School Support Networks in New York City* (No. CRPE Working Paper #2012-2). Center on Reinventing Public Education. Retrieved from http://www.crpe.org/sites/default/files/pub_psdp_NYCnetworks_jun12.pdf

National Commission on Excellence in Education. (1983). A Nation at Risk: The Imperative for Educational Reform. *The Elementary School Journal*, 84(2), 113–130.

New York City Department of Education. (Undated). New York City Graduation Rates, Class Of 2013 (2009 Cohort). New York City Department of Education.

Retrieved from <http://schools.nyc.gov/NR/rdonlyres/723B1E9A-B35E-4C25-9D48-4E18E0BA90A5/0/2013GraduationRatesPublicWebsite.pdf>

New York City Department of Education. (2015a). DOE Overview. New York City Department of Education. Retrieved from <http://schools.nyc.gov/AboutUs/funding/overview/default.htm>

New York City Department of Education. (2015b). Strong Schools, Strong Communities. New York City Department of Education. Retrieved from <http://schools.nyc.gov/AboutUs/schools/StrongSchools/default>

Nonaka, I. (1991). The Knowledge-Creating Company. *Harvard Business Review*, 69(6), 96–104.

Nonaka, I., Toyama, R., & Hirata, T. (2008). *Managing flow: a process theory of the knowledge-based firm*. New York: Palgrave Macmillan.

Pentland, B. T., & Feldman, M. S. (2008). Designing routines: On the folly of designing artifacts, while hoping for patterns of action. *Information and Organization*, 18(4), 235–250. <http://doi.org/10.1016/j.infoandorg.2008.08.001>

Pentland, B. T., & Rueter, H. H. (1994). Organizational Routines as Grammars of Action. *Administrative Science Quarterly*, 39(3), 484. <http://doi.org/10.2307/2393300>

- Peurach, D. J., & Glazer, J. L. (2011). Reconsidering replication: New perspectives on large-scale school improvement. *Journal of Educational Change*, 13(2), 155–190. <http://doi.org/10.1007/s10833-011-9177-7>
- Quint, J. C., Smith, J. K., Unterman, R., & Moedano, A. E. (2010). *New York City's Changing High School Landscape*. New York, NY: MDRC. Retrieved from <http://www.mdrc.org/publications/543/full.pdf>. Retrieved from http://test.mdrc.org/sites/default/files/full_463.pdf
- Ravitch, D. (2010). *The death and life of the great American school system : how testing and choice are undermining education*. New York, NY: Basic Books.
- Resar, R. K. (2006). Making Noncatastrophic Health Care Processes Reliable: Learning to Walk before Running in Creating High-Reliability Organizations. *Health Services Research*, 41(4p2), 1677–1689. <http://doi.org/10.1111/j.1475-6773.2006.00571.x>
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: New York : Free Press, 2003.
- Rosenberg, S. (2012). *Organizing for Quality in Education: Individualistic and Systemic Approaches to Teacher Quality* (Ph.D.). University of Michigan, United States -- Michigan. Retrieved from <http://search.proquest.com.ezp-prod1.hul.harvard.edu/pqdtft/docview/1316620141/abstract/E3FD902985364CA6PQ/1?accountid=11311>

- Rowan, B., Correnti, R., Miller, R. J., & Camburn, E. M. (2009). *School Improvement by Design: Lessons from a Study of Comprehensive School Reform Programs*. Consortium for Policy Research in Education. Retrieved from <http://files.eric.ed.gov/fulltext/ED507546.pdf>
- Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). San Francisco: Jossey-Bass.
- Smith, M. S., & O'Day, J. (1990). Systemic school reform. *Journal of Education Policy*, 5(5), 233–267. <http://doi.org/10.1080/02680939008549074>
- Unterman, R. (2014). *Headed to College: The Effects of New York City's Small High Schools of Choice on Postsecondary Enrollment*. New York: MDRC. Retrieved from http://www.mdrc.org/sites/default/files/Headed_to_College_PB.pdf
- Wall, P. (2015, January 22). With system shake-up, Fariña aims for clear line of command. Retrieved from <http://ny.chalkbeat.org/2015/01/22/with-system-shakeup-farina-aims-for-clear-line-of-command/>
- Weick, K. E., & Roberts, K. H. (1993). Collective Mind in Organizations: Heedful Interrelating on Flight Decks. *Administrative Science Quarterly*, 38(3), 357. <http://doi.org/10.2307/2393372>
- Weick, K. E., & Sutcliffe, K. M. (2007). *Managing the unexpected : resilient performance in an age of uncertainty* (2nd ed.). San Francisco: Jossey-Bass.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2008). Organizing for high reliability: Processes of collective mindfulness. *Crisis Management*, 3, 81–123.

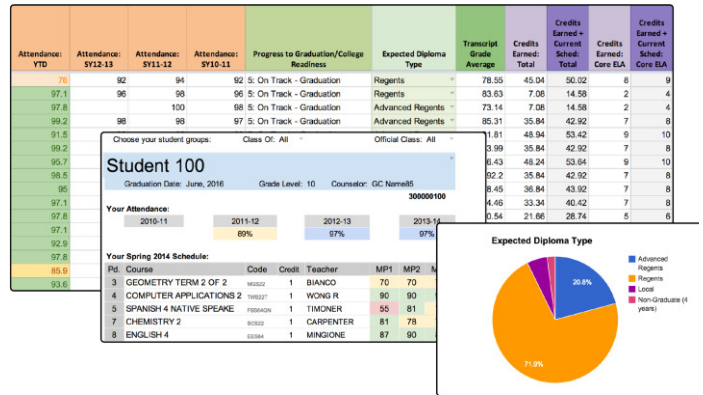
Wohlstetter, P., & Houston, D. M. (2015). Rage Against the Regime: The Reform of Education Policy in New York City. *Teachers College Record*. Retrieved from <http://www.tcrecord.org.ezp-prod1.hul.harvard.edu/Content.asp?ContentId=17841>

Appendices

Appendix A – New Visions Student Sorter Overview



New Visions Student Sorter



What is the Student Sorter?

The Student Sorter is a school-specific Google spreadsheet that provides schools with both comprehensive student-level data points and school-wide Dashboards. The Student Sorter includes over 120 variables, including data on student demographics, attendance, credit accumulation, count of both attempts and highest score on all Regents exams, and progress towards meeting CUNY benchmarks. Additional columns in the Sorter allow for schools to enter intended student outcomes including a student’s expected diploma type, progress towards earning 10+ credits for the school year, next scheduled Regents, and expectations for meeting CUNY benchmarks. These prediction columns feed into school-level dashboards to provide a snapshot of school-based expectations compared to current student progress.

Why the Student Sorter?

The Student Sorter aims to pull together a combination of these critical data points into one place. Additional data points that incorporate student progress based on the New Visions metric are also included, as well as columns for school leaders and support teams to enter student progress expectations based on the data. This spreadsheet then serves as a common working document that users can reference and continue to use to set expectations.

What are the key components and features of the Sorter?

- Student demographics, including SPED, ELL, and lowest third flags
- Historical and current YTD attendance
- Credit accumulation broken down by subject area
- Regents data, including number of attempts and highest score by subject area
- Progress towards meeting CUNY benchmarks
- Columns that highlight potential programming gaps based on credits earned and students’ current schedules.
- School and student level dashboards
- An expectations dashboard, which shows student-level progress expectations set by a school compared to current data.

How is the Student Sorter populated?

Reports pulled from ATS and STARS are used to populate variables and feed metrics used in the Sorter. A complete list of source files for each variable can be found in the Technical Documentation tab of the Sorter.

What is the relationship between the Student Sorter, ATS, STARS, and Datacation/Skedula?

While ATS and STARS provide specific custom reports, the Student Sorter combines these variables and additional progress metrics in one place. The Sorter also provides users with the opportunity to write back to the spreadsheet, which serves as a tool for entering expectations.

How do I know the at what point the data in the Student Sorter was last updated?

There is a pop-up message box in the bottom right corner of the Sorter that displays the date the data in the Sorter was pulled from ATS and STARS. This message will appear anytime the Sorter is opened or refreshed.

If I see an error, how do I report it?

If you see an error in your Sorter, please first confirm that the data in the source file (ATS or STARS) is different from what is appearing in the Sorter. If so, please reach out to Christina McNamara, cmcnamara@newvisions.org.

How will I know what has changed in the Sorter between visits?

Dates specifying the most recent data updates in the Sorter will be reflected in the pop-up message at the bottom right corner of the Sorter. The tab Sorter Updates will highlight any column changes made to the Sorter.

What are the custom tools that can be launched from the Sorter?

The Sorter serves as a base document where customized tools can be launched. The tools cover Regents Prep Planning, Student Programming Corrections, tracking Parent Teacher Conferences, and Marking Period Grade analysis. A document that provides an overview for each of these custom tools can be found [here](#).

Appendix B – Strategic Data Check-in Protocol, Calendars, and Norming Document

Resources

- [Master Console](#)
- [School for Teaching and Learning Sorter](#)
- [Credit Gaps Test](#)
- [Credit Gaps Users Guide](#)

Pre-Work

The pre-work will both ensure the Credit Gaps tool reflects a shared understanding between New Visions and schools of what normal credit progression is; and will identify specific sets of students for each school to address.

Steps 1 through 3 can be completed BEFORE reviewing credit gaps with a school. However, you may need to use a part of your time in an SDC on steps 1 and 2. Remember that any changes to the On-Track Metrics or Graduation Plans should be entered in the Sorter, NOT in the Credit Gaps tool. Any changes made in the sorter will be reflected after a refresh.

Step 1: Review the “On-Track Metrics” for the school

In the school’s Sorter, go to the “On-Track Metrics” tab and ensure that the credit progression listed there matches the actual standard credit progression for the school. To confirm this information, you may need to ask the school staff to review the table. If the credit progression needs to be updated, make changes directly in the table in the Sorter. **[BIG SCHOOL NOTE:** For schools with multiple Sorters, you must ensure the table *in each Sorter* is accurate. The simplest way to do this is to update the table in one Sorter and copy and paste the values into the other Sorters.]

Step 2: Review Graduation Plans for 2015 students

Students who have entered the school since the Graduation Planning SDC may not have graduation plans, and the graduation outcome that is mathematically possible may have changed for some students as a result of credit accumulation or Regents

passage in the first semester. Review the school's graduation plans, adding plans where needed and changing plans where no longer accurate. For a reminder of how to set plans, see the [fall SDC facilitation guide](#).

Step 3: Check that old tools have been cleared out

There should be at most 1 Credit Gaps tool listed in the Sorter, likely named either "Term: 2" or "Term: Spring 2015". If you see old tools listed, please contact Jared or Danielle.

If your tool has not yet been launched, launch it now. If it was previously launched but you made any changes in the Sorter as a result of Steps 1-3, refresh the Credit Gaps tool.

Step 4: Check for Advanced Regents students who may be missing LOTE credits




Students that schools plan to graduate with an Advanced Regents diploma must earn 6 LOTE credits (this is the only subject-specific credit difference for the Advanced Regents). *The Credit Gaps tool will NOT identify gaps in LOTE for students who are planned Advanced Regents graduates.* Please identify any students who may have gaps in LOTE credits by:

- Filtering for Cohort 2015 (column D)
- Filtering for Advanced Regents in "Expected Diploma Type" (column E)
- Filtering for values *less than 6* in Earned + Sched: LOTE (column Y). These are students who do NOT have 6 LOTE credits already earned or scheduled.

Also note that any credits in excess of 2 will *look like* flexible credits, even if students are pursuing Advanced Regents diplomas. Please be mindful of this credit need when considering programming changes.

For each school, select the "conversation intensity" that matched the school's need. Each intensity has an associated protocol for use in conversation with the school.

Differentiated Goals

	<p><u>MILD</u> - <i>LOW NEED</i></p> <p><i>Objective</i> - School leader will have a printable list of high priority cohort 2015 students whose programs need to be double-checked by the programming team and potentially changed.</p> <p><i>Time commitment</i> - A short (<30 min) phone call, Google Hangout, or even a carefully articulated email may be sufficient to achieve the objective at this adoption level.</p> <p><i>Target school</i> - As much as possible this type of conversation should only be encouraged for schools with very few credit gaps and a consistent and historically high graduation rate.</p>
	<p><u>MEDIUM</u> - <i>MEDIUM LEVEL NEED</i></p> <p><i>Objective</i> - School leader will confirm programs of all 2015 students.</p> <p><i>Time commitment</i> - A one hour conversation via Google Hangout should be sufficient for cohorts of roughly 100 students. For larger schools, the purpose of the hour conversation should not be to get through all 2015 students, but rather build the leader's capacity to internally audit the work of their programming team to the point where they are comfortable reviewing all of their senior programs independently.</p> <p><i>Target school</i> - This type of conversation should only be encouraged for school leaders who can manage the process of an internal programming audit. These leaders are at least moderately proficient with New Visions' suite of tools and understand the importance of double checking student programs.</p>
	<p><u>SPICY</u> - <i>HIGH NEED</i></p> <p><i>Objective</i> - School leader will confirm programs of all students.</p>

	<p><i>Time commitment</i> - A one hour conversation to start the program audit process followed by a series of shorter conversations over the course of the first two weeks of the new semester.</p>
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Target school - This type of conversation will take the most time and effort and should therefore be reserved for schools with large numbers of credit gaps, leaders who have demonstrated limited capacity in managing the behavior of adults in their schools, guidance departments that are non-systematic or unfamiliar with graduation requirements, or any of our larger schools where credit gaps affect hundreds of students.

MILD - LOW NEED

The goal is to create a manageable list of students who we can confidently say have credit gaps in their program that will prevent them from graduating in June. The thresholds to create this manageable group will vary to some extent. Below is a suggested starting point that can be used for each school. The filters that will change based on the school are shaded grey.

Create a short list of high-priority general ed students whose programs must be double-checked:			
Credit Gaps Column Header	Column	Filter	Rationale
Cohort	D	"2015" and older	Our first concern is for students who are graduating in June.
Expected Diploma Type	E	"Regents", "Advanced Regents" ²⁷	
Current Sched Credits: Total	F	less than 10	Columns F and I are used to identify students with flexibility in their programs. Two types of flexibility: 1. Students with more than 0 in column I are taking excess credits in a particular subject area and may be able to have these
Flexible Credits	I	More than 0	

²⁷ Graduation expectations should only be set in the Student Sorter to avoid duplicative and conflicting lists.

			<p>courses exchanged for other requirements.</p> <p>2. Students with less than 10 in column F have fewer than 10 credits in their current schedule and may be able to have courses added into their program.</p>
Credit Gaps	H	less than 0	Limits to students who will not meet a credit requirement in a particular subject area by June.
Attendance YTD	AL	80% and higher	Limits the list of students to those whose chances of graduating should not be negatively impacted by poor attendance.

To create a printable list after applying the above filters:

1. Hide columns A and C²⁸.
2. Select columns B to W down to the last row containing student data
3. Click “File” and “Print”
4. Select “Selection” under Options
5. Click “Print”

The screenshot shows a data table with columns for Student Name, School, Expected Diploma Year, and various subject area credit gaps. The table is filtered to show only rows where the 'Expected Diploma Year' is 2016. The columns include Student Name, School, Expected Diploma Year, and various subject area credit gaps (e.g., English, Math, Science, Social Studies, Art, Music, PE, Health, Career, and other). The data is presented in a grid format with alternating row colors.

Sample school support log email to school leader

Dear Principal:

I am writing to you regarding the semester two student programs you have in STARS as of <<date of STARS pull you used>>. As part of New Visions’ efforts to support schools with the complex and critical task of student programming, we perform an internal audit of student programs to identify students who have potential credit gaps in required subject areas. As part of our Strategic Data Checkins with schools, I’ve created the following list of whom I consider to be high priority students whose programs I recommend you review as soon as possible. Double checking that each of these students has the courses they need on their program to fulfill all credit area requirements by June will help ensure the greatest number of students graduate in June without requiring additional summer coursework.

While this is not an exhaustive list of potential credit gaps, which you can find here <<link to school’s programming gaps tool>>, it is a list of students who attend school 80% or more of the time and whom we identified as June graduates based on the Graduation Expectation conversation. In other words, this group of students should be able to graduate in June, but may not even if they pass all of their currently-programmed classes because they may still be missing credits in required subject areas.

This analysis errs on the side of caution by flagging any student who appears to us to have specific credit gaps. For example the subject areas that we assign credits to are based on the high school

²⁸ If your school uses official class to assign students to counselors or for other reasons, you may wish to leave column C.

course code directory. Many schools are in the process of updating their course codes to reflect this new standard. Courses that have not yet been updated, may not be counted in the expected subject area. Some of the students on this list therefore may currently have programs that would allow them to fulfill all subject-specific graduation requirements by June.

<<Insert List>>

For the students above, there are two cases where there is room for programming changes. The first is when a student has excess credits available (i.e., column I>0); the second is when a student's current program is not full (i.e., when column F is less than a full load at your school). Both present the opportunity to reprogram a student to address a gap.

For your reference here is a quick explanation of the information contained in the above lists:

<https://docs.google.com/a/newvisions.org/file/d/0Bz-I9yRKN1GzbEg4YjUwTnMxLUE/edit>

To ensure a shared understanding of this actionable and time-sensitive information, I'd like to schedule a 30 minute hangout or phone call -- ideally to be joined by your lead programmer -- as soon as possible. Here are three times that work for us in the coming week.

- Time 1
- Time 2
- Time 3

Thank you for your attention regarding this matter.

MEDIUM - MEDIUM NEED

The goal is to model the process of performing an internal audit using the New Visions Credit Gap tool so that by the end of the conversation the school leader will take the lead in managing the examination of credit gaps for at a minimum 2015 students, but ideally all cohorts.

Framing the conversation

Goals: Review the Summary sheet in the Credit Gaps tool with the school leader. Explain that the goal for the conversation is to leave the school leader confident that they can manage a full audit of student programs assisted by the NV tool.

Number of Students with credit gaps by subject					
Subject	2015	2016	2017	2018	All
ELA (Core)	16	27	22	6	
Math	10	24	19	2	
Global	8	25	29	10	
US	6	6	0	0	
Part Gov	10	24	19	2	
Econ	0	0	0	0	
Total Science	15	24	19	3	
Physical Science	12	27	20	0	
Life Science	5	12	20	8	
LOTE	1	0	0	0	
Art/Music	3	0	0	0	
PE	44	39	32	8	
Health	13	0	0	0	

Assumptions²⁹: Credit gaps are assessed against the “On Track Metrics” sheet in a school’s student sorter. Confirm that these metrics are correct before continuing. If they need to be altered:

1. Make changes to the “On Track Metrics” sheet
2. Open the Student Credit Gaps dialog from the NV Sorter Tools menu in the student sorter
3. Click “Update credit gaps in sorter” button.
4. Click the blue “Update Term” button.

Subject	By end of 1st sem:	By end of 2nd sem:	By end of 3rd sem:	By end of 4th sem:	By end of 5th sem:
ELA (Core)	1	2	3	4	
Math	1	2	3	4	
Global	1	2	3	4	
US	0	0	0	0	
Part Gov	0	0	0	0	
Econ	0	0	0	0	
Total Science	1	2	3	4	
Physical Science	0	0	1	2	
Life Science	1	2	2	2	
LOTE	0	0	0	0	
Art/Music	0	0	0	0	
PE	0.5	1	1.5	2	2.5
Health	0	0	0	0	
Total Credits	6	11	17	22	28

Create a comprehensive list of students with credit gaps:

Column Header	Col in Credit	Filter	Rationale
---------------	---------------	--------	-----------

²⁹ If a school’s report shows systematic, erroneous gaps in a particular subject area it is very likely a clue that the on track metrics tab in the student sorter hasn’t been properly adjusted to reflect the school’s credit-earning progression.

	Gaps Tool		
Cohort	D	"2015" and older	Our first concern is for students who are graduating in June.
Sum of Subject-Specific Credit Gaps	H	less than 0	Shows all students with a credit gap in at least one subject area. This is a comprehensive list of students to review. Some school leaders may prefer to chunk this list by cohort, credit type, attendance, number of Regents passed, small learning community, etc. Starting with a smaller list has the advantage of feeling more manageable for the person completing the audit, however, all students with negative values in the sum of Subject-Specific Credit Gaps column must be reviewed for potential schedule updates.

Protocol for reviewing a single student's schedule and credit gaps:

1. Focus on one student from the Credit Gaps Tool (recommendation: freeze the header row and / or hide all rows but the one in question):

Student Name	Cohort	Expected Diploma Type	Current Sched Credits: Total	Credits Earned + Current Sched: Total	Credit Gaps	Flexible Credits	Total Credits	ELA (Core)	Math	Global	US	Part Gov	Econ	Total Science	Phy Sci
	2016		8.5	41.25	-1	4.5	8.25	0	1		0			1	

2. Identify the credit gap: In this case, the student is short 1 physical science credit. Also note any subject areas in which the student has excess credit. When reprogramming the theory is that courses in subject areas with excess credit get swapped for courses in subject areas with credit deficiencies.

3. Confirm the credit gap by checking the Student Profile Tab in the student sorter. There are two sections to check, first the student's current program and second the student's course history.

Choose your student groups: Class Of: All Official Class: All
Data current through 1/14/2015

Student 221
Graduation Date: June, 2015 Grade Level: 12 Counselor: 800000192

Your Attendance:

2011-12	2012-13	2013-14	2014-15
92%	93%	95%	99%

Your Fall 2014 Schedule:

Pd.	Course	Code	Credit	Teacher	MP1	MP2	MP3	Final
0	FINANCIAL MATH	MSN11	2	Teacher 1612	.	.	.	
0	SPANISH 4	FSN44	2	Teacher 104	.	.	.	
1	PE - INTERSESSION	PFF11	0.2	Teacher 2895	.	.	.	
1	DOCUMENTARY FILMMAKING	AKF11	1	Teacher 2485	.	.	.	
6	Advisory 12	GAN44	1	Teacher 1304	.	.	.	
7	PHYS ED 11/12	PPN43	1.16	Teacher 272	73	.	.	
9	Advanced Biology	SBN11	2	Teacher 1525	.	.	.	
1	INTEGRATED ALGEBRA REGE	ZDIA	0	Teacher 1234	.	.	.	

When examining the current schedule confirm that the student does not have a course in the credit gap area. In this case, the student does not have a course that is likely to count for physical science credit. Credit areas can be inferred to some extent from the course titles or by using the [course codes](#). When in doubt about a course credit area, check with a member of the data or policy teams.

If you find a course on the student’s program that the school believes fills the credit gap, but that we do not label as such, please click the link at the bottom of the student profile and complete the form to flag the course for the data team.

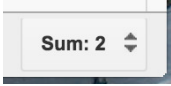
Your Course History:

Subject	School	Date	Course	Credit	Mark
Core ELA	SCHOOL	2011/1	E1	2	70
Core ELA	SCHOOL	2011/1	E1W	1.5	70
Core ELA	SCHOOL	2012/1	EEN22	2	74
Core ELA	SCHOOL	2012/1	ESS22	1	74
Core ELA	SCHOOL	2013/1	ESS11QB	1	74
Core ELA	SCHOOL	2013/1	ESS11QA	1	75
Core ELA	SCHOOL	2014/1	ESS11QF	1	78
Math/Algebra	SCHOOL	2011/1	MA1	2	71
Math/Geometry	SCHOOL	2013/1	MGN11	2	78
Math/Trig	SCHOOL	2012/1	MRN11	2	58
Math/Stats	SCHOOL	2014/1	MSS21	1	75
Global Studies	SCHOOL	2011/1	H1	2	70
Global Studies	SCHOOL	2012/1	HGN22	2	74
Global Studies	SCHOOL	2013/1	HGS11QR	1	79
U.S. History	SCHOOL	2013/1	HUN11	2	71
Part. in Govt	SCHOOL	2014/1	HVS11QF	1	78
Life Sci/Liv Env	SCHOOL	2011/1	SL1L	0	P
Life Sci/Liv Env	SCHOOL	2011/1	SL1	2	71
Life Sci/Bio	SCHOOL	2014/1	SBS21	1	78
Phys Sci/Chem	SCHOOL	2012/1	SCN11	2	58
Phys Sci/Chem	SCHOOL	2012/1	SCN11QL	0	P
Phys Sci/Physics	SCHOOL	2013/1	SPS11	1	68
Elective Science	SCHOOL	2013/1	SPS11	1	75
Advisory	SCHOOL	2011/1	GA1	1	79
Advisory	SCHOOL	2012/1	GAN42	1	80
Advisory	SCHOOL	2013/1	GAN43	1	83
LOTE	SCHOOL	2011/1	FS1	2	92
LOTE	SCHOOL	2012/1	FSN39	2	86
LOTE	SCHOOL	2014/1	FSS87	1	81
PE	SCHOOL	2011/1	PP1	1.16	74
PE	SCHOOL	2012/1	PPS42	0.58	89
PE	SCHOOL	2013/1	PPN43	1.16	77
PE	SCHOOL	2014/1	PPS43	0.5	78
Health	SCHOOL	2012/1	PHS11	1	84
Art/Music	SCHOOL	2011/1	AAA1	2	69
Art/Music	SCHOOL	2012/1	ANS22	1	79

Add up the number of credits in the desired credit area.

65	Phys Sci/Earth	SCHOOL	2013
66	Phys Sci/Earth	SCHOOL	2013
67	Phys Sci/Earth	SCHOOL	2013

Tip: Use the spreadsheet’s native functionality by highlighting cells in column H under the “Credit” heading. This will sum the selection in the bottom right corner of the interface. *Make sure not to count failed classes, as they award 0 credit.*



In this example, since the student has previously earned 1 physical science credit (and failed two credits), but has no physical science in their current schedule, it is safe to conclude that this student’s program should be updated. Schools will have different mechanisms for re-programming ranging from the school leader making the change personally to a guidance counselor making the change to a designated non-admin programmer.

4. For most schools the school leader will lead the audit process and manage the process of re-programming, but not actually reprogram students. In that case, direct the school leader to use columns X through AF of the Credit Gaps Tool as a to do list for the programmer:

	X	Y	AB	AC
1	Resolution Status	Number of Core Credits Earned through Credit Recovery	Notes from Last Term	General Notes
20	Unresolved			This is a confirmed credit gap!

5. Repeat the single-student analysis process several times to build the comfort level of the school leader, leaving enough time to wrap up the conversation and agree upon next steps.

6. Articulate and agree upon the following next steps:

Credit Gaps: Next Actions	Adults responsible	
Complete the internal credit audit <ul style="list-style-type: none"> How will the list of credit gaps be divided between adults? For seniors it is recommended that two adults independently check credit gaps to ensure that all senior credit gaps are eliminated. 		
Reprogramming students		
Issuing new programs to students <ul style="list-style-type: none"> How will students know they need a new program? Where will they get their new programs? 		

7. In keeping with the Data Team's sorter update schedule, sync the Credit Gaps tool to confirm that credit gaps have been eliminated according the agreed upon timeline and follow up as necessary and appropriate.

Sample school support log email to school leader

Dear Principal:

Thank you for discussing your semester two student programs on <<date of conversation>>. As part of New Visions' efforts to support schools with the complex and critical task of student programming, we perform an internal audit of student programs to identify students who have potential credit gaps in required subject areas. As part of our Strategic Data Checkin together, we

found <<number of credit gaps on summary sheet of Credit Gaps tool>> in your 2015 cohort.

Together, we began to double check each of these credit gaps by reviewing the student's transcript and current schedule on the "Student Profile" tab of your sorter. As we confirmed credit gaps, we marked column AA in the Credit Gaps tool as "unresolved".

We agreed that the remaining students on the credit gaps list, including students younger than Cohort 2015, would be checked by <<the people checking>> no later than <<the date>> and reprogrammed by <<the programmer>> no later than <<the dates>>.

To ensure a shared understanding of this actionable and time-sensitive information, I'd like to schedule a 1-hour hangout -- ideally to be joined by your lead programmer -- as soon as possible. Here are three times that work for us in the coming week:

- Time 1
- Time 2
- Time 3

Thank you for your attention regarding this matter. I am confident that you and your team will quickly move through your students' schedules and close all gaps. I'm happy to discuss these further so please reach out.

SPICY - HIGH NEED

The goal is to model the process of performing an internal audit using the New Visions Credit Gap tool so that by the end of the conversation, the school leader will take the lead in managing the examination of all remaining credit gaps.

In addition to the steps from the above medium protocol, take the following steps:

1. Review the timeline for Data team's plan to pull STARS data.
2. Get a commitment from the school leader about when their programming team will get through all credit gap issues.
3. Schedule a follow up conversation to review progress as close to that date as possible keeping in mind the Data team's schedule.

Sample school support log email to school leader

Dear Principal:

Thank you for discussing your semester two student programs on <<date of conversation>>. As part of New Visions' efforts to support schools with the complex and critical task of student programming, we perform an internal audit of student programs to identify students who have potential credit gaps in required subject areas. As part of our Strategic Data Checkin together, we found:

Credit gaps in 2015 cohort: <<number of credit gaps on summary sheet of Credit Gaps tool>>

Credit gaps in 2016 cohort: <<number of credit gaps on summary sheet of Credit Gaps tool>>

Credit gaps in 2017 cohort: <<number of credit gaps on summary sheet of Credit Gaps tool>>

Credit gaps in 2018 cohort: <<number of credit gaps on summary sheet of Credit Gaps tool>>

Together, we began to double check each of these credit gaps by reviewing the student's transcript and current schedule on the "Student Profile" tab of your sorter. As we confirmed credit gaps, we marked column AA in the Credit Gaps tool as "unresolved".

We agreed that the remaining students on the credit gaps list would be checked by <<the people checking>> no later than <<the date>> and reprogrammed by <<the programmer>> no later than <<the dates>>.

To ensure a shared understanding of this actionable and time-sensitive information, I'd like to schedule a 1-hour hangout -- ideally to be joined by your lead programmer -- as soon as possible. Here are three times that work for us in the coming week:

- Time 1
- Time 2
- Time 3
-

Thank you for your attention regarding this matter. I am confident that you and your team will quickly move through your students' schedules and correct all gaps.

During the follow up conversation:

1. Note the number of unresolved credit gaps in the summary tab. Create a copy of this sheet with only the values.
2. Sync the Credit Gaps Tool with the new data from STARS which will be in the sorter. Click the blue "Update" button.

This tool compares the credits each student will have in each subject at the end of this semester if the student passes all scheduled classes to the credits they would need to be on track. It then flags students who will not be on track even if they pass all scheduled classes and identifies the number of additional credits needed by subject.

Link	Last Updated
Term: 2	February 2, 2015
Term: 1	1/30/2015

Instructions / help

1. **REVIEW** your "On Track Metrics" sheet and update as appropriate
2. **LAUNCH** a new credit gaps spreadsheet (one per term), by clicking the red launch button below
3. **SYNC** your current term spreadsheet with the sorter, by clicking the blue update button below
4. **UPDATE** your "Subjects with Credit Gaps" column in the sorter, by clicking below to update
5. **ACCESS the Help Guide:** by [clicking here](#) for more

** if you've made changes to your "On Track Metrics Tab" you need to run this update to see the changes in your data*

[Report an issue](#)

New Visions for Public Schools

3. Compare the new data on the Summary sheet to the previous summary data. Did the credit gaps totals decline? If so, that is cause for celebration!
4. Repeat the steps in the Medium protocol but with the new data.

Process	Purpose	Timing	Key Tool	Depends on	Metrics of Completion/ Success	Notes
		Week of Feb 2 for NVPS to run the credit gaps analysis Week of Feb 9 for conversation with schools and identification of outstanding credit gaps (prioritizing 2015 planned grads)			Minimize number of credits required for graduation that are not programmed Number of program changes made between initial analysis and subsequent analysis	Is there any way to get an earlier version of this to schools based on MP2 grades? What could we run in advance of the start of Spring Semester to proactively support programming/re-programming? How should schools be circling back to grad plans for students who ultimately are not enrolled in all credits needed to graduate? Something in June to inform summer school?
Programming	To identify any potential credit gaps on planned 2015 graduates' transcripts that remain after spring programming. To review the graduation plans for all 2015 students against credits and Regents updated through semester 1. To identify any specific things that individual students who are planned grads must do in order to graduate by August To create a more accurate picture of the school's likely graduation rate for 2015.	Week of Feb 9 for 2015 grads Sometime in June for 2016 students	Sorter Credit Gaps analysis	Fall credits Spring program		Should this include both June and August graduates as 4 year grads? I think the answer is yes. If so, should we have June graduates and August graduate as options for grad plans? How much should we pushing schools to have grad plans for ALL cohorts? Need to create awareness in schools around updating grad plans when new students enroll (likely more substantial in fall) How should schools be circling back to grad plans for students who ultimately are not sitting for all exams needed to graduate? How do we understand who schools are and are not sitting and have a position on that?
Grad Planning Review	To identify any Regents still needed for planned 2015 graduates that must be passed in June or August. To identify any Regents that students should re-sit for CR and/or higher diploma level. To identify students sitting for Regents exams who are not enrolled in a related course. To ensure that any student sitting for a Regents who is not formally scheduled in a course receives some type of prep activity.	Week of Feb 9 for NVPS to pre-populate "Next scheduled Regents" column for June 2015 Feb 27 for schools to review Regents data and switch June 2015 to August 2015 March 13 for NVPS second review for any missed students March 27 for scheduled in STARS	Sorter	January Regents January Regents	"Next scheduled Regents" in student sorter is completed for all 2015 students who need to sit in either June or August	
Regents Planning		March 6 for initial Regents Prep tool to be populated by NVPS March 27 for schools to have identified Regents Prep activities they will offer and populated activity sheet	Sorter Regents Prep tool	Spring program January Regents	Minimize number of students who are sitting for Regents and neither in a class nor an activity to prep them Number of prep activities with complete student rosters collecting session attendance data	When is the earliest that a school would legitimately start a Regents Prep activity, and how do we ensure that exams to graduate and aren't in classes?
Regents Prep	To identify students who are failing or borderline in courses where they need credit in order to graduate To ensure that some type of academic or social intervention occurs to support the student	Date TBD based on MP1 data Date TBD based on MP2 data	Marking Period Analyzer	Marking period grades	Number of activities/ interventions completed for students at risk of failing Grade movement/ trend from MP1 -> MP2	
Marking Period Grades						

Scheduling and conducting Credit Gaps SDCs

The second semester begins tomorrow, and schools likely will be scrambling to get first semester grades in, Regents exams scored, and second semester programs in place. To help them in this process, the systems and data teams have been hard at work on updates to the Credit Gaps tool and an accompanying protocol for use with schools. So, starting later this week, we'll be conducting Credit Gaps SDCs with all of our schools. Because it is a complicated and time-sensitive process, we want to make sure everyone enters with the same understanding of what is to be done, who is responsible for doing it, and when.

The Credit Gaps analysis is a mandatory SDC for annualized or semester schools, at least for checking Class of 2015 students' programs. As you'll see in the protocol (link below), there are several "levels of intensity" for engagement. The expectation is that we will analyze the program of EVERY school and, at a minimum, share a list of 2015 students whose programs may need attention. For trimester or other schools, network leaders should decide whether checking credits gaps at the current time is worthwhile.

Network/deputy network leaders (NL/DNL) are responsible for scheduling SDC conversations with their schools, unless they have explicit agreement with their SDC point people about scheduling; and SDC point people are responsible for executing the analysis and leading the conversation with schools. The [SDC Master Console](#) contains information in columns K-N about whether key data are available in STARS/ATS. These must be available in the Sorter in order for the Credit Gaps conversation to be useful. If these data are not available, NL/DNLs should identify, through outreach to the schools, when semester 1 grades and semester 2 programs will be uploaded. Also to keep in mind when scheduling, SDC conversations should ideally include several people from both New Visions and the school. From New Visions, the NL/DNL, the SDC point, and any coaches working in the school should be invited to the conversation (though of course it may not be possible for all to participate given schedules). You can find a list of coaches [here](#). From the school, the principal and any other staff who play a significant role in programming (e.g., an APO, head guidance counselor, etc) should be invited to the conversation. A sample email for [mild credit gaps conversation is here.](#))

The data team are planning to pull STARS data multiple times during the first week in February: on Monday, 2/2; Wednesday, 2/4; and Friday, 2/6. They then plan to update the Sorter on those days so that data will be updated and available first thing the following day. The table below shows this timing. When speaking with schools, please keep in mind that this lag means that our data may be slightly less current than the school's data at any moment, so some credit gaps may have been resolved in the interim.

Data entered in STARS by this date:	...will be pulled by the Data Team & in the sorters by end of day on this date:	... and will be available for Credit Gap SDCs on this date:
Sunday 2/1/2015	Monday 2/2/2015	Tuesday 2/3/2015
Tuesday 2/3/2015	Wednesday 2/4/2015	Thursday 2/5/2015
Thursday 2/5/2015	Friday 2/6/2015	Monday 2/9/2015
Sunday 2/8/2015	Monday 2/9/2015	Tuesday 2/10/2015
Tuesday 2/10/2015	Wednesday 2/11/2015	Thursday 2/12/2015
Thursday 2/12/2015	Friday 2/13/2015	Monday 2/16/2015

The conversations should begin as soon as possible. Because re-programming is so time sensitive, these conversations are top priority for our work in the next two weeks. However, as noted above, some data are necessary from the school in advance of the conversation, so having the right data for the conversation outweighs scheduling it earlier.

Once conversations are scheduled, please record that information in the [SDC Master Console](#), under the Spring Credit Gaps Console tab. Columns I through J and O through S are the fields to complete pre-conversation (columns O and P only for schools whose data are not yet available), and column T is to complete post-conversation. For follow-up notes, we are particularly interested in examples where this conversation helps a school think through an especially complicated student program; if you walk out of a conversation with an example of what that situation was and how you resolved it, please include that in your notes. Also remember that we have previously agreed that all SDC conversations should include a support log in follow-up. Please include in your write-up that it refers to an SDC, so that we can identify these logs later if needed.

To complete column I, about the conversation priority, please refer to the [Credit Gaps facilitation guide](#). This guide details three different levels of engagement with schools, depending on their need for assistance in this process, and is what SDC point

people will be using as the general outlines for the conversation. The guide will be finalized by EOD on Tuesday, Feb 3.

The facilitation guide also details pre-work that must occur before launching the Credit Gaps tool (primarily for SDC point people). Please be sure you understand and complete this pre-work, as the tool may not function as expected if certain steps are not taken.

The Credit Gaps tool will be launched centrally for all schools, and will be refreshed programatically after each Sorter update to ensure it reflects the current data. The data team will alert SDC owners when the data are updated. However, if you make changes to either the Graduation Plans or the On-Track Metrics (or other fields, though those are the mostly likely to be updated) in your conversations with schools, you should refresh the Credit Gaps tool manually. Remember to make changes to Graduation Plans or On-Track Metrics in the Sorter, NOT in the Credit Gaps tool.

Appendix C – System Design Framework Sample

ACADEMIC INTERVENTIONS SYSTEM DESIGN FRAMEWORK

Y= yes, we do this/have this; P = our existing system partially addresses this;

N = no, we do not do this/have this; NP = this is not a priority for us

Note: Terms in bold are defined in glossary below



	QR	CRITERIA	Y	P	N	NP	WHERE DOES THIS LIVE?
0		Goal of the System					
		To ensure that students who require support beyond regularly scheduled core courses to meet their academic goals in a timely manner are provided with instructional activities designed to maximize the positive impact of existing school resources on their chances for success.					
A		Assignment of Students					
A1	1.3c 3.1a	The school has documented intervention criteria , including thresholds for all quantitative criteria, that are used to determine which students require an intervention activity to meet academic goals (e.g., passing Regents).					

	3.1b						
A2	1.3c 3.1.b 3.1c	These criteria are used to generate an intervention assignment list for each category of academic goals which is comprehensive (i.e. includes any student meeting criteria for intervention) and which is available to any staff member working with impacted students.					
A3	1.3c 4.2c	An activity supervisor ensures that each intervention assignment list indicates, by a predetermined date, which students will participate in intervention activities . All students taking a Regents exam and not in a corresponding regularly scheduled course are assigned. For any student who will not participate in an intervention activity , the reason is documented on the same list.					
A4	1.3c 2.2c 3.1b 5.1a	An activity supervisor and/or faculty team reviews intervention assignments for each intervention activity at regularly scheduled intervals and modifies them in response to evidence of student progress ensuring that all supporting faculty have access at all times to an accurate list.					

A5	1.4c 3.4b 3.4c	<p>Prior to the start of intervention activities, participating students and their parents/guardians are provided with a single document that contains the following information for each intervention activity:</p> <ol style="list-style-type: none"> 1. Start and end date 2. Time of day 3. Location 4. Lead faculty member 5. Attendance expectations 6. Description of activity 7. Goal(s) of activity 					
B		Activity Design					
B1	1.3c 1.4b 1.4c	<p>There is an administrative plan for every intervention activity that is available to the principal that includes:</p> <ol style="list-style-type: none"> 1. Start and end date 2. Time of day 3. Location 4. Lead faculty member 5. Attendance outreach plan 6. Faculty member responsible for attendance outreach 7. Activity supervisor 8. Description of how activity supervisor will provide ongoing monitoring of student progress and support to each lead faculty member 					

		9. Communication plan for ensuring students and their parents/guardians receive regular progress updates					
B2	1.1a 2.2a 2.2b 3.1a	<p>There is an instructional plan for each intervention activity that is available to the activity supervisor that includes:</p> <ol style="list-style-type: none"> 1. Description of the regular activities, strategies for addressing content and skills gaps and major assignments that students will complete during the intervention 2. List of sources of instructional data that will be used to guide instruction and plan for using these 3. List of instructional resources that will be used 4. Description of which information will be used to monitor progress and how it will be used <p>For preparatory activities for NYS assessments:</p> <ol style="list-style-type: none"> 5. Strategy for generating accurate predictive data by interim checkpoint and plan for using these 					
B3	1.3c	Relevant data on past effectiveness of faculty members are available and used by supervising administrator to assign, to the extent feasible, lead faculty with high likelihood of success					

C		Data Collection & Access					
C1	2.2b	Any assessment data generated in intervention activities are made available in effective spreadsheet format to administrators and any faculty members supporting intervention within a week of initial administration					
C2	3.1b 2.2b	<p>Activity supervisors, lead faculty members and any others supporting intervention can access all historical data relating to instructional needs of individual students, including where relevant:</p> <ol style="list-style-type: none"> 1. Overall scores, section scores and item analyses from past Regents exams 2. Complete NYS assessment history for corresponding subjects 3. Course requirements and current gradebook data for corresponding courses 					
C3	3.1a	<p>Student level attendance data are collected for each intervention activity and are:</p> <ol style="list-style-type: none"> 1. Accessible by lead faculty member, principal, activity supervisor and any faculty member supporting intervention 2. Updated within 24 hours of activity 3. Organized in effective spreadsheet format 4. Reported at level of individual student for each session 					

		<ul style="list-style-type: none"> 5. Inclusive of all records since start of activity 6. Matched at the level of each absence to individual records of attendance outreach, including whether outreach occurred and whether the primary parent/guardian was reached 					
C4	1.4c	<p>Activity supervisors and principals have access to comprehensive records reflecting any:</p> <ul style="list-style-type: none"> 1. Communication to students and their parents/guardians information about assignment to intervention activity 2. Communication to students and their parents/guardians about progress in intervention activity 3. Modifications to student assignments to intervention activities for the duration of the intervention activity 					
D		Evaluating Effectiveness					
D1	1.3a 3.1a 5.1a 5.1c	<p>The activity supervisor ensures completion of an end of term summative evaluation of each intervention activity which analyzes the relationship between:</p> <ul style="list-style-type: none"> 1. Course marks and relevant gradebook data 2. NYS assessment data 3. Course or intervention assessment data <p>and:</p>					

		<ol style="list-style-type: none"> 1. Student baseline indicators 2. Assignment of students 3. Course and intervention activity attendance data 4. Instructional plan 5. Observational or other data which describe the implementation of the instructional plan 6. Activity costs 					
D2	<p>1.3a</p> <p>3.1a</p> <p>5.1a</p> <p>5.1c</p>	<p>The results of the summative evaluation of each intervention activity are recorded in a single place accessible to the principal which includes:</p> <ol style="list-style-type: none"> 1. All data used to complete it 2. Conclusions about effectiveness in relation to activity cost 3. Description of any variation in impact by lead faculty member 4. Implications for design of future intervention activities 					
D3	<p>5.1a</p> <p>5.1c</p>	<p>The results of the summative evaluation of each intervention activity are reviewed at a common time (e.g. as part of a leadership team meeting) by all staff who participated in interventions.</p>					
D4	<p>5.1a</p> <p>5.1c</p>	<p>Summative evaluations of all intervention activities related to same academic goals are organized in a common format to allow for comparison of effectiveness and activity cost by administrators and any other faculty</p>					

		involved in designing future activities					
--	--	---	--	--	--	--	--

Glossary of Terms

Academic Goals

These are goals for the end of the term during which the intervention activity is taking place. In cases where intervention activities are designed to support goals that will not fully be realized in current term, interim end of term goals are established. At minimum, schools should establish goals to help students meet minimum grade level standards for NYS middle school assessments and minimum scores for graduation eligibility on NYS Regents.

Activity Cost

The total amount spent on instructional resources, facilities fees, per session and cost of contracts for outside providers. For courses taught as part of the regular workday for faculty members and which do not grant core course credit, the cost should be based on the value of the teacher's time (fraction of the average teacher salary in the school equivalent to the fraction of a teacher's time the activity consumes).

Lead Faculty Member

The faculty member who implements the intervention directly with students.

Intervention Activity

An instructional activity, other than a core academic course, that is designed to increase the likelihood that a student will meet academic goals.

Intervention Assignment List

The document for each category of academic goals that lists all students who meet intervention criteria for that category, regardless of whether they are assigned to an intervention. This single document for each category of academic goals may contain multiple different activities meant to help students meet the goals. This document contains all relevant quantitative data included in the intervention criteria and is the authoritative record of all assignments to intervention activities. This list also captures the rationale for any student meeting criteria who is not assigned to an intervention, to ensure that referrals are comprehensive and intentional.

Activity Supervisor

A single administrator responsible for supervising the design of, assignment of students and staff to, and implementation of the intervention activity. Implementation supervision includes the instructional practice of the lead faculty member. The activity supervisor is responsible for ensuring that the protocols of the school's intervention system are consistently followed.

Attendance Outreach Plan

An explicit written description of actions that the staff member responsible for attendance outreach for each student will take in response to lateness or absence. Includes information about the communication medium (e.g., email) and the timing (e.g., takes place day of any absence). This also includes a list of any escalating interventions that are taken in response to repeated absence or lateness, and quantitative thresholds that trigger them.

Baseline Indicators

Information that describes the status of a student at the start of an intervention activity, including relevant

Intervention Criteria

Indicators used to identify students who require additional support. These will include quantitative data such as current grades in courses, marking period grades, prior NYS assessment scores and scores on in-class assessments. They may also include qualitative data such as anecdotal records from teachers and counselors or feedback from parents.

Instructional Data

Any data which provides information about the knowledge and skills of students relevant to planning instructional activities to help them meet their academic goals. This will often include past NYS assessment scores and item analyses, scores and item analyses from other locally administered assessments and grades from standards based class assignments.

Instructional Plan

An explicit written description that provides a summary of the instructional activities that will take place during the intervention, what instructional data will be used for planning and how it informs the activities, the resources that will be used (e.g., funding, space, staff time, materials) and the plan for monitoring progress (both of student work and of the effectiveness of the lead faculty member).

information that might indicate the level of challenge the student faces. Baseline indicators might include prior NYS assessment scores, attendance history, ELL or SpEd status, past marks in course and grades to date in current course. These help determine the appropriate intervention and enable the summative analysis of the impact of the intervention.

Communication Plan

An explicit written description of what information will be communicated to students and their parent/guardians over the course of the intervention. Includes information about the communication medium (e.g., email) and the frequency (e.g., every two weeks). In situations in which progress is recorded in online gradebooks accessible at any time to students and their parents/guardians, the plan will indicate the mechanism for alerting parents to information that requires attention, such as an indication by a benchmark date that a student is not making sufficient progress to meet academic goals by the end of the term.

Effective Spreadsheet Format

Data in spreadsheets must be organized in a manner that allows for easy manipulation to identify groups

Instructional Resources

Any texts, websites, software, video or manipulatives that will be used during instructional activities in the intervention.

Predictive Data

Data generated by assessments that provide reliable estimates of student performance on a NYS assessment. In most cases, these will be mock exams, but it is possible that other strategies will generate similarly reliable data. These data are intended to be used to guide modifications of intervention activities at interim points.

Summative Evaluation

A formal evaluation of the intervention activity, conducted at the end of the term, that attempts to assess the impact of the intervention activity on whether participating students reached academic goals. This evaluation also should include analysis in relation to the activity costs. This evaluation, and the supporting data, are retained to inform future intervention choices and to support organizational learning.

of students requiring attention. The spreadsheet should contain a clearly labeled header row, a single category of data in each column, an OSIS number field, and a field for any functional group in the school that has implications for supporting the intervention (e.g., SLC, advisor, counselor, etc.). Numeric and text data should be separated into different cells. Conditional formatting should be used to color code cells in a manner that makes relevant patterns easy to discern visually. Where it exists, data should be pulled in from other sources to set up spreadsheet so that spelling of items such as names and course titles are consistent across tools. See this [self-directed course](#) for more information on best practices for using spreadsheets.

Appendix D – Regents Web App Development

①
ELA

①
Math

Geo
Alg
Trig

①
Sci

LIV
Earth
Chem
Phy

①
SS

Global
US

①
+1

Geo Phy
Alg Global
Trig US
Liv Chem
Earth

Rewrites
in
Sorter

ELA - Alg = LIV Earth chem 4 - Glo US - 8 - 48
Phy

- possible to capture to make a screen shot & save PDF

- 48
x 3

144

OPTION 1

Student Summary

	ELA	Math	Sci	SS	+1	MAX
ELA Course	1					70
Math Course		1				61
Sci Course			1			68
SS Course				1		68
+1					1	68

Schedule

Alg
US
Earth
PE
Electives

Diploma Type
SpED

OPTION 2

Student

Check all exams student x will sit for in June

v
v
v

OPTION 3

Sheet surfer

Student	met 75%
ELA	
ELA cc	
Alg cc	June 2005
Geo	4+1
Trig	4+1
LIV	fulfilled
Earth	4+1
Chem	4+1
Phy	4+1
US	4+1
Global	June 2015
LOTE	fulfilled

PDF in School folder + manual entry

LastName, Student 1	
Student Id: 800000001	Official Class: 123
Cohort: 2015	Counselor:
SPED Status: No	ELL Status: No

School Notes

We have enrolled Student in prep classes for TRIG and LOTE to aim for Advanced Regents Diploma and to better position for postsecondary.

Expected Diploma Type

Regents

Schedule Exams		
English	Met 75+	No
CC ELA	Met 75+	No
Algebra	Met 80+	No
CC Algebra		No
Geom	Fulfilled	No
CC Geom		No
Trig	June 2015	No
Life Sci	Fulfilled	No
Chem		No
Physics		No
Earth Sci		No
Global	Fulfilled	No
US	Fulfilled	No
LOTE		No
LOTE Exam Name		NA

Local Requirements
Not Applicable

Regents Requirements
Passed 5 of 5 at 65+
0 Remaining
Passed 2 of 2 at College Readiness

Advanced Requirements
Passed 6 of 9 at 65+
3 Remaining
Needs Physical Science
Passed 2 of 2 at College Readiness

Scheduled for 1 exams in June 2015 --- Scheduled for 0 future exams (beyond June 2015).

[Hide advanced](#)

4 Required Exams Must pass ALL				Plus 1 Must pass ONE			Advanced Regents Must pass all left as well	
ELA Met CR Max: 77 English	Math Met CR Max: 83 Algebra	Science Met 65+ Max: 71 Life Sci	Social Met 65+ Max: 70 US	2nd Social Met 65+ Max: 66 Global	2nd Science Not Met Max: 44 Earth Sci	2nd Math Met 65+ Max: 67 Geom	3rd Math Not Met	LOTE Not Met
Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Not Scheduled	Fulfilled	Scheduled Trig: June 2015	Not Scheduled
Hide current courses								
English 12 2 Of 2 (mp1: 75)	Not enrolled in course	Not enrolled in course	Not enrolled in course	Not enrolled in course	Not enrolled in course	Not enrolled in course	Scheduled and not enrolled in course	Not enrolled in course
Hide exam history								
English: 77 June 2014	Algebra: 83 Jan 2015	Earth Sci: 44 June 2013	US: 70 June 2014	US: 70 June 2014	Earth Sci: 44 June 2013	Algebra: 83 Jan 2015	Algebra: 83 Jan 2015	
CC ELA: 71 June 2014	Geom: 67 June 2013	Life Sci: 71 June 2012	Global: 66 Aug 2013	Global: 66 Aug 2013	Life Sci: 71 June 2012	Geom: 67 June 2013	Geom: 67 June 2013	
English: 76 Jan 2014	Algebra: 77 June 2012		Global: 66 June 2013	Global: 66 June 2013		Algebra: 77 June 2012	Algebra: 77 June 2012	