Growing Academic Behaviors:

How to Scale Up Classroom Practices for Teaching Mindsets

Three Case Studies of New York City Public Schools

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Introduction: The challenge and importance of scale

Over the past three decades, researchers have identified **a core group of skills, habits, and beliefs** that, when explicitly taught, can lead to dramatic increases in student motivation and achievement. Collectively known as *academic and personal behaviors,* these research-backed attributes build resiliency, creativity, and persistence. As a whole, they represent one of the most powerful instructional shifts available to an educator, and there has been an intense push to incorporate them into the classroom: supporting teachers with guides, tools, videos, and lesson plans designed to strengthen their individual practice in this realm.[1]

Notwithstanding this focus on the individual classroom, little has been written on how to structure a school community to support academic and personal behaviors: that is, how to seed, scale, and spread these practices so they are sustained across a whole school. This document aims to address this important gap in understanding, helping to illuminate the systems that allow effective practices to develop in a single classroom and then blossom schoolwide. It is rooted in three case studies—each illuminating a different quality that schools used to effectively spread and scale this work in their community.

It is our hope that sharing these behind-the-scenes approaches to developing academic and personal behaviors will help readers identify the structures in their own schools that might lend themselves to improvement. We also hope that these can shed light on the places, people, and situations where they may face challenges and can search for creative solutions.

ACADEMIC AND PERSONAL BEHAVIORS refer to an umbrella of habits, skills, and beliefs utilized by successful individuals when confronting challenges. The NYC Department of Education breaks these qualities into four basic categories:

> **Mindsets for Perseverance:** A belief that effort will pay off, that learning has intrinsic value, and that you, as an individual, authentically belong.

> **Habits for Management and Organization:** An ability to plan, to organize, and to monitor one's own progress toward goals.

> **Skills for Communication and Collaboration:** An ability to work on teams, communicate needs while listening to others, and act with integrity and empathy.

> **Social-Emotional Skills for Creativity and Adaptability:** A sense of curiosity and social awareness and an ability to reflect and self-regulate while raising new questions, testing new ideas, and adapting to new situations.

Finally, we hope to inspire by example: all the profiled schools achieved dramatic improvements. Students reported changes in the way they think and feel about learning, teachers reported tangible improvement in student persistence, and both students and teachers reported increased engagement and satisfaction. These results were hard won, the result of dedicated teachers and administrators embracing productive struggle. Each case study presents readers with a single approach, and none of them are intended to represent the sole "correct" route. We hope that collectively, though, their lessons shine through; their importance cannot be overstated. Work developing academic and personal behaviors in even a single classroom is, of course, worthwhile; however, when multiplied across a school community, the effects compound one another, boosting achievement in unexpected and ever powerful ways.

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1. Readers looking for more information on instructional practices designed to support academic and personal behavior are directed to the Appendix of this document for a list of classroom-level resources.

The New York City Academic and Personal Behaviors Initiative

The work described in this monograph draws from the experience of three schools that participated in the New York City Academic and Personal Behaviors Initiative.

Over a three-year period, from the 2013–14 to 2015–16 school years, a total of more than 70 middle schools and high schools participated in this innovative program. Led by the New York City Department of Education's Office of Postsecondary Readiness in conjunction with Eskolta School Research and Design, it offers teachers the opportunity to attend a series of monthly workshops showcasing recent academic findings about academic and personal behaviors and simultaneously receive support and key data as they adapt the research to their own pedagogical practice.

When a school first enrolls in the initiative, it joins the **Academic and Personal Behaviors Institute**. A small team of teachers attends seven professional-development sessions over the course of a year. Each session introduces research behind interventions that build academic and personal behaviors, with readings and guest lectures, while offering participants suggestions for implementation along with a repository of proven tools and practices both for trying work out with students and sharing the work with colleagues. Sessions are designed to foster discussion and interaction, building a community with shared practices, addressing shared challenges. Additionally, participants are provided an academic-mindset survey to administer with students from selected classes and explore the measurement of mindsets to understand student development. School leaders participate in three sessions in which data from surveys of student mindsets are shared to help them see how they can connect school goals to academic and personal behaviors.

Once a school has participated in the first year, it is eligible to apply to the **Advanced Institute**. Over the three years from 2013–14 to 2015–16, eighteen schools participated in the Advanced Institute. One to two returning teachers act as leads for an expanded team from their school, creating a professional learning community or inquiry group around this work. The Advanced Institute emphasizes experimentation supported by improvement-science methodology, a rigorous form of inquiry in which

Growth Mindset, a term coined by Stanford University psychologist Carol Dweck to describe the belief that a person's intelligence is not fixed and can be developed through hard work, is now an everyday word in education, appearing in K–12 classrooms across the country. Despite receiving the lion's share of attention, growth mindset is just one of three psychological mindsets researchers are realizing are critical to student achievement.

Value Mindset identifies the degree to which a student finds value in learning and is motivated to put effort into school. In one study aimed at improving students' value for what they were learning, researchers reported a 20 percentage point increase in grades following a set of writing exercises that asked students to describe how their science class could be applied in their lives.

Belonging Mindset is the degree to which a student feels like he or she belongs in an academic context. Studies have shown that simple interventions such as communicating high expectations to a student and belief in their ability to achieve can result in increased persistence on tasks and have a lasting positive impact on their perceptions of the school community.

teachers engage in rounds of testing out incremental changes in interventions and tracking small data points to gauge the effect. Participants receive guidance, tools, and practices to support and scale these efforts. Five Advanced Institute sessions over the course of the year focus on improvement-science skill development, and cross-school sharing and feedback. Team leads also receive coaching through on-site visits and biweekly phone calls. As in the first year, participants administer pre- and post-academic mindset surveys of students to investigate summative change alongside their smaller data points.

Scaling Mindsets Schoolwide: Four Key Findings

To examine the structures underpinning effective work on academic and personal behaviors, data were reviewed and analyzed from the eighteen schools that received active coaching through the Academic and Personal Behaviors Initiative from 2013 to 2016. While every school faced unique circumstances, a number of commonalities surfaced in how schools structured work that scaled particularly effectively. These commonalities fell into four areas: (1) commitment of leadership, (2) use of research-based supports, (3) embrace of adult-learning mindsets, and (4) development of formal structures for collaboration.

1) Committed leaders support the work by helping teams *align academic and personal behaviors work with existing school goals.* These leaders are *actively involved* in the work of their teams, attending professional-development sessions or team meetings, acting as a sounding board for ideas, providing encouragement, and *modeling* a growth mindset in their own work as administrators. Over time, such leadership is distributed to staff in the school who lead others in sharing practice.

 2) Research-based supports drive teams to engage deeply with the theory and science that serve as a foundation for classroom practices. Building time

for study groups to meet and *establish a thorough understanding of how to develop academic and personal behaviors,* as well as gain an expertise with classroom materials, gives teams the confidence needed to apply concepts and share them with colleagues. As the work continues, maintaining access to coaches or research-based resources enables teams to access ongoing expertise.

3) A learning mindset allows educators to feel safe *experimenting in their classrooms,* enabling them to authentically model the struggle and acceptance of challenges required of a growth mindset. Structuring *intervisitations with colleagues* to focus on low-stakes observations rather than formal evaluations, builds an environment centered on open sharing and learning, reducing the fear associated with trying something new.

4) Collaborative structures ensure that academic and personal behaviors work spreads organically within schools, allowing those engaged in the work to act as thought partners for one another. Creating *dedicated team time, with low-stakes sharing opportunities,* means that teachers have time built into their workday to engage in reflection and planning and can align this work to broader school goals.

Common Elements Observed at Successful Schools			
	Year 1: **1–2 teachers**	**Year 2:** **3–6 teachers**	**Year 3:** **6–12 teachers**
1. Committed leaders	Alignment with school goals	Active involvement	Modeling
2. Research-based supports	Foundation in research	Access to coach & intervention ideas	
3. Learning mindsets	Small-scale experimentation	Frequent & active iteration Intervisitation	
4. Collaborative structures	Low-stakes sharing	Dedicated team time	Multiple teams

Case Study One: Leveraging Research-Based Support for Change

Nicole Scott believes in the power of words. As principal of P.S./I.S. 266, she leads a school that prides itself on carefully crafted messaging, using activities and a common language to encourage students to feel a sense of belonging and to give their personal best. When she heard about the City's Academic and Personal Behaviors Pilot in 2013, an effort aligned to the school's focus, she had little trouble identifying two enthusiastic teachers to take part. Lisa Rollins, a math teacher, and Pedro Medina, a Spanish teacher, both teaching in the school's upper grades, enrolled.

The monthly sessions were a quick hit with them both, exposing them to the academic research supporting growth-mindset theory as well as specific classroom resources designed to help implement that theory into practice. Professional-development sessions led by leading researchers in the field—including Dr. David Yeager, Dr. Catherine Good, and Dr. Lisa Blackwell—as well as school leaders and teachers already actively conducting similar work in their own buildings, offered participants the chance to learn from others facing common challenges. Above all, the sessions encouraged practice, pushing teachers to develop specific interventions with their own

students and actively monitor their progress with a "mindset survey" to get an indication of whether student attitudes were actually changing.

As the sessions continued, they quickly picked up the academic research and suggestions for classroom practices that were shared. They were eager to try lessons and activities shared by Mindset Works, an organization founded by Dr. Carol Dweck, who had studied growth mindset for decades.

Between sessions, Ms. Rollins and Mr. Medina began to meet with Deb Gordon, a director from the Office of Postsecondary Readiness, who led the pilot project in partnership with Eskolta. With Ms. Gordon's support, the two pored over the research and resources from the monthly sessions, brainstorming specific interventions that fit their students' needs.

Applying the research and testing the results

Ms. Rollins, Mr. Medina, and Ms. Gordon began designing small trial runs: planning how to implement a practice in their classrooms and identifying metrics they would track to determine whether their ideas were in fact impacting student behaviors, looking at the data they had collected, then making modifications based on their experiences. This disciplined approach for the teachers to learn—itself an application of growth mindset to their own practice—was a critical

QUICK SNAP: P.S./I.S. 266

Located at the Frank A. Padavan Campus in the Bellerose neighborhood of Queens, P.S./I.S. 266 enrolls more than 650 students in prekindergarten through eighth grade.

step in the success of their efforts. The research never worked perfectly on first application, but by tracking it carefully and paying close attention, they found their ways to improve.

In their first effort, Ms. Rollins and Mr. Medina wrote a lesson in which they explicitly taught students about brain development through engaging in challenges and the impact that beliefs about learning have on academic success. This design drew largely on research and ideas they had adapted from Mindset Works. To support this direct instruction, the teachers began monitoring their own language, looking for places where they could use specific language prompts to foster growth mindset. Students, in turn, answered reading comprehension questions and engaged in writing exercises—often worded with those prompts in mind—to solidify the new ideas presented.

As the year progressed, Ms. Rollins and Mr. Medina continued to reflect on the new practices they were trying out with their district coach. Ms. Rollins focused on teaching students the importance of revision and on modifying her written feedback to promote a growth mindset. She tracked student revisions and the extent to which they incorporated feedback to determine whether her work was effective. Mr. Medina emphasized building student awareness of the effort required by the learning process, focusing his trial runs on whether students would take on more challenging learning if he helped them become aware of the strategies they could use so that instead of being flustered in the face of struggle, they would pick the right strategy to address it. He explicitly taught students about strategies they could use to try to make sense of a challenging word or confront a new problem, then asked them to identify which learning strategies worked for them and to notice when certain strategies were not personally effective. He then created opportunities for students to name and select their favorite strategies to use and reviewed their responses together, discussing how and why the students employed their strategy. His trial runs eventually yielded astounding results: by the end of the year, all 29 of his students who were offered an opportunity to engage in a challenging question attempted it. Mr. Medina remarked, "I had no idea

how much our students could push themselves. They were being more creative, thinking more outside the box, just escalating to a whole new level."

Learning communities create an avenue for growth

The next year, the principal decided to enroll the school in the Academic and Personal Behaviors Institute, which was launched in 2013–14 as a spin-off of the previous year's pilot. Impressed with the results Rollins and Medina were getting in their individual classrooms, she expanded the pilot team to include two additional teachers: Carly Meyer and Susan Weingart, Common Branch and ELA teachers in the fifth and sixth grades respectively. Strategically, Ms. Scott had identified two teachers who shared Ms. Rollins and Mr. Medina's enthusiasm but would also bring representation from more grade levels and content areas.

A key move at this time was the establishment of what Ms. Scott called "Growth Mindset Professional Learning Communities." These learning communities acted as nodes within the school: regularly scheduled time for a group of teachers to meet over a six- to eight-week cycle, during which time they shared and discussed practices they were tinkering with in an attempt to foster students' growth mindset. To support them, the school took two additional critical steps: it designed initial professional-

development norming expectations around the purpose and practice of the learning communities, created dedicated physical and calendar space within the building to allow teachers to meet.

Ms. Medina, Mr. Rollins, Ms. Meyer, and Ms. Weingart at times facilitated the small groups of teachers in their respective learning communities through a common process: first they studied the growth-mindset theory that the team leaders had brought from the Institute, then they determined a practice to try out in the classroom, and finally they shared back with colleagues in order to think about modifications. In effect, they were mirroring the process Ms. Rollins and Mr. Medina had experienced the year before, only this time located within their own school with them acting as coaches. In a final support provided by the Institute, the team met with coach Alicia Wolcott from Eskolta to help plan, focus, and reflect on the scaling work.

While the work of individual teachers in their classrooms continued unabated, this formal structure began spreading growth-mindset work around the school. This had profound effects as practices developed were not limited to a single classroom. When Mr. Medina created stickers with growth-mindset language on them, which he unpeeled during class to put on

student work as they created it, Ms. Rollins adopted the practice. Then Ms. Meyer and Ms. Weingart took it up, adding their own customized language to the stickers. Ms. Meyer ran a Socratic seminar in which students provided one another with feedback on their contributions to the seminar using growth-mindset language, and teachers in her learning community were able to learn from her experience.

Expanding to the whole school and beyond

By the end of 2014–15, P.S./I.S. 266 had gone from a pair of pioneers learning about the research and experimenting in their own classrooms to a team of four engaging in trial runs together to four teams of professional-learning communities in which teachers were using the research-based practice tested by their colleagues. What would come next?

In 2014–15, proud of what her staff had accomplished, Ms. Scott submitted an application to showcase their work in the City's Learning Partners Program. This new district initiative brought triads of schools together to share practices with other schools facing similar problems, with one school acting as host. Accepted as a host school for their growth-mindset practices, P.S./I.S. 266 developed structures for intervisitations specifically focused on recognizing the language teachers could use to foster growth mindset in their students. The comfort and expertise teachers had developed sharing practices in their learning communities the previous year laid a solid foundation for deepening understanding through these intevisitations.

The professional-learning-community structure from the previous year continued, part of a larger vision to expand expertise and effective practices within the building by bringing additional grades into growth-mindset work. As Ms. Scott explains, "We are building this group of experts in our building. Teachers who really understand growth mindset and who have a great repertoire of strategies in their toolkit… Our next step is to continue increasing capacity, adding more staff members to the teams, continuing to filter the program down to third grade, second grade, all while continuing to have teachers lead the work." ∎

Discussion Questions

*What are some examples of particularly **intriguing practices** or ideas you noticed while reading? What are some ideas you have more questions, concerns, or frustrations about?*

*Do you think Rollins and Medina's approach to **testing** their interventions would work in your classroom? Why or why not? How might you have to adapt it to fit your needs?*

*Brainstorm **the major factors** operating in P.S./I.S. 266 that supported Rollins and Medina's work and allowed it to spread. Which are present in your building that you could leverage if you chose to do this work? Which are not present, and/or where might you face challenges that Rollins and Medina did not have to confront?*

Case Study Two: Creating Collaborative Structures

Every year, when confronted with the state exams, I.S. 126 Albert Shanker School for Visual and Performing Arts faced the same distressing problem: students would give up before finishing. The problem with persistence and fear of challenge had become so great that during the ELA and Math state exams, it was common for students to refuse to even begin the test; they claimed they knew they would fail, and could not be convinced to even open the booklet.

In 2014, assistant principal Kristen O'Brien decided to take on the challenge. Ms. O'Brien already knew about research linking the development of academic and personal behaviors to student persistence and reasoned that by registering a pair of teachers in the City's Academic and Personal Behaviors Institute, she could start small, with the right people, and tailor the solutions to fit her building. When she brought up the idea during a staff meeting, two teachers volunteered. She had her starting team.

Research and leadership help the founding team thrive

After being introduced to research at the first Institute session, Erin Lalor, a math teacher, and David Parente, an ELA teacher, returned to their classrooms, where they began consciously focusing on instilling

more growth-mindset messages into the language they were using when giving students feedback. As she saw the two teachers making changes, Ms. O'Brien made a key decision. She suggested the three begin a formal book study to more deeply explore the research being introduced in the Institute sessions. With a regular meeting time in place, they first read and discussed *Mindset: The New Psychology of Success,* a book by Carol Dweck, a researcher whose work was cited in the Institute linking persistence to growth mindset. Later, they read Paul Tough's *How Children Succeed*, a book that had brought attention to the topic of academic and personal behaviors in schools in 2012.

The reading group proved instrumental to the eventual success of the work. The meetings provided an opportunity for the three to digest the Institute's professional-development sessions on their own, grappling with the ideas before making big changes in their classrooms. It built camaraderie and partnership, making it easier for the founding team to later share their learning with others in the school community. "I felt like we really needed a year where we just shared our feelings and our insights and started understanding it all," Mr. Parente said.

The meetings nurtured a sense of enthusiasm among the group, too. Ms. Lalor remembers the excitement

in the room after returning from an Institute session that had featured research on the dramatic increase in achievement when teachers changed their feedback techniques. "Our minds were kind of blown," she says. "I remember turning to the group, 'Well, if that's the kind of results, I'd be more than happy to try it!'"

Cross-pollination and collaboration deepen practice and expand impact

By the end of the 2014–15 school year, Ms. Lalor and Mr. Parente had found a number of ways to bring language designed to cultivate growth mindset into their classrooms. As 2015–16 began, leadership at the school was committed to building on the foundation they had laid by

continuing the work in the Advanced Academic and Personal Behaviors Institute. Ms. O'Brien encouraged four more teachers to join the team, carefully selecting staff based not only on their enthusiasm but also on their ability to reach the school community. To maximize the group's impact, she ensured it spanned all three grade levels offered in the school and all content areas, including special education.

The first new initiative to spread growth-mindset language involved revamping the school's approach to classroom intervisitation. O'Brien remembered a moment in the previous year when Ms. Lalor and Mr. Parente had traveled to a nearby middle school as part of an Institute session. "They returned so excited and full of new insights," she said. "That visit got their feet wet about actually observing." Traditionally, intervisitations were not part of the culture at I.S.126; except for visits that took place during teachers' first years teaching, when they would observe and be observed by a veteran teacher assigned as a mentor, intervisitations were rare and ad hoc.

Yet the group's focus on growth-mindset language practically begged for such intervisitations. While it is relatively easy to understand intellectually why most growth-mindset feedback prompts are effective, it can be far more difficult to actually implement them. For

instance, using the phrase "You put some hard work into figuring that out!" rather than "You're so smart!" involves changing habitual and unconscious speech patterns. Classroom observations provide one of the best avenues for reflecting on that type of behavior.

Inspired as well by the school's participation in the Learning Partners Program as part of the Growth Mindset triad, Ms. O'Brien began setting up structures to encourage classroom visitation among members of the six-person team. Ms. Lalor recalls, "Kristen was really the catalyst for it. She said, 'This is an exciting opportunity for you guys. I'll help you. I'll free you up.'" Ms. O'Brien arranged for substitute teachers to cover classes and scheduled this coverage to allow time to debrief afterward. "If you leave everything to a teacher's prep period, that's going to be a problem," she explains. By January 2016, Ms. Lalor and Mr. Parente were regularly observing classes, jotting notes on a graphic organizer the team created to capture the growth-mindset language.

Opening their classrooms was a new experience for the teachers, and they initially approached it with some anxiety. "There's always this stigma about having somebody else in your room," Ms. Lalor notes. "But we're not reporting back to anyone but each other. And it's all because I *want* you to come in, and I want

you to look for this thing. I want you to tell me—good, bad, ugly—what's happening there?" But by the end of April, the team had developed a system for intervisitations. They would choose a partner and meet ahead of time to schedule visits and identify specific areas where they wanted feedback. After each observation, they would meet again to debrief. In the debrief, they discussed the growth-mindset phrases they had heard as well as missed opportunities they saw to push their instruction further.

As teachers began to feel comfortable through these new structures, they found new ways to expand their work, drawing on ideas from the Institute. As one example, Mr. Parente, who had long been teaching a Saturday morning academic intervention program for students who had earned low scores on the state tests, began to dedicate his sessions entirely to growth mindset. Using the resources from the Institute, he built a series of classes around classic growth-mindset topics: goal setting, learning from mistakes, revising, reflecting on effort, and taking on difficult challenges. The students ate it up. Later, he advertised a session on growth mindset for parents, and close to 30 showed up.

Seeing the growth

By June 2016, the team began meeting to discuss where to take their work next. Ms. O'Brien participated in every session, her presence giving credence to the work. In the two years since she had first enrolled Ms. Lalor and Mr. Parente in the Institute, student mindsets about their work had changed dramatically. Surveys showed a 77 percent increase in the number of students who believed they could increase their intelligence with effort, while the number of students who believed that intelligence was a fixed trait you were born with was cut by three-quarters. Most tellingly, in mid-June, rather than give up after 30 minutes of staring at a blank packet, students began fighting through their state exams.

When asked when she knew whether the program was a success, Ms. Lalor recalls a student furiously working to finish her state writing exam. The student had already worked through the full four-hour exam period and, as time expired, started asking for extra time. "She said, 'Miss, this is the longest I have ever worked.'" Progress. ■

Discussion Questions

*At I.S. 126, lack of student persistence was most visible during state exams. **Where do you notice it in your building?** Do you think the type of growth-mindset work described in the case study would address the problems you face in your building? Why or why not?*

*What do you think of assistant principal Kristen O'Brien's **approach to starting** with a book study in year one? Would such a "start small" approach work at your school? Why or why not?*

*How do intervisitations function at your school? **What steps would you need to take** to implement a structure similar to the one used at I.S. 126?*

Case Study Three: A Learning Mindset for Adults

Elizabeth Calvert-Kilbane and Veronica Quinn were attending a five-day district professional-development institute on college access and readiness when one particular session grabbed their attention. It began with a presentation on the importance of developing academic and personal behaviors for college and career success and concluded with an overview of growth-mindset theory as a way to develop student persistence. "We were looking at our kids who go to college and how often they drop out in the first year," Ms. Calvert-Kilbane recalls. "And it came down to all these growth-mindset concepts—the ability to self-advocate, the ability to fail but keep going… It just felt extremely important." And so, at the end of the session, when Ms. Calvert-Kilbane and her colleague, Ms. Quinn, learned the district offered a year of professional development exclusively on academic and personal behaviors with the Advanced Academic and Personal Behaviors Institute, there was no hesitation. They returned to their school, Knowledge and Power Preparatory Academy (KAPPA), where both were tenth-grade teachers. There, they excitedly pitched it to their principal and assistant principal, and the school applied to the Institute.

Their application was accepted, and after an early session on growth mindset, Ms. Quinn and Ms. Calvert-Kilbane got down to business implementing what they were learning. Previously, they had both volunteered to design the advisory curriculum for the whole school; after a brief discussion, they decided the curriculum provided an ideal vehicle to introduce growth mindset to both teachers and students. Using articles and videos they were given at the Institute session, Ms. Quinn and Ms. Calvert-Kilbane wrote an introductory advisory lesson on neural plasticity teaching students the science of how the brain grows in response to challenge.

After that initial burst of work, Ms. Quinn and Ms. Calvert-Kilbane decided to focus on creating smaller interventions around use of growth-mindset feedback language that they could test and use in their own classrooms. Soon an ideal opportunity arose. Ms. Quinn had set a professional goal for herself of giving students feedback that aligned to the International Baccalaureate standards. The two teachers decided this would be an excellent route to inject growth-mindset phrases and attitudes into everyday communication with students. Together they spent the year designing small tools and practices to align student feedback with both growth-mindset practices and the International Baccalaureate standards.

A learning mindset and a growing team

That summer, when the opportunity to apply to the Advanced Institute was announced, Mr. Clayman encouraged Ms. Quinn and Ms. Calvert-Kilbane to apply. Mr. Clayman believed in the power of teacher interest and autonomy and did not want to squander his staff's enthusiasm. "For both of them to come back to me and say, 'Hey, this is

a really great experience' is so much more powerful than anything I could push them into," he explains.

Indeed, Mr. Clayman's cultivation of a learning mindset for his staff is notable in the tone it set for change. In his own work as assistant principal, he tried to approach new initiatives as a learner. He relates, "I tell staff, 'We have a practical problem. We've never done this before. But here is a stab we've made. Give us feedback and help us develop this tool.'" Mr. Clayman sees this attitude as contributing to the school's success. "Good teaching is good problem solving," he says. "The researchers don't have all the answers. It's about talking to other folks, doing research, figuring out ways to try to tackle the issues."

Ms. Quinn, Ms. Calvert-Kilbane, and Mr. Clayman briefed the staff on their efforts and added three new members to their team, consciously drawing in teachers working with different, previously unrepresented, grade levels, as well as the head of the special education department. Among the five, they were now positioned to both support and learn from students with a diverse range of abilities and challenges.

Teachers revise their practice as they teach students to revise

As the second year of the Institute began, one of the first activities in the Institute asked them to lead a full-staff professional-development session in their own building, sharing their learning and using resources provided in the first year. Having worked in relative isolation in the first year, Ms. Quinn recalls her shock at her colleagues' reaction. "Ninety percent of the staff said, 'We want this! We want to do growth mindset too!' But they also were full of questions: 'How do you do it? Where do we start?'" Ms. Quinn and Ms. Calvert-Kilbane realized that with this degree of buy-in, focusing their work on developing practical strategies for cultivating growth mindset in academic classes—the same setting in which students are facing academic challenges—could be more beneficial than focusing exclusively on advisory. It also meant they would be able to share resources sooner and with more of their colleagues.

At their next meeting, the team discussed where to focus their work. When someone noted the challenges around a recent schoolwide shift to mastery-based grading, they knew they had hit on something important. Giving grades that reflect students' mastery of specific skills and concepts—rather than the traditional approach of simply giving a number grade—is by nature a complex process. It requires revision, goal setting, and other strategies that rely on students believing that struggling through growth is worthwhile. Teachers were still learning how this new grading system affected day-to-

day teaching, so the team realized it was a natural place to integrate growth-mindset instruction. Even better, they could use improvement-science methodologies, which they were learning in the Institute. These approaches helped teachers to systematically test out the approaches that worked best through rounds of interventions tracking small pieces of data.

As co-teachers who taught classes to the entire tenth grade, Calvert-Kilbane and Caitlin Biello, a new team member, decided to explore this dynamic by helping students see revisions as a normal and valuable part of mastering the skills of the writing process—rather than as a negative consequence reserved only for poor writers. Beginning in November, they looked at how students revised their work depending on feedback. As a baseline, the teachers simply gave students feedback and suggested they revise their work, without carving out class time explicitly for revising. Only one of the school's 124 tenth-graders chose to submit a revision.

Ms. Calvert-Kilbane and Ms. Biello then began brainstorming different interventions they could design to boost this number with the whole team. As they tried these interventions, they discovered different elements that seemed to improve both the number and quality of revisions students submitted. First, more students revised when they

were given in-class time to work right after they were given feedback. Then they found that the greatest improvement came when students were offered additional work time along with highly focused feedback limited to just four mastery elements (rather than the full ten standards students were typically graded on in the new mastery-based system). By the last round of their interventions, 60 percent of students were revising their work, continuing to make it better.

Teachers (like their students) build a sense of ownership for their work and growth

Meanwhile, in her theater arts class, Ms. Quinn wanted students to reduce their reliance on instructor feedback. This meant addressing two separate but related problems: first, helping students overcome what felt like an entrenched hesitation to critique one another's work, and second, helping students provide richer, more thoughtful feedback,

aligned to the mastery standards she was now using to grade them. Ms. Quinn began this work by having students translate the complex rubric she used for grading into student-friendly language, in particular, distinguishing between exemplary, satisfactory, and unsatisfactory work in their own words. She then asked students to apply their translations of feedback to actual work.

Four rounds of trying this with students allowed Ms. Quinn to refine her instructional approach while giving students multiple opportunities to attempt feedback. Her students became notably more comfortable and more nuanced when delivering feedback to one another, while also becoming better at identifying the criteria that they wanted feedback on for themselves. By the end of the year, students were leading their own feedback sessions in front of the class with little direction from Ms. Quinn.

In June, looking back at the year, Ms. Quinn realized how much this process of trying out new practices with her students and then using rounds of feedback and small-scale experimentation enabled her to align what was coming from the Institute with what she needed to do in her school. "It really aligned with what I needed to do as an instructor, regardless of whether I was participating in a special institute or not," she says. "Our work here hit all these already-existing goals." Or as Ms. Calvert-Kilbane notes, "I know our admin loves the idea that we're doing this kind of work. There was continual encouragement and enthusiasm from them, not to mention time set aside to attend the professional-development sessions. But," she adds, highlighting a point that reflects the way in which the process had helped the work to take hold in the school, "there was a lot of freedom. Because this was something we were choosing to do. We became accountable to ourselves." ∎

Discussion Questions

*What are some examples of particularly **exciting practices** or ideas you noticed while reading? What are some ideas you have more questions, concerns, or frustrations about?*

*What do you think of KAPPA's approach to allowing enthusiasm **guide the work**? Do you think that would be effective in your building? Why or why not? Beyond enthusiasm, what steps would you have to take to nurture a teacher team like Quinn and Calvert-Kilbane did?*

Appendix of Additional Resources

The Project for Education that Scales (PERTS) maintains an excellent website on growth mindset, MindsetKit.org. Visit it for comprehensive information on the science behind growth mindset, lesson plans that assist teaching growth mindset, assessments that promote growth mindsets, and classroom resources like videos, readings, and animations that can be used to support instruction.

Carol Dweck, one of the pioneers of mindset research, gave an insightful and inspirational TED Talk in December of 2014. You can find her video, *The Power of Believing That You Can Improve*, here: https://www.youtube.com/watch?v=_X0mgOOSpLU

Eskolta School Research and Design has created a number of reports, case studies, and videos related to classroom work in NYC schools on Academic and Personal Behaviors. You can find these on the NYCDOE Common Core Library or by contacting info@eskolta.org.