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# Building Student Persistence by Changing Student Mindsets: Lessons from the 2013–14 New York City Academic and Personal Behaviors Pilot

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## Executive Summary

According to research spanning more than four decades, students' beliefs about whether effort leads to success have a dramatic influence on their success in school. In the 2013–14 school year, ten New York City middle and high schools took part in the Academic and Personal Behaviors Pilot. Led by the NYC Department of Education's Office of Postsecondary Readiness in partnership with Eskolta School Research and Design, this project asked schools to reshape how they give feedback to students in order to support the development of growth mindsets and thereby promote persistence. Schools in the pilot received support from a team at Eskolta or from a facilitator at the Department of Education, who in turn received coaching from Eskolta.

The learning from these schools was often dramatic. A teacher at I.S. 266, a middle school in Queens, related that when he gave his students challenging assignments, "it blew my mind how they can push themselves and what they are able to do." In reviewing the experience of the ten schools in the 2013–14 pilot, four areas repeatedly arose as key to understanding and guiding future work.

**Path of Change.** As educators tested new approaches to supporting growth mindset with their students, these approaches generally met with success when they followed a four-step path that allowed them to try out practices as they became more aware of and comfortable with growth-mindset language. This four-step path began with framing the concept through an explicit lesson on how the brain develops through effort, followed by providing feedback using growth-mindset phrases, intentionally creating more opportunities in the classroom to highlight growth through effort, and finally focusing either on strategies (for students who struggle because of lack of strategies) or value (for students who struggle because they do not see the value of school).

**The Language Teachers Used.** Virtually all of the pilot projects ended up with a deep focus on the verbal, everyday language that teachers used in class. While many teachers had intended to begin with rubrics, lessons, goal-setting tools, or the like, they tended to find that they had to first practice and deepen their understanding of growth-mindset language—and literally speak differently day-to-day—before they could constructively use new growth-mindset-promoting materials in the classroom.

**The Tools Teacher Used.** While much of the work of promoting a growth mindset must necessarily arise through the language that teachers use daily in their classrooms, pilot teachers also found success by bringing in materials that support and reinforce that language primarily in three ways: by introducing the language, by engaging students in reflecting on their own growth, and by providing opportunities for students to connect their mindsets to strategies.

**Preconditions for Success.** The effective piloting and expansion of work related to mindsets and behaviors will depend in part on identifying which schools have the conditions in place to successfully adopt these practices. Assessing conditions for success presents a tension: Schools that have the conditions in place are likely better able to adopt these practices successfully. On the other hand, schools that do not have these conditions in place may be most in need of improvement. This tension is worth considering in differentiating the type of work and schools involved. Three factors in particular appear critical to consider when launching a project focused on academic mindsets and behaviors: an existing disposition toward growth, investment of time and focus on the part of leadership, and a carefully crafted lead team.

## An Introduction to Academic and Personal Behaviors

According to research spanning more than four decades, students’ beliefs about whether effort leads to success have a dramatic influence on their success in school. In some sense, this notion of “growth mindset” runs contrary to the messages that are implicitly communicated to students through grades and test scores. These often send the message that intelligence can be measured in fixed numbers by which a student may be labeled, for example, a “Level One” or a “Level Four.” In fact, “the most motivated and resilient students are *not* the ones who think they have a lot of fixed or innate intelligence,” according to Carol Dweck, a leading researcher in the study of growth mindset. “Instead, the most motivated and resilient students are the ones who believe that their abilities can be developed through their effort and learning.”<sup>1</sup>

In the 2013–14 school year, four New York City middle schools and six New York City high schools took part in the Academic and Personal Behaviors Pilot. Led by the NYC Department of Education’s Office of Postsecondary Readiness in partnership with Eskolta School Research and Design, this project asked schools to reshape how they give feedback to students in order to support the development of growth mindsets and thereby promote persistence.

The project launched in October with a presentation by Dr. David Yeager of the University of Texas at Austin, a leader in the field, sharing the latest research highlighting the successes of growth-mindset interventions in increasing student motivation. Teachers participating in the pilot had the opportunity to attend a series of monthly development seminars, in which they heard from scholars and practitioners about mindset theory and practice. Pilot teachers also used various resources and ideas from David Yeager and from Mindset Works, an organization cofounded by Carol Dweck.

Schools in the pilot received support from a team at Eskolta or from a facilitator at the Department of Education, who in turn received coaching from Eskolta. In a series of in-school sessions held over the course of the year, these facilitators supported teachers in an inquiry process as they designed, reviewed, and refined their implementation of growth-mindset practices based on their own experience and data on the impact on students. By the end of the 2013–14 school year, participating teachers made plans with their facilitators and their principals to share their work and learning with their colleagues in order to encourage broader adoption of growth-mindset language and practices in the 2014–15 year.

## Lessons from the 2013–14 Pilot

The learning from these schools was often dramatic. A teacher at I.S. 266, a middle school in Queens, related that when he gave his students challenging assignments, “it blew my mind how they can push themselves and what they are able to do.” Another teacher in the pilot, at I.S. 229 in the Bronx, found that over the course of the year, her students’ responses to her critical feedback had gone from “crushed to curious” because of the changes she had made in her practice. A participating assistant principal related that “there were students we’d been trying to move for years but weren’t able to that we were able to move this year with the pilot work.”

Indeed, in this pilot intervention that involved only two teachers working with a group of students for one year, fully 40 percent of participating students showed a noticeable change in their beliefs about their

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<sup>1</sup> Dweck, C. (2007). Boosting achievement with messages that motivate. *Education Canada*, 47 (2).

own ability to succeed through effort, according to surveys administered at the beginning and end of the school year. In some classrooms, this change was even greater—at the school where the teacher spoke of students going from “crushed to curious,” fully 61 percent of students experienced an increase in the belief that intelligence can grow with hard work—no small feat considering the number of competing messages students are hearing, and had been hearing for years before, about their own abilities.

In reviewing the experience of the ten schools in the 2013–14 pilot, four areas repeatedly arose as key to understanding and guiding future work. First, it was critical to understand the path of change that schools followed. This four-step path is outlined in detail in the first section of the report. Because the work of developing a growth mindset is so deeply affected by the everyday language students hear, the second section focuses on the most common language teachers used to highlight growth mindset. The third section focuses on the particular tools and materials that teachers most commonly used to support their focus on growth mindset. Finally, the fourth section highlights the preconditions that appeared to be necessary for a school to be ready to support and move this work forward. The sections that follow explore each of these in greater depth.

## Path of Change

As educators tested new approaches to supporting growth mindset with their students, these approaches generally met with success when they followed a four-step path that allowed them to try out practices as they became more aware of and comfortable with growth-mindset language. This four-step sequence is described here as: frame the concept, provide feedback using that language, find opportunities to do more, then focus either on students’ learning strategies or the degree to which they value school.

**1. Frame the concept.** Framing the concept consists of teaching a lesson on growth mindset and the research-based evidence that the brain develops through effort. The transparent and explicit instruction of these concepts provides a valuable foundation on which further work can be built. The approach to this lesson varied by student age, with teachers choosing between using a video and discussion or a reading excerpted from a research article (in both cases, drawing upon materials made available by Mindset Works). Several participating teachers then expanded this frame by making specific growth phrases and ideas visible in their classrooms.

This was an effective starting point because of the ease with which the information can be introduced and the potential for an inspirational moment as teachers see students quickly latch on to a new perception of growth.



**2. Provide feedback.** Readings and phrases posted on walls can quickly feel artificial to students if not reinforced by regular practice. It was therefore important that schools quickly move into giving feedback using growth-mindset phrases. In general, it was easiest for schools to progress not by trying to implement standardized new practices or materials, but rather by finding small, specific opportunities to change the language used when giving students feedback on work, whether that work was a **do now** activity at the beginning of a class, a written assignment, or something else.

Most commonly, teachers identified specific sentence stems that they began to use regularly. These draw on the research of Carol Dweck, David Yeager, and others, and they generally facilitated the use of language that emphasized effort and development rather than intelligence or being “smart.” For example, one teacher began asking every student, “How much effort did you put in?” before discussing feedback. Others explicitly focused on mistakes and failure as an inevitable and valuable part of learning. (More examples are provided in the section “The Language Teachers Used.”) Some teachers drew attention to this language in the form of written feedback that they put on Post-it notes on assignments.

Using this language was effective not only for the students but also for the teachers. Repeating a few key phrases was an easy way for teachers to gain comfort in and increase their awareness of the difference between the language they previously used and the language of growth mindset.

**3. Find opportunities to do more.** Once framing and feedback had occurred, it became important for teachers to quickly find and seize more opportunities to use growth-mindset language. This need arises only after the initial work for three reasons.

First, the experience of using, and reflecting on their use of, growth-mindset language made many educators realize that they themselves were not using this language as often as they had originally believed. This was often most revealing when they had the opportunity not only to engage in the practice but also to videotape themselves and view the videotape to see and hear the language they used or, short of that, to have a peer use an observation protocol to track growth-mindset language. It was only after this revelation that teachers urgently felt the need to identify more opportunities to use growth-mindset language with students.

Second, in order to avoid discouraging students, many teachers started by focusing on student strengths. However, in order to keep praise for effort from becoming saccharine cheerleading, teachers had to then move into focusing on areas for improvement. This shift took time and was hastened when there were more opportunities for small, specific pieces of feedback—for instance, telling a student, “You got a 60 last time, and I know with some focus and effort you can get it to a 70 on this assignment.”

Third, after they began to see indicators of student effort, educators found that they needed to repeat growth-mindset messages many times before students started to internalize and believe them. However, educators often found that for many activities or assignments they did not have the right indicators in place to do this. Praise for effort without genuine measurement of effort was empty praise at best. Teachers needed to review what they were already planning to do and find opportunities to formatively assess and then provide feedback on students’ expenditure of effort. To be able to give students feedback on learning from mistakes, for example, one group of teachers asked students to take time when a corrected assignment was returned to write reflections on their mistakes. To be able to encourage students to keep trying when faced with difficult tasks, another teacher designed an assessment that ranked problems from the easiest to the most challenging, and then noted which questions students had tried, regardless of whether they had arrived at correct answers. Although it was often difficult to do, some teachers identified small, tangible behaviors they could record in class—the number of times individual students answered questions or the number of suggested revisions they made to assignments—as a fine-tuned gauge of progress.

**4. Focus next either on strategies or on value, depending on which type of students you are trying to reach.** Although this pilot focused in particular on growth mindset, a lack of growth mindset is not the

only obstacle to student success. In general, one of two avenues made sense to pursue after students had become aware of and immersed in growth language. To decide which of these two paths to take at this juncture, it helped to consider whether students appeared to fit into one of the following two categories: those who struggle despite effort or those who avoid struggle and quietly get by.

**Students who struggle despite effort need strategies.** In one category are students who, once they do believe that effort is worthwhile, struggle because they do not know what to do. These may be students who have Individualized Education Programs or students whom teachers had previously identified as not being “smart.” For these students, teachers need to be ready to offer specific strategies for engaging with material. Teachers need to have lessons they can use to explicitly teach strategies for persevering in the face of difficult work (e.g., setting aside time each day to study notes at home), engaging with text (e.g., underlining important phrases), setting goals (e.g., reviewing how you did last time and writing down what you intend to do next time), and so on.

**Students who avoid struggle and quietly get by need to value school.** In contrast with those who struggle despite effort are students who appear to choose not to engage in struggle and might be described by teachers as “lazy” or “disengaged.” These students may benefit less from learning specific strategies and more from a focus on value mindset, or the belief that school has value to them. Teachers need to learn how to build into their lessons opportunities for students to identify what they and the people they care about value and to articulate their perception of their own futures—and to then connect these to what they have been learning.

## The Language Teachers Used

Virtually all of the pilot projects ended up with a deep focus on the verbal, everyday language that teachers used in class. While many teachers had intended to begin with rubrics, lessons, goal-setting tools, or the like, they tended to find that they had to first practice and deepen their understanding of growth-mindset language—and literally speak differently day-to-day—before they could constructively use new growth-mindset-promoting materials in the classroom. As described in the previous section, this typically began by framing the concept of the brain’s capacity to grow, at first through intentional instruction (see page 3) and then through reminders embedded in feedback (“Remember: when you try something challenging, your brain grows new synapses”). This section highlights a few of the phrases that stood out the most in pilot projects after this initial framing. Of note many sentence stems and phrases from Mindset Works served as convenient reference points for teachers. The language that arose most often in pilot classrooms tended to fall into one of four categories: language of high expectations and high confidence, language that normalizes struggle, language that extends the time horizon, and language that emphasizes process.

**Language of high expectations and high confidence.** When introducing a new assignment, some teachers took an extra moment to say, “I’ve seen you do this before, so I know you can meet my high expectations, and I expect you to do that here.” This language showed students that challenges were worth pursuing and that the teacher supported them in doing so. Others used phrases like, “I know you are capable of this,” or “I wouldn’t ask if I didn’t think you could do it.”

**Language that normalizes struggle.** In one school, a teacher’s mantra was, “If you don’t make two mistakes every day, you’re not trying hard enough.” Another, borrowing language from Mindset Works, reminded students, “If it’s not hard, you’re not learning.” Yet another transformed the culture in her classroom by taking a bow every time she made a mistake and having her students do the same. These

gestures and phrases do not simply accept challenge, they relish it and create an environment where students are no longer embarrassed to admit it.

**Language that extends the time horizon.** Drawing on an insight from David Yeager, one teacher related that she was always trying to add the word “yet” to students’ negative comments on their own performance. For example, if a student said, “I don’t get it,” she would respond, “You didn’t get it yet.” Another would take a student’s response and then suggest, “Let’s build on what he just said.” In both cases, the teacher’s phrasing took away the pressure to get the right answer on the first time and instead allowed students to see that learning continues over a longer time horizon than one question or one test.

**Language that emphasizes process.** One teacher would ask students in class to “walk me through how you did that.” Another would ask, “What choices did you make along the way?” In both cases, the questions asked students to explicitly engage in the metacognitive reflection that reveals the process underlying learning. In another example, a teacher responded to student questions by first noting, “I appreciate your questions.” This similarly served to model engagement in the process of questioning and exploring problems instead of simply focusing on arriving at the right answer.

**Language teachers did not use.** In addition to highlighting the new phrases teachers focused on using, it is worth noting two phrases teachers tried their hardest to avoid. One is any phrase that includes the words “smart” or “perfect.” After beginning to focus on the language they were using with students, teachers found that they had been telling students that they were smart or that a given response was perfect. By avoiding this, they hoped to avoid the notion of intelligence as a fixed character trait or perfection (rather than something attainable through continuous growth). Similarly, they avoided the phrase “That’s good.” Once again, despite its commonality in classrooms, teachers realized that this phrase inadvertently placed emphasis only on the result and drew attention away from the process of hard work and effort that preceded it. Many would instead simply substitute, “Nice work.”

## The Tools Teachers Used

While much of the work of promoting a growth mindset must necessarily arise through the language that teachers use daily in their classrooms, pilot teachers also found success by bringing in materials that support and reinforce that language primarily in three ways: by introducing the language, by engaging students in reflecting on their own growth, and by providing opportunities for students to connect their mindsets to strategies.

**Tools to introduce the language.** When students are not accomplishing schoolwork, it can be a challenge for teachers to identify the crux of the problem beyond seeing that the student “does not try” or “appears unmotivated,” diagnoses that leave little room for change. Written rubrics or checklists counter this by providing simple, standard language with actionable detail. When put together effectively, these rubrics accomplish two things in particular.

First, they convert vague language into descriptions of tangible, observable behaviors. For example, *lack of effort* might be detailed as *does not submit revisions on assignments*. The most effective rubrics in the group tended to have more specific language but avoided piling on significant detail, such that categories remained fairly easy for students and adults to review and reflect on.

Second, these rubrics come to define a standard set of behaviors that the school values. For example, if a school rubric delineates effort as consisting of revising work, continuing even after making mistakes, and

trying something when unsure of the answer, then conversations about work will tend to highlight these values. This moves beyond the broad exhortation that students need to work harder, providing students with expectations that feel less judgmental and more like guidance toward how they can improve.

**Tools to engage students in reflection.** Once key language had been introduced in the classroom, teachers used various tools to reinforce that language, each of which asked students to reflect on their own performance and growth. A few examples include: self-assessment rubrics, conference protocols, goal-setting worksheets, and exit tickets.

- ✓ **Self-assessment rubrics:** Students are encouraged to engage more deeply in understanding what is expected of them as they review a rubric and score their own behaviors against it. Developing self-assessment rubrics also forces adults to think in detail about whether students understand the language they are using. Some teachers created opportunities for students to use the rubrics when an assignment was complete so that they could reflect on how much effort they had put into the assignment. Others added to this with self-assessments midway through an assignment to encourage revision, with peer discussions to encourage collaborative reflection, or even with “pre-reflections” given at the time that a new assignment was introduced to root students in the belief that effort will prevail.
- ✓ **Conference protocols:** Teachers outline a few standard steps and practices for determining which students to talk to, at what time, and in a way that enables them to be focused and effective in a five- or ten-minute conversation. This replaces haphazard, intermittent, or occasional conferencing with a routine practice.
- ✓ **Goal-setting worksheets:** Through conferencing with teachers, students identify one to two specific areas for improvement and commit to these on paper. This provides for continuity between conferences while also allowing students to reflect on their mistakes and their potential areas for improvement.
- ✓ **Exit tickets:** The last five minutes of each class period can be a valuable opportunity for students to be reminded of growth-mindset language. Simple questions about the learning process push reflection and remind students to reflect on challenges instead of avoiding them. In a school that through its rubric has valued making mistakes, for instance, an exit ticket asked students, “How do you feel about the mistakes you made?” In another, an exit ticket asked students, “How much effort did you put in today?” and “How much effort do you want me to put in as your teacher?”

**Tools to connect mindsets to strategies.** A third set of critical tools helps teachers connect student mindsets to the individual work-improvement strategies students can use and helps students practice using those strategies.

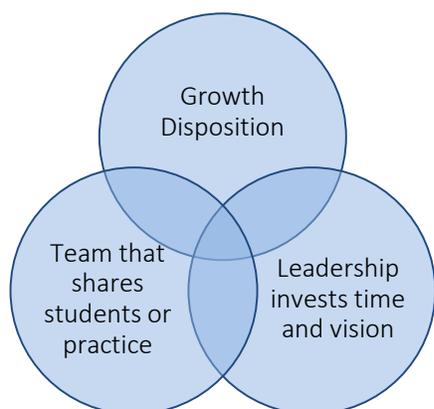
- ✓ **Lessons and diagrams.** Most directly, strategies are taught through mini-lessons and diagrams or mnemonic devices that outline strategies. For example, a diagram names the steps in the revision process, while a mini-lesson gives students the opportunity to discuss how they tackle difficult writing assignments. Most teachers in the pilot effort did not have sufficient time to identify or develop many such mini-lessons but expressed a need for them.
- ✓ **Challenge questions.** In some cases, teachers scaffolded the opportunity to take on challenges by carefully giving students increasingly challenging tasks and questions and allowing for more

challenging options in assignments and in tests. This can be thought of as a method of differentiation around growth mindset in which teachers offer students the option to differentiate on their own by tackling the more challenging questions. Teachers encouraged students to apply specific strategies learned in class to the challenge task, especially when faced with content that was unfamiliar – for example, using context clues to determine the meaning of an unknown word, annotating a question in order to determine what it is asking, or creating a visual to accompany a task to help realize the process of arriving at a solution.

- ✓ **One-on-one conferences around strategies.** In various classes, one-on-one conferencing was a central part of the growth-mindset discussion. In some classrooms, teachers used one-on-one conferences to explicitly discuss with students what strategies they had used. This metacognitive approach helped students to identify and name the strategies that would help them to improve their work.

### Preconditions for Success

The effective piloting and expansion of work related to mindsets and behaviors will depend in part on



identifying which schools have the conditions in place to successfully adopt these practices. Assessing conditions for success presents a tension: Schools that have the conditions in place are likely better able to adopt these practices successfully. On the other hand, schools that do not have these conditions in place may be most in need of improvement. This tension is worth considering in differentiating the type of work and schools involved. Three factors in particular appear critical to consider when launching a project focused on academic mindsets and behaviors: an existing disposition toward growth, investment of time and focus on the part of leadership, and a carefully crafted lead team.

**An existing disposition to believe growth is possible.** The belief that effort leads to growth is one that must be cultivated not only in students but also in adults. In 2013–14 pilot projects, some schools showed more evidence of having a preexisting “growth mindset” among adults, and these schools appeared more successful in moving the project forward. Two indicators are of note: First, at these schools, adults were more likely to engage in metacognitive discussion of their own practice in which they voluntarily raised self-reflective questions about how they might change and improve. Second, at these schools, adults were more likely to accept some of the responsibility for an inability to engage students rather than assigning this blame to students, which demonstrated a deep-seated belief that students could eventually engage if challenged appropriately.

For example, at a school in which the project experienced success, a teacher expressed frustration at his own inability to engage students. He chose to start with a focus on honors students based on his belief that these students had a higher level of engagement and motivation than others. This may have been of concern if it were not for the fact that he expressed a goal to eventually learn from this experience and translate it to a broader practice. In contrast, at a school where project efforts did not meet with success, members of the teacher team expressed their belief that students work only because of grades and wanted to focus on how they could use the grading policy, on its own, to change student behavior. These

teachers did not translate this interest into their own responsibility for developing practices that would affect student grades.

**Leadership investment reflected in a unifying focus, a weekly meeting, and a regular presence.** As with virtually any effort in a school, moving work forward without investment from leadership proved difficult. Three key indicators of this investment were the integration of the work into a broader school vision, the intentional scheduling of dedicated weekly time for the work, and the visible involvement of the principal in the work. These are addressed in brief below.

In separate studies for the NYC Department of Education, Eskolta has found that a unified instructional focus is critical to the success of otherwise disparate, competing initiatives. The work of academic behaviors appears to be no exception. At schools where the effort met with greater success, the work of supporting academic behaviors was viewed as one of a small number of components in an overall school vision. For example, at one school academic behaviors were viewed as a critical component in a vision of every student graduating college-ready. At another, the school was focusing on a shift to outcomes-based grading, and the pilot work was viewed as a key component in helping students develop the skills that would contribute to their grades. In contrast, when addressing academic behaviors was viewed as simply a good idea or a novel experiment, it became difficult to maintain momentum over time.

Time is necessary for any change in practice to be thoughtfully piloted. In the case of the academic behaviors work, at least one hour per week was necessary for the participating teachers to reflect on and adjust practice. If this time was not intentionally carved out in the schedule, success was less likely. This is best done at the beginning of the year or the beginning of a given term, and was most effective when the time was not only set aside in the schedule but also protected as a dedicated time for participating teachers to focus exclusively on this work.

Finally, investment from leadership comes not only in how the program is described and how time is scheduled but also in how the principal and other leaders at the school are present. At schools that met with the most success, the principal was viewed as a driving force in the work and checked in at least a few times over the course of the year on the progress of the work. Further, teachers who were first piloting the practice were identified because of their role as leaders in the school. In contrast, in other schools, principals launched the work but then were not visibly present in meetings until the end of the year, and teachers on the pilot team were not chosen because of leadership. While there may have been many reasons for this, given the many competing demands on leaders' time, it nonetheless hindered efforts by leaving teams unsure of the work's eventual impact.

**A lead team working with the same students or on the same practice.** Core to the change model in the academic behaviors pilot was the creation of a team of two teachers who could support one another in developing and testing changes in practice in their classrooms. This partnership was often helpful and likely would have supported even deeper reflection in slightly larger numbers of three, four, or five educators. Size of the team notwithstanding, given the pilot work's intense focus on the beliefs and mindsets of individual students, it is advisable that the team be comprised of educators who are already working with the same students, such as a group of teachers on the same grade-level team or a special education teacher working with his or her partner teachers. If the team is not comprised of educators working with the same students, then it appeared to be important that members of the team focus on the exact same practice so that they could actively compare notes and learn from one another. Either way, starting with a small, targeted group of a dozen or fewer students to focus on helped efforts gain traction.