Bronx Leadership Academy II: Learning from Mistakes

A Case Study on the 2013–14 Academic and Personal Behaviors Pilot

Written by:
Savanna Honerkamp-Smith
Eskolta School Research and Design, Inc.

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An Introduction to Academic and Personal Behaviors

According to a growing body of 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."[1]

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, Inc., 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. Teachers in this case study used various resources and ideas from David Yeager and from Mindset Works, an organization cofounded by Carol Dweck (see Materials Cited on p.1).

Schools in the pilot also 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.

This case study offers examples and key insights from pilot work as it was carried out in practice. Bronx Leadership Academy II (BLA II), on which this case study is based, is a high school located in the Mott Haven Educational Campus in the South Bronx. Of the 515 students enrolled in grades nine through twelve, 14 percent are English Language Learners (ELL), and a fifth are special education students. Most of the student population (87 percent) is eligible for free or reduced-price lunch. The BLA II staff is relatively young: the majority of teachers have fewer than five years of experience in the classroom. Student names have been changed to protect privacy.

[1] Dweck, C., "Boosting Achievement with Messages that Motivate," *Education Canada, Vol. 47* (2) (2007).

Materials Cited

During the pilot, Rosa Moshi, the teacher on whom this study is based, developed her own resources and used materials from Mindset Works' online EducatorKit (www.mindsetworks.com). Materials cited in this study include:

- *Active Study Log* (see Appendix)
- Mindset Works' Mindsets & Motivation course video: *Module 3—The Malleable Mind*
- Mindset Works' Mindsets & Motivation course activity: *The Malleable Mind: You Can Grow Your Intelligence*

Introduction: Ingrid

"She used to work really hard in class but was generally a bit confused. She didn't do well on exams, didn't do any studying or work outside of classrooms. In retrospect, she didn't know what it means to study." Rosa Moshi, a biology teacher at Bronx Leadership Academy II (BLA II) in the South Bronx, was referring to tenth grader Ingrid Raudales. Ingrid's biggest challenge was something many sophomores at BLA II struggle with: navigating high school and developing the skills that yield tangible results in their academic performance.

Students like Ingrid need encouragement to believe they can improve and careful guidance to ensure they are putting effort into strategies that will pay off. Rosa's work during the 2013–14 Academic Behaviors Pilot to promote a growth mindset (the perspective that intelligence can grow through effort), as opposed to a fixed mindset (the view that intelligence is essentially static) in students and give them effective study strategies helped her class with both. By the end of the 2013–14 school year, Rosa had seen a distinct transformation in Ingrid: "She started studying for hours each week and saw a huge improvement in her grades. She became a class leader because of it."

Identifying a Practice

The road to empowerment for Ingrid and other students like her in Rosa's class ran the length of the 2013–14 year. Rosa began that year by introducing students to the idea that struggling through difficult material was the best way to get smarter. In a framing lesson on brain growth, she taught students that when people repeatedly struggle with a challenging task, real physical changes take place in our brains—new neural connections form and synapses become quicker with practice. A second part of the lesson involved readings about research on accomplished figures in sports, music, and business, which showed that it is the amount of deliberate practice put in that predicts performance, not an "innate" ability. Other readings highlighted "famous mistakes"—modern inventions that were made by accident while trying to achieve something else. Rosa used these to open a discussion about seeing mistakes as paths to explore rather than failures to regret.

Reflecting on Mistakes

In order to communicate the idea that mistakes should be celebrated as a useful part of learning, Rosa developed a reflection tool on "my best mistake" to assist students in thinking about their own mistakes and acknowledge their value in the learning process. She had students complete this following their next performance task. The reflection sheet asked students to reflect on how making mistakes made them feel in general and then to respond to the following three prompts related to that performance task: *1.*

Identify and explain your best mistake. 2. Why is this your best mistake? What did you learn from it? 3. What are you going to do to make sure you don't make this mistake in the future?

Rosa hoped that the process of thinking through these mistakes would help students become more metacognitive: better at understanding of their own learning processes and how to improve them. However, when asked about their "best mistake," most students said things like "I don't take my notes home and I don't study," or "I didn't pay much attention." They were identifying poor effort or study strategies—not errors in comprehension or the application of a skill.

Consistently, student responses showed that they were willing to reflect on their mistakes and identify areas for improvement, but they were not accustomed to engaging in the type of analysis that allowed them to access their own academic skills and abilities.

To the question of why they made the mistake, students did not offer ideas about their own reading, writing, or problem-solving skills. Instead, they responded, "I knew what I was doing, but I forgot simple details," "I didn't really try. I can learn from this that I can make my writing better," and "This made me learn and realize that I have to come to school every day to learn everything." Consistently, student responses showed that they were willing to reflect on their mistakes and identify areas for improvement, but they were not accustomed to engaging in the type of analysis that allowed them to access their own academic skills and abilities.

This provided some useful lessons. The reflection sheet did push students to reflect on their mistakes instead of just blocking them out after getting an assignment back. But Rosa realized that she was asking students to engage in higher-level metacognition than they were ready for. Using the rubric to measure their understanding of the academic skills that led to their mistakes was not appropriate. So she decided to use these reflections to understand how students felt about making mistakes and what basic academic supports they felt they lacked.

From Mistakes to Revision

Now that they saw the value of reflecting on mistakes, were students ready to improve at revising their work? Building on her previous efforts, Rosa discussed the importance of revising work as an opportunity to learn from mistakes instead of simply feeling bad about them. Rosa took an approach that involved learning from her own mistakes as well. She began making small changes to her work with students on a weekly basis to see the impact and then shifting accordingly. Over the next four weeks, she explored barriers to students' willingness to complete a revision in various ways: asking them to write on their reflection sheets why they thought other students didn't revise work, asking them to sign a commitment to revising work on quizzes, giving them times she would be available to help them complete work, and reminding them individually of their commitments. But while students agreed with the concept of going back to learn from mistakes, and many said they would do a revision, most failed to follow through. Additionally, Rosa had found that collecting small pieces of data on a weekly basis was useful for making quick changes, but opportunities for revision occurred at irregular intervals. All of these factors left Rosa searching for a new approach.

From Mistakes to Active Studying Strategies

Much of what students cited as their "best mistake" in their reflections had been inadequate preparation. Giving them concrete strategies for time management and studying could directly address this challenge while helping reduce mistakes in understanding. To help students begin using good strategies on their own, Rosa created an *Active Study Log*, in which she put together a list of nine active study techniques and created a study log for students to fill out each time they studied outside of class. Strategies included "Use flash cards," "Rewrite old notes and complete old practice exercises," and "Create word cards" (see Appendix). She also dedicated time during several class periods for students to practice and get comfortable with these study techniques before they tried using them on their own. On the *Active Study Log*, students set a goal for their next interim assessment grade and for the score they hoped to achieve on the Living Environment Regents exam. They recorded what they did to study at home and brought both the *Active Study Log* and proof of their studying in the form of flash cards, questions answered, notes, and practice quizzes to be checked each Friday. To establish the importance of the practice, Rosa graded each student on a Weekly Study Outcome using a scale from "0 hours/no evidence" to "5+ hours/shared study techniques," with two hours equal to a score of Proficient.

Rosa found the first week to be largely successful: "Many of my students are willing to and able to effectively study. The general feeling in class on the day it was assigned, each time I reminded them of it, and when I checked their log on Friday was very positive." Rosa's goal was to have a quarter of students use active study strategies for at least two hours, and the first week, 26 percent did. Most of the remaining students did not report hours but did not seem deterred: "Even kids that did not do it were happy to come up with a plan of how to improve next week and seemed optimistic. I think they're happy to have something they can be doing to prepare themselves."

Still, she wanted to learn more about how to help this group get started. In her next phase, she held one-on-one conferences with students to help them strategize how to begin or improve on their studying. This time, 30 percent logged two hours or more, and Rosa noted from her conversations that for many a barrier might be studying alone. To motivate others, the following week, Rosa asked students who had been logging hours to present to the class on their strategies and to share their study strategies. One student had started a study group in which members created practice questions for one another to answer. Ingrid shared a study notebook she had put together independently. In it, she had written vocabulary words on Post-it notes that she would rewrite and place into graphic organizers as she studied.

While the work Ingrid put in wasn't a surprise to Rosa, the outcome it produced was. Ingrid is typical of a subset of students who appeared to benefit most from Rosa's work. These students generally worked hard, but Rosa found that they were "often very confused and didn't do well."

Indeed, putting effort into something that does not yield results can feel disheartening and demotivating to students. By sharing active study and time management strategies, Rosa had complemented the belief that effort is worthwhile with ways for students to engage in effective effort. The combination of these two elements made a big difference for this group of students. Reflecting on Ingrid in

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particular, Rosa noted: "She really latched on to the study log, got a notebook, and now comes to see me every single day to have her work checked. She's improved an incredible amount, and she sees the work she's put in had an effect. [At the last assessment] she had a 58—twenty points up from her last test!" In addition, Ingrid herself felt good about her work: "She shared what she's doing with her friends; she's really proud of it." Students like Ingrid—those who work hard but need guidance and concrete strategies to see this effort translate into results—appeared to benefit most from the approach.

Background on the Pilot Team

The Academic and Personal Behaviors Pilot team at BLA II consisted of Rosa Moshi, a third-year biology teacher, and Robert Trujillo, a math teacher in his second year. The year of the pilot, the school had made it a goal to work on productive struggle. Principal Kate Callaghan and lead administrator Mike Flynn were working to help teachers identify causes of lack of productive struggle (lack of rigor, engagement, or metacognition). Several years prior, the entire school shifted to an outcomes-based grading system in which the lowest grade a student could receive was "Not Yet," communicating the message that staff believe students will become proficient eventually, once they have put in sufficient time practicing to learn the concept.

The Carnegie Project

In January, the BLA II pilot team joined a separate but related program: the Carnegie Foundation for the Advancement of Teaching's **Student Agency Improvement Community**. This initiative, developed by Dr. David Yeager of the University of Texas at Austin and supported by the Raikes Foundation, used a unique iterative design to implement growth-mindset interventions intended to promote productive persistence in students. Each week, teachers made one small change to their practice and collected data, using what they learned to plan the next week's cycle. Concurrent participation in this initiative served to deepen and accelerate Robert and Rosa's work, but also resulted in a trajectory that differs substantially from that of other schools in the Academic and Personal Behaviors Pilot.

Active Study Log

May 21st IA Goal: _____ **May 21st IA Actual Grade: _____** **Regents Goal: _____**

Work hard, work smart, and grow your brain!!

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	GRADE
MAY 4	5	6	7	8	9	10	Week 1
11	12	13	14	15	16	17	Week 2
18	19	20	21	22	23	24	Week 3
			Living Environment IA				

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	GRADE
25	26	27	28	29	30	31	Week 4
JUNE 1	2	3	4	5	6	7	Week 5
8	9	10	11	12	13	14	Week 6
15	16	17	18	19	20	21	SUMMER!
		LE REGENTS! Start: 1:00	Global Regents Start: 8:30	English Regents Start: 8:30	Algebra/ Geometry Regents Start: 8:30/1:00		

Directions:

You will use this log to keep track of all the time you spend studying. Each time you study, here's what you need to record:

- Time (start–finish) (ex: 4:30–5:00)
- Where you were (ex: kitchen table)
- Who you worked with (ex: no one, my mom)
- SPECIFICALLY what you did (ex: Jan 2013 Regents questions 1–10, checked my answers, and revised the answers I got wrong)

Practice filling in a box here:

SUNDAY
MAY 4

Every Friday, I will check your study log and grade you on the Study Outcome. Make sure you also have proof of whatever you did, or you will not get credit! If you're not sure how to bring proof of something, ask me!

Active Studying Strategies

1. Use flash cards or foldables
2. Create word cards
3. Revise old practice or evidence
4. Rewrite old notes and complete old practice exercises
5. Answer practice questions from unit review
6. Complete Regents Review Tuesday worksheet
7. Play Heads Up or Pictionary
8. Do a practice Regents exam
9. Tutor or get tutored by a friend while doing any of the above or coming up with new notes together

Weekly Study Outcome

NY	AP	P	HP
You studied for less than 1 hour OR have no proof of your studying.	You studied for 1 hour and have proof of your studying.	You studied for 2 or more hours and have proof of your studying.	You studied for 5 or more hours OR you shared your study techniques with your classmates.