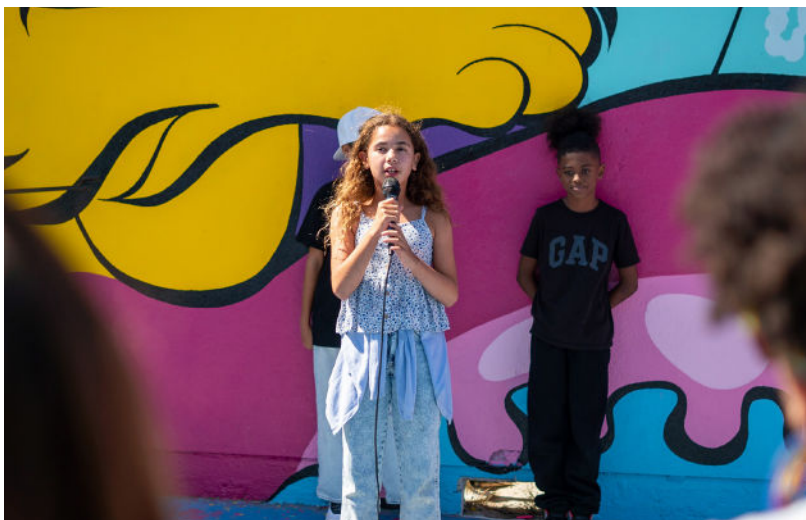


unboxed

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Above: Students at High Tech Elementary Explorer describes the process of working with a community partner to create the new mural at their school.

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Welcome

I've been reading a collection of essays by the anthropologist David Graeber (who died in 2020) entitled *The Ultimate Hidden Truth of the World*.

The full quotation that inspired the title is “The ultimate hidden truth of the world is that it is something that we make, and could just as easily make differently.”

What Graeber shows in his writing is that it's not just that we “could” make the world differently—over and over again, our ancestors have done so. In the opening chapter of their book *The Dawn of Everything*, Graeber and his co-author, archeologist David Wengrow, pose a series of questions that, when I read them, upended my view of the world:

What if we treat people, from the beginning, as imaginative, intelligent, playful creatures who deserve to be understood as such? What if, instead of telling a story about how our species fell from some idyllic state of equality, we ask how we came to be trapped in such tight conceptual shackles that we can no longer even imagine the possibility of reinventing ourselves? (9).

In the rest of the book Graeber and Wengrow describe societies that

changed their political system depending on the season, enormous ancient cities with little to no social hierarchy, systems of hospitality that meant that ancient people could walk across an entire continent and be greeted as family wherever they went—a dizzying array of social structures that make our contemporary sense of what’s “politically possible” seem embarrassingly narrow.

Those of us in education will see an alternative reading of the words “from the beginning” in that quote. Graeber and Wengrow are referring to “the beginning of humanity” but it’s also true from the beginning of every single human. Children are universally “imaginative, intelligent, playful creatures,” and they approach the world as if “it is something that we make, and could just as easily make differently,” until adults teach them to stop thinking that way.

But to reiterate Graeber’s point that “we make the world,” it doesn’t have to be this way. The writers in this issue of *Unboxed* provide some signposts for how educators can go about “making the world differently.” Jeff Govoni kicks off this issue by writing about literal “making”—the power of construction projects in elementary school. Aneesa Jamal shares a strategy for helping students reconnect to their questioning abilities, Michelle Jaconette has suggestions for how to launch inquiry-rich lessons, “Dr. Project” has ideas for helping students critique “models” and make high quality products, and Brad Blue offers advice on how students can curate their own work after a project. Robert Talbert and Sarah Strong both share ideas for making assessment meaningful and student-centered. And Elizabeth Brown, Paula Espinoza, and Amber McEnturff share stories and strategies that challenge us not just to help students “make the world differently” but to do it ourselves, starting with the schools where we work. Remember, the future is ours to shape—let’s get going on it together.

Alec Patton
Editor-in-chief



Above: Students prepare to showcase dog houses and cat condos that they designed and built in the “Cause for Paws” project at High Tech Elementary.

Deconstructing Construction Projects

Jeff Govoni

High Tech Elementary Point Loma

Last spring I was standing in my fifth-grade classroom, mid-project, rearranging student groups when I realized we had a problem. My students were building scale models of dog houses and cat condos that they had designed—and would ultimately build—to donate to a pet-adoption event later that spring.

To ensure every student had a partner, we needed to pair up two boys, each of whom had a different scale model already in progress. One was designing his third iteration of a dog house; the other was three prototypes deep on a cat condo. I thought, “They’ll have to make a decision to go in one direction or the other—we can’t build both.” Would two months of preparation be derailed? Would they be deflated? Would they argue? They discussed the options and pitched their decision to me. “It’s a combo, not a condo,” they said—a dog house with a cat condo on the roof. For me, this is an epiphany. I try not to wonder if anyone will take it at the adoption event. They are ten years old. They believe in it and so will I. It’s an original idea born from unexpected changes.

But there’s a problem, they tell me. Their plans don’t align. His cat condo design uses a half-inch scale. The dog house was designed on a one-inch scale. How will they combine them? The mathematical concept of scale—a key standard we are learning through this project—is new to them. I watch

them work it out. One is now convincing the other: “It doesn’t matter, as long as we read our scales right, the combo will come out right.” His partner is not convinced and wants to redesign the entire thing on the same scale. From a distance, I sense myself agreeing—better to have one set of plans on the same scale, I think. But I give them space. They make a decision: If they read their scales accurately when they measure their wood, the combo will still come out correctly. They don’t need to remake their plans—they need to accurately apply the mathematical concept of scale, and their motivation to do this comes from the authenticity of the project.

This type of moment has repeated itself in the many construction projects I’ve undertaken with students. Over the years, I’ve come to realize that construction-centric projects lend themselves to three important instructional approaches that serve students’ motivation and learning: authenticity matters; prototyping and critiques lead to deeper learning; and construction is a powerful way to bring math to life in the real world.

Authenticity Matters

Construction-centric projects foster profound learning experiences for students of all ages. This is especially true for elementary students who are experiencing important milestones in developing their academic identities and sense of themselves. In these projects, they have the chance to apply their nascent understandings in math, science, and reading, as well as deeper learning competencies of collaboration, communication, and self-directed learning, to a real-life issue. This is exciting for them. Authentic construction projects can alleviate student hesitation and replace it with genuine enthusiasm and determination. The two students who combined their dog house and cat condo plans didn’t fall apart when asked to compromise, and they didn’t run to me when they discovered a legitimate challenge; they relied on their ingenuity and intellect and developed their collaboration and communication skills.

When a teacher introduces an authentic project with an expected level of independence, students are positioned to become more self-reliant and more collaborative. When you as a PBL teacher are guiding a group of students through a design and build project, you’re trying to meet them at their zone of proximal development. In this situation I wanted the two boys to figure it out on their own, which direction they’d go (dog or cat), because I needed both of them to be intrinsically motivated. Construction-centric PBL requires teachers to trust in their students’ ability to rise to the challenge of developing an authentic product. It’s also a reason to have design teams and not design individuals. Alone they know much less than in groups; someone usually has a solution, or at least believes they do. In this case, their animal shelters were being donated to adoption centers as gifts to people in the community who were adopting pets. They would live on in families’ living

rooms and back yards—so they had to get it right!

In an authentic construction project with original plans, there are many important challenges that need to be resolved. Construction-centric projects typically require collaboration because students will likely encounter problems along the way. Most students and teachers quickly realize they are more likely to solve these problems by collaborating with peers. They need each other at all stages of the project, from the initial design through production.

These process and design discussions can at times get contentious among students, but that's actually ideal. What looks or sounds like contention within a student group grows from their passion and engagement, and creates teachable moments. How should it sound when students collaborate on something they are all passionate about? These are discussions to have with your students! Through years of navigating these conversations and advocating for their resolution through authentic PBL, students learn to grow into articulate young adults who can talk out their challenges and work together.

Over the past 12 years, my students have built owl condos, dog houses, kitty condos, pergolas, cigar box guitars, and a full-scale “American Ninja Warrior” course designed for our school’s playground. In each case the product being created had a tangible purpose students could embrace. Construction projects focus each student’s learning on a worthwhile endeavor that contributes to the well-being of people or animals. For instance, the owl boxes offered a natural way to address a rodent overpopulation issue in the environment around our school. Constructing animal habitats necessitated research into safety and creature-specific needs. This motivated students to become subject-matter experts, which they leveraged to compose research-driven persuasive letters, informational brochures, and books, and to secure funding for materials. The dog houses and kitty condos served as heartfelt, useful gifts for families adopting pets from local rescue shelters. The pergolas protected and supported what ultimately became a California Certified Monarch Waystation, and our functional cigar box guitars filled students with the joy of music and song writing. The colossal Ninja Warrior Course delivered excitement and vital physical activity to all students in the school.

In each instance, students had to learn the subject matter to complete real projects that met actual needs in the community, and the process of doing so created countless teachable moments. Each of these projects had a life, a purpose that went beyond the semester. This reality helped to nurture motivation, collaboration, and ingenuity among the students.

Consider how authenticity mattered in another project in which High Tech Elementary students built wooden storage boxes for children in an



Above: Students carry lumber to their in-progress dog house and cat condo construction projects.

orphanage in Tecate, Mexico. Each student became buddies with an orphan, wrote letters to them, and discovered they had a need for a box that would fit under their beds where they could keep their personal items safe. Under their beds was the only space these orphans had to themselves. The fifth grade HTe design teams visited the orphanage, took measurements of the space under each bed, and created plans to build a wooden box with a secure lid that would fit under the beds of their new friends. At this point, the students are no longer just building a wooden box. It's the most important thing they can imagine, and their letters back and forth to the orphans took on a whole new meaning. Now that's an authentic reason to build and write something! It's the "why" that motivates and leads to problem solving and collaboration, which induces ingenuity and helps foster deeper learning.

Prototyping and Critiquing

Essential, vital, and engaging—prototypes and critiques are the business of deeper learning, and construction-centric projects are ripe with opportunities to practice both. Developing a critical eye requires learning about the subject

matter, and offering peers impactful feedback requires using a shared language to communicate one's thoughts. Prototypes are also critical to refine work as students progress.

The process of designing and building anything from scratch is ripe with opportunities for peer critique and prototyping. I like to start classes off by developing a sketch of what their product—say, a dog house—might look like. From sketches we move to simple three-dimensional miniatures made from cardstock and tape or glue. Then, we do our first critique of these prototypes. There's no scale yet, no parameters given—students solely focus on questions like, “How big is it?” “Is it okay to have a window?” “Does it have to have a roof?” But as they begin to critique each other, they realize the need for a shared language and clear parameters. As the teacher I am ready to answer questions about discipline-specific language and academic vocabulary. Day by day, I carefully use words like base, floor, leverage, scale, wedge, etc.

We can teach our students to give impactful critiques by modeling these for them. EL Education Senior Advisor Ron Berger teaches that a good critique is kind, helpful, and specific. Always start with the positive (the kind): “I love how your edges are square and all your screws are flush with the wood.” After the positive, offer a helpful and specific explanation of something the student believes will improve the product. “My concern is that your center 2x4 has a small crack and might not be able to support the walls. I think you should replace it before you move forward.” The first part of this comment is a helpful notice, but it's the part about replacing the board that counts as specific. Students are usually good at noticing something that might be helpful, but as a teacher, I push them to explain specifically what they think the group should do to accomplish it. This process shouldn't take more than 10 minutes, and I might choose two students from other groups to critique one piece of work to show the rest of the class what to do. Lastly, I help the students understand that they are not required to accept others' suggestions; they can just say, “thank you, we'll think about it.” Students rarely overlook a good suggestion, though. Most love to offer a critique and equally enjoy getting one because their work is complimented and their product tends to improve.

We model and critique everything, including “drill practice” or “saw practice” sessions to learn to use tools safely and effectively. We began full-scale construction after several rounds of critiquing blueprints, scaled versions, and balsa wood prototypes. Finally we build the full-scale bases, a platform that provides a floor and supports the walls of the dog house or cat condo.

The bottom line is that the process of creating anything should require the class to stop and analyze each component to see what is working and what we need to question. Should one group get ahead of the others, use the



Above: A student shares her learning at the “Cause for Paws” project exhibition.

opportunity to critique their work as a whole class. It’s not necessary that the work be accurate or even exemplary. We focus on the process of students determining what works about it and what needs improvement. This collaborative process helps all the groups figure out what to fix themselves or what to try and get right at the next opportunity.

Construction Is a Powerful Way to Apply Math to Real Life

Finally, construction-centric projects are wonderful for teaching the extensive array of math standards essential for both project and academic success. In order to create to-scale blueprints that accurately convey their hopes and dreams for a product, students must learn geometry, measurement, mixed numbers, fractions, converting fractions, equivalent fractions, scale, and how to translate two-dimensional blueprints into three-dimensional prototypes. Measurement systems are a fifth grade standard. Understanding how to draw a two-dimensional net that folds into a three-dimensional prism is definitely at the zone of proximal development of most fifth grade students, and it too is a fifth grade standard. I usually start there as I get the design groups ready to develop blueprints. All of the construction-centric projects require precise

measurement (to the sixteenth of an inch) in order to engineer 90-degree angles on rectangular prisms and 60-degree angles on triangular prisms, both part of building a dog house.

During construction phases, I will cut wood that I know for a fact students have measured incorrectly. I want them to see the results of inaccurate measurement on their products. However, I won't do this for too long; these problems are typically fixed in the early critique sessions, and students become much more motivated to understand rulers and measurement.

Cylinders were vital parts of the cat condos, as they secure the platforms these animals enjoy hopping around on. However, I loved that some of the groups moved away from using cylinders, because they determined by trial and error that in some instances a long rectangular prism was more stable, easier to securely fasten a platform and just as effective once rope was wrapped around it to create a scratching post. They were using geometric vocabulary as they compare shapes like prisms and cylinders, all of which need to be measured accurately down to the fraction of an inch for the best outcome.

Elementary educators know the importance of using manipulatives to teach math. In their early years, students may use their fingers (and toes!) and then progress to tiles, base ten blocks, dominoes, fraction tiles, and more. Construction projects also provide authentic manipulatives for students to explore, understand, and deeply learn a range of math content and skills. Rather than Unifix cubes, a good tape measure and an understanding of how to calculate volume provide real-world manipulatives in a building project. Construction and measurement tools make abstract concepts concrete, and in the context of a construction project, help students achieve mastery. After all, if they are measuring, cutting, and fastening wood together to achieve a specific angle, they will quickly see if their math is correct when they begin to build their unit.

Enthusiasm and Profound Learning

In all of these ways, construction projects not only infuse a sense of genuine enthusiasm in students, but also engender profound learning experiences in the realms of authentic learning, prototyping and critiquing, and achieving crucial math standards. And what happened to the boys who made the combo? They did build a dog house with a cat condo on top, and it came out beautifully, because they correctly used different scales (although not without a few hiccups) for each portion of their build. At the project exhibition, families met animals they might rescue and also perused student-built houses they could take home along with their new family members. The combo was among the first animal shelters selected by an adopting family. The family was all smiles. So were the students.



Above: Student-made display of rockets in a hallway at New Century School in St. Paul, Minnesota.

Classroom Design for Busy People: Make a “Tribute Wall”

*Brad Blue
New Century School*

As a new teacher, I faced the same dilemma every fall: What to put on the walls of my classroom? On the one hand, I didn’t want to clutter the space with posters that had no meaningful connection to my new students. On the other hand, bare walls can feel sterile and unwelcoming—a classroom is meant to be a shared learning space, not an Apple Store.

Those early days of worry and anxiety are behind me, because now, every wall in my classroom is a “tribute wall,” covered with displays celebrating past exhibitions, competitions, and artifacts of student learning. I call them tribute walls because each display is a tribute to a now-finished project.

The walls are engaging and memory-rich, evoking not just the triumphant conclusion, but also the messy middle of the design process. Students are able to share their learning with others by referring to artifacts that have meaning and memories associated with them. The tribute walls also serve to introduce my classroom to families, future students, and visitors from the community. Visitors say things like, “My sister was on that team!” and ask questions about how the artifacts worked.

I didn’t come up with the idea of a tribute wall (though as far as I know, I did come up with the name). I was inspired to create them after visiting the headquarters of Medtronic, a health technology company. I was impressed

by their display walls showcasing medical devices that now seem primitive, as well as nanotechnology that anticipates the future of health care.

In my teaching, I use tribute walls as references, providing models that demonstrate various simple machines (inclined plane, pulley, lever, etc.).

The artifacts emerged from ideas, and the tributes afford opportunity to remember and share these. The corporal presence of stuff elicits observations and questions. Opportunities are created for students to tell their stories—and they are so proud of their work. Maybe that pride and student voice is the elixir that makes an artifact a tribute.

Some of these tributes went up in under an hour. Others took far too long. To provide you with inspiration (and some “how-to” advice) I highlight two student-designed tributes that were learning-rich and (fairly) easy to create.

Tribute 1: The Engineering Machine Design Contest

This tribute captures work produced for the Engineering Machine Design Contest (EMDC), a regional competition in which my students took part.

In the EMDC, teams of students work to build a low-cost, theme-based machine, and compete against other teams from Minnesota, Wisconsin, and Iowa. The maximum size the machines can be is 5 ft x 5 ft x 5 ft, which means that once the competition is over, a machine can be disassembled and displayed in a way that explains both its design and design process.

The photo on the facing page shows a student team (they called themselves “Team Peace”) building their machine for the EMDC. The theme of this year’s competition was Energy, and Team Peace designed a machine to establish secure and independent energy sources for Ukraine.

After the competition, Team Peace disassembled their machine and decided which components were most important to display. They also figured out how to work within the available display space.

Before the installation, students set up a “dry fit” in which they arrange the components as they will be displayed, without using adhesive (which means they need to lay pieces down on a horizontal surface before hanging them on a wall). The dry fit is critiqued by peers, staff, and other experts, and students make adjustments before moving on to the permanent installation.



Above: Team Peace at the EMDC



Above: Team Peace's Tribute Wall.

Tribute 2: Annual Day at the Launches

Annual Day at the Launches is the culmination of an engineering project in which students design and test prototype paper rockets, and ultimately build rockets propelled by solid fuel. Because we are located in Minnesota, this event usually occurs in May, after the snow and ice have melted and state testing is in the rearview mirror. Assessment is simple: Were the launch and recovery successful?

The tribute wall is a combination of rocket drawings (for example, fin design and placement), data collection, prototypes, and actual rockets launched.

For the tribute walls, students choose what to display in order to tell the story of their design process, from initial drawings to flight-ready rockets. Over the years, students have chosen to display the rockets themselves, as well as paper prototypes, data collection documents, and photographs they used for inspiration.

On the following page (p. 20) you can see a tribute wall created in a hallway, and one in a computer lab. We mounted the rockets on the fin alignment guides that students used to make the rockets.



Above: A student with his rocket at Annual Day at the Launches.



Above: Hallway tribute wall.



Above: Computer lab tribute wall.

These projects are hard to do. Every year there is a certain amount of chaos, and a lot of failure—a necessary part of the iterative design process, but it’s still hard for the students (and me!) to deal with. And so, every year I think, “Do I really want to go through all that again?” The tribute walls remind me how much the students learned in previous years, and give me the energy I need to do it all over.

For further inspiration, I re-read Ron Berger’s book, *An Ethic of Excellence: Building a Culture of Craftsmanship*, and visit High Tech High in San Diego (especially in the midst of a Minnesota winter).

And every year, the repository grows and new tributes fill the walls, drawing former and future students into the warmth of their learning—places of past celebration and future possibility.



Above: Dan Allen, art teacher at High Tech High Media Arts, conducts a model critique with his students.

How (and Why) to Start a Project with a “Model Critique”

Unboxed Staff

“We critique and discuss what makes the work powerful: what makes a piece of creative writing compelling and exciting; what makes a scientific or historical research project significant and stirring; what makes a novel mathematical solution so breathtaking.”

—Ron Berger, *An Ethic of Excellence*

What is a “Model Critique” and Why Do It?

A Model Critique is a lesson in which the class analyzes and identifies what is valuable (or just “good”) in a piece of work that exemplifies something that they themselves will make in the course of a project. This gives students a clear vision of what they are aiming for in the project.

In other words, the class is identifying the “elements of quality” in the model as a criteria list, which the teacher can also use to create a rubric if desired.

The purpose of a “model critique” is threefold:

1. To provide students with an inspiring vision of their goal to hold in their minds, and refer back to, throughout the project.
2. To identify the “elements of quality” in the model—in other words, to

figure out what makes it good (and, by extension, what they will need to do in order to make something like this). Identifying these “elements of quality” in their own words is the first step in the process of turning the model from a seemingly-unattainable goal into something achievable for every student.

3. To practice the art of critique in a relatively safe environment. This includes both analytical skills (isolating the different elements that go into making the product) and social skills (for example, when critiquing a model, if a student is less than respectful about the work, the teacher has an opportunity to clarify and reinforce norms before students start critiquing each other’s work!).

When should I do a model critique?

Do it right away. Definitely within the first few days of the project. In fact, a “model critique” can be a great way to launch a project! By doing a model critique early in your project timeline, you increase the odds that all students know what they are learning, making, building, and doing, and how to collaborate with others to do so.

How do I choose a model?

The simple answer is that the model should be as close as possible to what you actually want students to make. It might be something made professionally, something that a student made in a previous year, or something that the teacher made.

Model Critique Sample Agenda

1. Students look at the model

Depending on the model, it may make sense for students to do this individually (for example if they’re reading something) or as a group (for example if they’re watching a film or examining an artwork).

2. Students answer specific questions designed to draw attention to specific aspects of the model, in order to identify the specific qualities that make the model “good”

Suggested questions for your first model critique:

- What makes this sample stand out as high quality?
- What specific principles or standards can we take from this for our class?
- What do I see here that I definitely want to include in the one that I make?

- What (if anything) do I see here that I want to do differently in the one that I make?
- What will I need to learn how to do in order to make something this good?

No matter what your students identify, teachers should ask, “Why?” or “What specific part stands out most to you? Show us!”

Suggested follow up questions for later model critiques or in small groups:

- What about this model is compelling or beautiful?
- Would professionals look to this work as a good example?
- What makes this example stand the test of time?
- What design elements are important in this format and genre?
- What is an important part of this piece that really contributes to this model’s overall success? (i.e., in a documentary, is it the interviews? The b-roll? In an engineering project, what specific components stand out and why?)

Note: Don’t feel the need to use ALL these questions in a single critique session!

3. Use this to create a list of elements of high quality work for that genre and format to set the standard for the work the students will create.

As much as possible, use the language that students use themselves in their critique in creating the criteria list to help them own the list as their creation.

This may include some “scaling down” from the model. For example, if a model research study includes fifteen interviews, the class might decide that a good standard for their work will be to include four interviews.

4. After the session, the teacher—possibly with student help—distills the list of elements of high quality work in that genre and format into an easy-to-read, one-page checklist.

If you have access to a “plotter printer” at your school, print this out and stick it on the wall! Or, just write it on an anchor chart, whiteboard, or chalkboard, so you can refer to it, or update and revise it, as the project progresses.



Above: A student completes a construction project at High Tech High Media Arts

Can I Let the Kids Decide What to Make?

*Alec Patton
High Tech High Graduate School of Education*

*Ron Berger
EL Education*

Ask Dr. Project is an occasional feature on the Unboxed website in which we respond to teachers' questions about project-based learning.

Dear Dr. Project

It seems restrictive to tell every kid to make the same kind of product when we're doing a project. How should I decide what parts of the project can be flexible and which are non-negotiable?

Usually when teachers are designing a project, they either make the type of content non-negotiable or the type of product non-negotiable.

Here are three examples to give you a sense of what I mean:

Non-negotiable content with a flexible product

Students share their learning about the Industrial Revolution through any creative form they choose.

Non-negotiable product with flexible content

Students make a 5-10 minute "This American Life"-style podcast that tells a compelling story of their choosing.



Above: A student works on a draft of an a math project at High Tech Elementary Explorer.

Content and product are both non-negotiable

Students make a five to ten minute “This American Life”-style podcast in which they play the roles of people affected by the Industrial Revolution, sharing a believable story from that time and place.

If you only take one thing away from this answer, let it be this: *I strongly encourage you to make the type of product non-negotiable.* For example, if you’re making videos in your project, students should make videos. A kid who really wants to make a comic book can make a comic book in addition to the video, but not instead of the video.

There are six reasons for this:

1. “Project-based learning,” to state the obvious, means that students are learning “based on” a project. Developing a product over the course of multiple drafts is normally the driving force of the project, which means that a great deal of learning is going to occur through the process of making the product. If students are all making different products, it will be very difficult for you, as a teacher, to ensure that learning is taking place.
2. Projects should be, in part, lessons in quality and craftsmanship, and craftsmanship is specific to a medium. A well-crafted song is very

different from a well-crafted table, and takes different skills and understanding to create.

3. Students need models. If they are all using the same project format, it is possible to provide them with one. If they are all using different project formats, how can you find, present, and analyze with students multiple examples of a quality product in every format?
4. Students should meet experts and be inspired and critiqued by them. If all students are creating an essay, a writer can be the expert; if all students are creating a scientific report, a scientist can be the expert; if all students are drafting blueprints, an architect or engineer can be the expert. If all students are using different media and formats, it's almost impossible to arrange expert guides for the work.
5. When students are all making the same type of product, everyone's emerging expertise can help everyone else, both through formal critique and informal support. A critique session in which three students review each other's draft videos is rich in opportunities for learning and development. A critique session in which one student brings a short story, one brings a video, and one brings a comic? Not so much, because they will struggle to know what to focus on and how to help each other.
6. Every product has its own requisite materials and production timelines. Even the best PBL educators will struggle to manage several different schedules and materials requests. Class will flow much more smoothly if everyone is using the same materials on the same days.

These are all reasons I recommend that you choose a product for your project, rather than leaving it up to each student to choose their own. However, you don't need to come up with the product by yourself! There are hundreds of models you can choose from and adapt. To get started, take a look at the Project Cards on hthunboxed.org.



Above: Students at High Tech Elementary draft art pieces for a book about the National Parks that they published.

What if Kids Just Copy the Model?

*Alec Patton
High Tech High Graduate School of Education*

Dear Dr. Project

I have a question about “model critique.” What if I share a model with the students at the start of the project, and students just copy the model?

The answer to this question is, literally and precisely, “I’d like to see them try.”

Once again, I mean that literally and precisely: one of the basic concepts of project-based learning is that students will learn a tremendous amount by attempting to copy a model.

I sense your skepticism, so let me clarify: if you’re assigning simple, rudimentary work, like, say, a fill-in-the-blank vocabulary worksheet, copying is a problem. This is because copying a filled-in worksheet is fast, has a low cognitive demand, and you don’t learn anything from the experience. So a teacher who’s giving out a lot of fill-in-the-blank worksheets needs to police copying very closely.

But let’s say the assignment is to shoot a short film, and a student shoots a shot-by-shot recreation of the first scene of *The Godfather*. Copying a film scene shot-by-shot takes a long time, requires serious thought, and thus, you learn a huge amount from doing it. Similarly, this is why if you go to an



Above: A student shows the process of designing and building a dog house at the High Tech Elementary project exhibition.

art gallery, you will often see art students painstakingly drawing copies of artworks in their sketchbooks.

So create assignments for students in which, were they able to copy it, you'd be astounded by their achievement.

OK, fine, I'll buy that. But what about creativity? I still think if I share a model with the students I'm telling them "this is what you should make" and limiting their potential to do something unique and special!

I asked the educator (and critique expert) Ron Berger about this. Here's his reply:

We all learn by copying. Imagine that you as an adult want to learn something new— perhaps Spanish, or yoga, or guitar. How would you start? You would find a teacher, in person or online, or on a YouTube video, and you would start by copying what they did—copy their pronunciation, their yoga poses, their chords. That's how we all start learning. We don't start by improvising. We shouldn't be afraid of students beginning their learning through copying.

In other words, when students study models, they aren't just learning how to make the thing that's being modeled, they're learning a learning strategy that will serve them for their entire lives.

OK, but if I watch a yoga video and I think “I don’t like the way the teacher did that move” I go and find another video. What if a kid says “I don’t want to make something like this model”?

First of all, it is wise to have a range of models for students to consider. You may analyze one of those models deeply with students to develop criteria for quality in that format, but having other models as well with different approaches to the format is good practice. Also, encouraging kids to find their own models is an awesome idea! You, as a teacher, just need to make sure the model they choose will allow them to learn what they need to learn. For example, if students are writing graphic novels, and one of your goals is for them to learn to write dialogue, then it would be a problem if a student used a wordless graphic novel as their model!



Above: A student documents peer roles in a project.

A Simple Way to Help Reluctant Students Start Asking Questions

*Aneesa Jamal
Universiti Teknologi Malaysia*

There is no such thing as a stupid question,” announced Prof. Riddell. I had just joined Smith College as an undergraduate and this was my very first class. “Yeah, right!” I muttered to myself, disbelievingly. All through my schooling in India, the one thing I learned was to not ask questions. Questions derail the smooth flow of a lesson’s delivery, taking it into unforeseen territories and uncharted waters. More importantly, it is the teacher’s prerogative to ask questions; the student’s job is to answer. We would sneer at an overenthusiastic peer who asked too many questions. “Stupid question, duh!” “Buttering up the teacher.” “It’s not even going to come on the exam!” we’d groan. The message—questions are not valuable; they are just a nuisance. The only acceptable questions to ask in class were procedural—those relating to assignment deadlines, coursework, or tests. But Prof. Riddell seemed to have different ideas.

If Smith taught me to be tolerant of peers asking questions, my career as a progressive educator made me realize that student questions are what drive deep and meaningful learning. Questions are the outcome of curiosity and wonder (Chin & Osborne, 2008; Demirdogen & Cakmakci, 2014). Questions give students control over their learning and are a way for children to make sense of their world (Biddulph et al., 1986; Lee & Barnett, 2020). Generating questions builds creative and reflective thinking while also honing problem-solving skills (White, 1977). Posing questions is

a form of problem finding that should lead to meaningful inquiry (Brooks & Brooks, 1999). Questions also reveal a child's understanding and possible misconceptions (Baram-Tsabari et al., 2006; Falchetti et al., 2007). It is therefore crucial to intentionally create and foster supportive environments where student questions are encouraged (Sengupta et al., 2020).

In 2009, I started a tiny constructivist school called Al Qamar Academy (you can learn more about it [here](#)). The teachers and I worked hard to create an environment where students could and would ask questions. Our science workbooks included a section for jotting down questions. Unfortunately, children viewed this exercise as a chore and rarely wrote anything meaningful. We put Question Boxes in classrooms, where shy students could simply write questions that struck them and pop them in. Sometimes we got a jewel of a question. The query “Can we hear sound?” led a fifth grader to investigate synesthesia and present her learning at the school's open day. But, if truth be told, the Question Box was frequently empty. We created a class called Self-Directed-Learning (SDL), where students came up with a broad question and conducted independent research to answer it. SDL derailed when we realized that students were deliberately asking shallow questions to avoid the work that would follow. What became clear was that students didn't know how to translate their curiosity into a question. Our constructivist project had hit a roadblock: students were not yet convinced to take part in the construction! At that point, we were not aware of more formal pedagogical approaches like the Right Question Institute's QFT method to teach the art of asking questions. I wondered if there was a way to stimulate children's interest so they would generate genuinely curious questions.

About this time, I got involved with a project jointly conducted by a researcher from the Homi Bhabha Centre for Science Education (HBSCE), India's premier STEM education research institute, and Sawaliram, an initiative by Indian scientist-educators to create an online repository of children's questions. The goal of the project was to document the questions children were asking in classrooms across the country, classify these and create a databank which would, among other things, inform curriculum development. I had just started collecting questions when COVID-19 hit. Forget questions—even basic class interaction stopped as students were muted behind their profile pictures in our online classrooms. That's when I had a brainwave.

I started an activity that I called the “Weekly Video,” in which fifth–eighth graders watched a short video selected from websites such as The Kid Should See This or Byrdseed's Curiosities & Puzzlements, and jot down all the questions that occurred to them. That's it. Sweet and simple. No further work, no research project, nothing. Just watch a video, let the sense of wonder and curiosity flow, and post the questions in Google Classroom. Each week, I would anxiously await their submissions. And I was truly surprised by

the plethora of questions the students came up with. These were genuinely curious inquiries—the ones with the “why,” the “how,” and the “what if.” Even better, the majority of students were participating in this optional assignment.

I remember one particular video which typified the process. The video, called “Vancouver Island Hummingbirds,” shows these tiny creatures flapping around a girl who is standing absolutely still. The birds seem to have no fear of her. One or two dart in to feed from the container she is holding. For some reason, this video really fascinated the children. It challenged mental models about how birds fly and extended their thinking about the mechanics of flight, feeding, and bird behavior. “How do hummingbirds stay suspended in the air?” “What makes them flap their wings so often?” “How do hummingbirds move?” “Why do they have such a long beak?” Upon analysis, I found that one group of questions related to observation—“What’s the girl feeding the birds?” Or, “What’s in the bowl?” Other questions went deeper: “Why are only a few birds drinking, while the rest just flap in the air?” Some questions were inferential, like “How did the birds trust the girl to come up so close?” while others involved perspective-taking. We got a load of questions that would have made for fantastic inquiry.

As an educator, perhaps the most thought-provoking questions in this year-long process were those that challenged my choices, such as, “Why did our teacher show this kind of a video?” These questions forced me to examine my assumptions about children’s responses to the videos. Such questions also challenged my notion of what are “acceptable” or good questions. As a constructivist educator I had spent time discussing open-ended and closed questions. I had taught the students to use the five W’s and one H (who, what, where, when, why, and how) when constructing questions. I had often asked them to explain why they were asking a certain question or what connections they saw to the topic at hand. How would I have reacted to such challenges in an in-person classroom setting? Would such questions have even been asked? Was our class culture one where children felt pressured to channel their curiosity into the “right” kind of open-ended questions we normally encouraged? These realizations were important for my personal growth as a progressive educator.

We kept posting videos throughout the year on a range of topics, including animals, places in the world, scientific phenomena, the history of tramcars, and chocolate making. In selecting videos, I tapped into my own sense of childlike curiosity to select shorts that filled me with wonder. I mixed and matched topics, taking care not to repeat the same one too frequently. I also ensured that each video was really brief. Given that this was a one-way street, where children asked questions that no one answered, I took care to avoid controversial videos that required deliberate class discussion to process. Questions came pouring in. At the end of the year we had close to 800

questions across about 20 videos from a cohort of 40 fifth–eighth graders. Select questions were uploaded on the Sawaliram website and some were answered by experts. Unfortunately, Al Qamar shut down in 2021, and I have no way of letting all those kids know that their beautiful questions are being answered, inspiring teachers and shaping how pedagogues think about curriculum making.

So what was it about this experiment that inspired the kids to ask questions? One possibility was the lack of pressure: simply watch a funky video that only required them to shoot off questions without worrying about having to follow them up with more work. Zero expectations from the educators. Another possibility was the brevity of the assignment, which took just 5–10 minutes to complete. A third possibility was that the videos were watched in the peace and quiet of the student’s home, rather than in a busy, active classroom. Fourth, there was the anonymity of the question-asking process—each question was posted as a private submission in Google Classroom and kids did not have to worry about their peers’ comments.

It is only apt that this article concludes with niggling questions that remain with me till today. One, how could the richness of these questions have been harnessed to drive meaningful inquiry? Two, what is the impact on a child, when their curiosity is not satisfied? I mean, we had collected all these questions, but provided no answers or opportunities for inquiry. Had I neglected my responsibility as an educator? As a counterpoint, I wonder: does every valuable question a child asks have to drive formal inquiry that we educators can observe, track, and assess, albeit formatively? Isn’t the practice of being curious and asking questions of value in and of itself? Wouldn’t the questions—or at least, some of them—lead children to genuinely independent inquiry whether or not their teachers were aware of it? And isn’t that ok? It is perhaps appropriate that I am left with more questions than answers, but I do have one concrete piece of advice: Watch the Vancouver Island Hummingbird video with your students. I wonder: What will they ask?

How to start your own “no stakes” question routine

1. Use a website that offers a curated collection of kid-appropriate videos—don’t just trawl YouTube. I used *The Kid Should See This* and Byrdseed’s *Curiosities & Puzzlements*.
2. Keep the videos short (under five minutes).
3. Make it a predictable, weekly event.
4. Make sure students can submit questions directly to you, without their peers seeing. This allows them to preserve anonymity within the class while still allowing you to see who is asking which questions.
5. After a few weeks, start sharing interesting questions with the class (anonymously, of course). This will help everybody to develop their inquiry muscles.

6. Resist the urge to turn these questions into a project, at least initially. The whole point is that this is a “no stakes” activity! Later, when questions are being routinely and easily generated, the students can discuss what needs to be done about them, if anything. Let them decide.

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Above: A student observes dry ice in their science class.

Lesson Launch: The Wow Factor

Michelle Jaconette
High Tech High Teacher Center

Much like a movie's opening scene, the launch of a lesson should grab everybody's attention, spark curiosity, and get students asking questions.

Also like a movie scene, lesson launches are not a one size fits all concept. They should be thoughtfully designed to fit the needs of the students and the goals of the lesson. That being said, there are a few tried-and-true launch styles that teachers can rely on. In this piece, we focus on "The Wow Factor."

What is the Wow Factor?

During the launch of one lesson series on hip hop dance techniques and choreography, I decided to start by showing my fourth grade students a video of kids their own age performing a hip hop dance battle on a playground.

Immediately my students started asking questions. "Are those kids professionals?" "Are we going to dance like that too?" As they continued watching, the excitement in the room grew: "I could do that!" "When do we get to start?" Having the kids immediately interested and engaged in the content made it so much easier to get through some more of the technical aspects of dance theory—at any point we could refer back to the video to remind them what they were working towards.

One thing to note about the wow factor is that it doesn't necessarily require a whole lot of work. A wow factor could ask students to examine a mystery object, observe a scientific phenomenon, or discuss a thought-provoking question. The point is to ignite a spark of surprise or curiosity, setting the stage for focused learning.

Why does the Wow Factor work?

There is a reason why we remember the most exciting, surprising, and unusual moments in our life—they leave a lasting impression because they disrupt everyday routines and grab our attention with something new. The same is true in the classroom. Launching a lesson with the wow factor instantly shifts students' mindsets, drawing their attention to the learning at hand. When learners are intrigued, their curiosity kicks in, driving them to ask questions and seek answers—the results all teachers hope for when crafting a lesson. Furthermore, the emotional connection to the wow factor helps students solidify information. When learning can be tied to a strong emotional experience, it is more likely to stick. This type of lesson launch also appeals to a variety of learning styles, and gives students a choice of entry points into the lesson by offering kinesthetic, auditory, or visual modes of learning.

What does the Wow Factor look like in the classroom?

Perhaps your costume box is a little lacking, or your bubbling beakers are all in the dishwasher—that's okay! Launching a wow factor lesson does not always require elaborate costumes or flashy demonstrations. Here are five examples of wow factor launches that can be easily implemented in any learning space:

Place a mystery object on a table at the front of the room and let students discuss what they think it is and its significance to the upcoming lesson. In a history class, this could be a map or a primary source letter, sparking curiosity about the historical period or event you'll be discussing.

Play an interesting video or sound clip that relates to the topic of the lesson. Come up with questions to ask your class about the video to get them discussing how they think it relates. In an ELA class, this could be a recording of a dramatic reading of a poem, or a scene from a movie. In a science class this could be a video of an observable phenomena that relates to the scientific concept being covered.

Pose a thought-provoking question or dilemma that sparks discussion. In a math class, this could be something like, "How can we divide a cake into eight equal slices with just three cuts?" Open-ended questions like

this encourage critical thinking and require students to make valuable connections that pertain to the broader lesson.

Open your lesson with storytelling to draw your students into the material using vivid, imaginative narration. In a social studies class, this could look like telling the story of conflicts that led up to the Civil War by introducing important characters, events, and mindsets.

Share a surprising statistic or fact that ties into the lesson topic. For example, in a health class, you could open with, “Did you know that humans shed about 40,000 skin cells every hour?” Students will be intrigued and more invested in exploring the topic further.

Bring the Wow into Your Lesson

The best way to connect your lesson launch to the rest of your instruction is to make sure it is directly tied to the learning objectives of the lesson itself. To keep the connection going and maximize the impact of the launch, the next phase of the lesson needs to begin to answer or explore some of the questions raised by the launch.

With our dance instruction launch, kids immediately started asking how to develop dance skills like the ones they saw in the video. This naturally led into a discussion about the different dance techniques and vocabulary terms they would need to know in order to eventually become dancers and choreographers. Because the launch was directly connected to the rest of the lesson, we could continually look back at what the students had seen in the launch video as both a reference and roadmap to where we were headed.



Above: Students at the High Tech High winter 2024 project exhibition model animal masks that they created.

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EMERGING ENTOMOLOGISTS



Emerging Entomologists

Sandy Giang

Miranda Colvin

Jamelle Jones

Kari Shelton

First Grade

High Tech Elementary North County

First graders worked as naturalists to connect the community to the ants that share our environment. Students engaged in the science practices through hands-on investigations in science and observed animals on campus, in our local community, at the zoo, and at the Safari Park.

With the support of entomology experts from Holway Laboratory at UCSD, students conducted research on local ants and contributed their findings to our scientific community. In the classrooms, students conducted research to learn more about local ants and communicated their understanding in an informational research journal.

Partnering with the San Diego Zoo Safari Park, students shared their knowledge about ants. They then applied this knowledge to create an interactive journal to engage guests at their exhibition. These projects, combined with collaboration with local experts, fostered a greater appreciation for ants within our community.

Teacher Reflection

This project was a great experience for both teachers and students. I did not know much about our local ants and through this project teachers learned together with the kids. The best part for me about this project was watching the kids transform their knowledge into games and interactive experiences for our guests at the Safari Park. We could truly see how much the students learned when they created their products that included facts, questions, diagrams, etc. To see our products, games, and our ant song, you can view them [here!](#)

—*Jamelle Jones*

Student Reflection

We studied ants because people don't really care about ants, but since we taught about them at the Safari Park, they cared about ants.

—*Bella*

People are walking across the ground and most people don't even notice ants! I used to squish ants and think they were annoying, but now I think they're really cool. We were doing science like actual scientists, like Scientist Ellie. And we can make major discoveries! We even worked with real scientists- that's the science we're doing, and it's really awesome!

—*Aiden W.*

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Graduate School of
EDUCATION



Craftivism
Gabrielle Gastelo
Tavin Perry
Tatyana Gray
Fourth Grade
High Tech Elementary Explorer

The heart of this project was activism through craft. Students learned about [issues] and chose a specific cause for their activism. In order to do this, they [talk about crafts], and wrote an opinion piece for a TED talk. They also sought to understand peaceful protesting practices. We aimed to foster empathy, critical thinking, and civic engagement by connecting the art of crafting with social awareness. By creating craft art pieces that take a stance on important topics, our students learned to express themselves while gaining a deeper understanding of the world around them. This project aligns with our broader educational objectives, promoting creativity, collaboration, and social responsibility.

Teacher Reflection

What makes our students special is their enthusiasm, curiosity, and resilience. Despite their young age, they were eager to engage with the world and make a positive impact. Crafting Change provided a unique platform for them to channel their energy into meaningful projects that contribute to their personal growth and the community. I saw our students not only develop as individuals but also become advocates for positive change in society, making a lasting impact through their creative expressions. Watching students become fully engaged with research was exhilarating. Students were able to choose their own “social issue topic” to research such as LGBTQ rights, homelessness, gun violence, police brutality, climate change, etc. Students were able to have the autonomy to research a topic that they can relate to, have a strong opinion on, and/or one they want to know more about. This project sparked some debate, as some colleagues believed students shouldn’t research mature topics like gun violence and police brutality. Our team worked diligently to provide accessible articles that match students’ academic and maturity levels. By prioritizing scaffolding for their needs, we saw increased student engagement.

—Gabrielle Gastelo

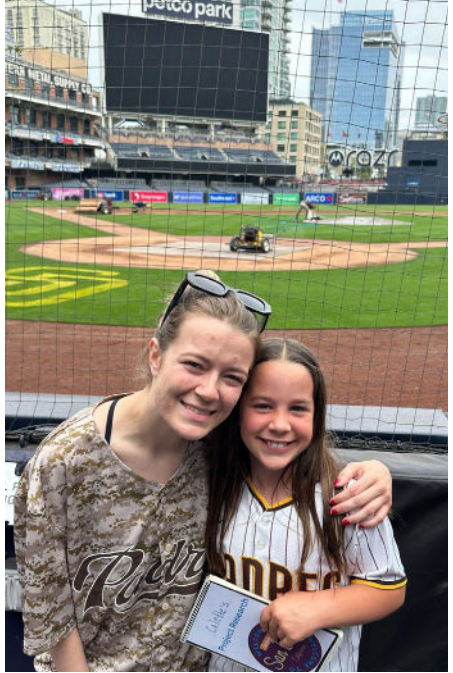
Student Reflection

I studied war and I made a very detailed keychain. The keychain said “what have we done.” It had a picture of the earth blowing up. I thought this was going to get a lot of attention. I learned that many activists have gone to the extent such as vandalizing and technically breaking the law to try to stop things like war. I learned that activism comes in many forms, speeches, graffiti, social media. Crafting was my favorite part of the project because I got to change things and do multiple drafts and get a lot of feedback and then I created the best version of my craft.

—Liam B

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welcome to **SUSTAINABLE SAN DIEGO**



Welcome to Sustainable San Diego

Alli Kludt
Tiffany Florio
Jordan Fields
Third Grade
High Tech Elementary

In this project, students visited various community partners including Petco Park, Olivewood Gardens and the San Diego Zoo to learn about their sustainable practices. Their learning included the importance of sustainability, waste management, conservation, and renewable energy. The two essential questions we aimed to answer through this project were: How can field trips to sustainable locations inspire others to enjoy and protect San Diego? How has learning about sustainability inspired you to be more sustainable in your everyday life? In our venture to be inspired, we teamed up with local non-profit Cans4Books to do a neighborhood clean-up at NTC Park. As a product, students made travel brochures in small groups featuring a geographical map of San Diego with the sustainable places visited and informational writing on how each practices sustainability and why they'd be a fun place to visit when in San Diego.

Teacher Reflection

One main takeaway from this project was the importance of the fieldwork basis of the project. It is much easier to teach a project from your own classroom and try to impart the “why” onto your students by bringing all of the learning to them, yet much more rewarding to bring students out into the community and provide real world examples of existing practices in the community where the “why” is more easily understood and students can learn through experience. This project held so much meaning for students because they were able to learn by seeing and doing as well as interacting with local experts and community members. Additionally, because they were able to see a different side of well-known locations around San Diego through the theme of sustainability.

—Alli Kludt

Student Reflection

It is important to be sustainable to help our earth. One way you can be sustainable is to reuse things like recycling old tires for plant pots.

—Jason V.

On our trip to Petco Park, we took the trolley to save on gas and learned about their solar panels that are the largest in major league baseball. They also have artificial grass to save water. You can go there to watch baseball and help the earth too!

—Zia H.

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Comic-Con Project
Jennifer Mason
Humanities
Seventh Grade
High Tech Middle Chula Vista

Students researched cryptids (legendary creatures) and then wrote stories to illustrate in a comic book. They visited the Comic-Con Museum to get inspiration and then took classes with Alonso Nunez of Little Fish Comics through a grant from PBS One Book One San Diego. Students learned how to write and illustrate comic panels, which were professionally printed and displayed for our winter exhibition. We invited volunteer cosplayers to attend including the archer from Brave, Professor Xavier, and Aquaman to create the convention feel of the night. Finally we had our presentations of learning combined with a comic book signing at a local comic book store downtown, Now or Never comics.

Teacher Reflection

We were lucky enough to be working with Little Fish Comic Books with a grant from PBS One Book One San Diego which kept the students engaged in creating professional comics. Writing a story and turning it into a comic were both creative and fun for the kids. What I wish I had known first was that for time and budget reasons, each student only had two pages of comics to create. That meant the story had to be brief, but still needed to have a setting, beginning, middle, and end. In the next iteration, I prepared students by having them write a “Flash Fiction” story of a maximum of 500 words and graded it for its story elements. We then made that story into a comic for sharing with the audience.

—Jennifer Mason

Student Reflection

I learned that I need to look deeper into my heritage and where I come from. And, that all those writers and artists that saved me from a dark place during quarantine, put a lot of work and effort into creating the beautiful worlds that they made.

—Alissa C.

My story can teach people to not be scared of things that you have not seen before, or don't understand. I learned I like to think of new stories, and I learned that drawing people is hard. I really liked this project because it let us be creative and am thankful we did it.

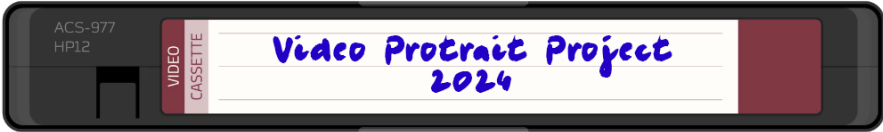
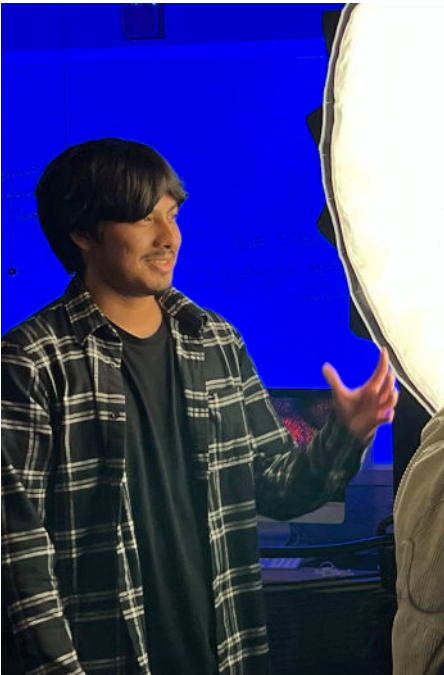
—Elijah R

I learned that if you rush to get your work done it won't look that good but if you take your time and work hard your story would make more sense and it would look cooler.

—Alessandro L.

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Video Portrait Project
Victor De La Fuente
Multimedia
Twelfth Grade
High Tech High Media Arts

Students created a digital video portrait of themselves using a personal poem written in their English class. The task was to find and show visual representations on the screen that are symbolically linked to the language of their poems and themselves. By incorporating lighting, costume, make up, choreography, gesture, text, voice, set design, and narrative) the video portrait was a complete synthesis of media that gave the audience an experience of how the students envision/perceive themselves through a written poem.

The medium was HD video but the form blurs time-based cinematography with the frozen moment of still photography. The video portrait is meant to be layered in meaning, where every aspect of its composition tells a story. Students infused references found in painting, sculpture, film, television, dance, and contemporary culture if it spoke to their poem. The final result on the monitor resembled a photograph, but closer inspection revealed more.

Teacher Reflection

The adaptation of a poem into a moving video worked well as a feasible creative constraint for the students. A poem embedded with figurative language allows students to interpret these into visual elements for the screen. Every element that a student can manipulate to be shown on screen becomes poetically charged and symbolic. Finding this interpretation within their written work helps them understand the deeper truths that can be conveyed with a picture, especially one in motion. The students allowed themselves to be vulnerable with their video portraits, especially being placed center stage of the work. In the next iteration of the project I would expand on how these video portraits are presented to the public. Larger screens, via a monitor or projection, would allow the audience to immerse themselves in these video poems even further. I would orchestrate a video installation with multiple portraits playing at once or in different compositions. The audience element would be explored more and enhance the exhibition experience.

—Victor De La Fuente

Student Reflection

This project was a wonderful opportunity to utilize the practice of filmmaking to examine my written words and to let my inner self express the conflicting feelings of grief and hope. My poem reflects the intense moments of metamorphosis that have shaped who I am while also bringing me to the conclusion of my adolescence, something that I have felt is worthy of a grieving stage. For my video portrait, this brought another balancing challenge between representing the end of what I have known and the beginning of something entirely new.

—Sonia E.

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Creatures Before Us

Michelina Francisco

Judy Nguyen

Brianna Dotson

Kindergarten

High Tech Elementary Mesa

During this project, students studied the Mesozoic Era. Each child became an expert on a creature through research and discovery. Students learned about the size of their creature and practiced measurement and comparison as well as explored different genres of writing including informational and opinion. Through peer critique and drafting, students put an emphasis on proper punctuation and sentence structure. They became paleontologists, archeologists and activists, studying fossils, living fossils and artifacts by doing many fieldwork experiences. Students learned about the importance of creatures of the past and present, their own identity and the impact they have on the world around them.

Teacher Reflection

During this project we learned to let ideas of both students and teachers flow. This was the first time our team designed our very own project and during the process we continued to be flexible and grow as the project unraveled!

—*Michelina Francisco*

Student reflection

At exhibition I was happy to tell people about Plesiosaurus, some of them were happy and scared because some of them thought that Plesiosaurs were still alive but I taught them that they were extinct. My favorite part was seeing my parents and showing them my book. I wrote about everything that we learned, and I was happy because I was all done and I wrote a real chapter book!

—*Charlotte W.*



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Fantastic Beasts
Dan Allen
Art
Eleventh Grade
High Tech High Media Arts

This project seeks to explore how humanity has identified with the animal kingdom, channeled the power of our fellow creatures through imitation, and built mythologies around the nexus between human and animal lives. We began our project by creating the inspiration for our final busts, using Photoshop. Each student took a picture of themselves and found an image of an animal online. Then we combined these images into a human/animal hybrid. Once our two dimensional instructions were created, students set about casting their faces in plaster and making Papier Maché busts of themselves. Using the images they made in Photoshop and the traits that were attributed to their animals, students added various materials to their busts creating the form of their Fantastic Beast. Then the creatures were primed and painted. During the exhibition, several busts were displayed with full bodies. Students collectively built these mannequins days before exhibition, as a method to explain the process of their project.

Teacher Reflection

Doing a semester-long project with eleventh graders can be a daunting task. I found that breaking up the steps and making each benchmark a deliverable, made for an engaging process. The students found something different in each task, and completing a long project showed them their growth in a very tangible way.

—Dan Allen

Student Reflection

At first, I had my hesitations about a semester-long project. I thought it would get boring over time and I would lose interest in it. However, looking back on it, and seeing the final outcome of my animal project, I have been able to realize that what we were able to do in a semester was pretty amazing. I really felt proud of what I was able to do with my project and it was really gratifying to see the fascinated, incredulous faces of visitors during the exhibition. It was that moment when we exhibited our projects and saw the steps that we took laid out right in front of me that I realized that we really did a lot. I was able to learn so many different things, from how to make masks and plaster positives, to learning about the color wheel and how to paint eyes. Overall, it was a really great experience and I'm really proud of what I was able to do.

—Deanna C.

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My Superpower: Humor!
Robin SANTULLI

My superhero's power is humor and I will explain that. Humor is helpful in many ways such as bringing joy and happiness to the world. I chose this power because whenever I do something funny it makes myself and others feel happy.

The person I am writing about is Robin Williams. Williams was active with a lot of charities, including The Comic Relief Fund and The Christopher and Dana Reeve Foundation, an organization founded by the late Superman star that is dedicated to curing spinal cord injuries. I also make donations to places! Humor can truly cure the world!

ROBIN WILLIAMS

Intelligence & Creativity
EDIE SANTOS

My superpowers are creativity and intelligence. I use these powers for good by creating things that may help in the future or entertain, and with my intelligence I answer other's questions when they need help.

A famous person who also had this superpower was Galileo Galilei. He proved that the sun did not revolve around the earth, but the opposite, he got in trouble with the Catholic Church and got placed under arrest for the rest of his life. He invented the telescope and the clock.

GALILEO GALILEI



Young Voices: Superkids Speak

Trevor Barton

Melina Aguirre

Clara Mesaros

Third Grade

High Tech Elementary Explorer

Students explored various forms of power through “The Power Book,” learning to harness these strengths for positive impact. They wrote reflections on their personal strengths, researched inspirational figures, and created fictional narratives where they portrayed themselves as superheroes resolving conflicts with their “superpowers.” This project culminated in a book signing with families and a gallery walk showcasing students’ artwork. Families were invited to engage in writing reflections alongside their children, fostering a deeper connection to the students’ insights and creativity.

Teacher Reflection

We were impressed by our students’ introspection and their capacity to reflect on their personal strengths, recognizing how to leverage these for positive impact. As a team, we valued the collaborative experience of creating a published book, which is now available on Amazon, allowing students to see their work in a real-world context. In the future, we aim to enhance our focus on editing skills, establish meaningful partnerships, and incorporate additional field trips to further enrich the relevance and connections of our projects.

—Clara Mesaros

Student Reflection

One thing that I like is that it was very passionate and you were able to get the meaning of power and how to use it for good. For example, if you have a good power, you don’t brag, you need to use it to make other people feel better and not worse. One power I discovered I am really good at is empathy and I use it all the time.

—Mason S.

In the power project, I did not think I had any special powers but then I realized everyone has powers after that and it helped me understand what I can actually do to help the world. I found out I had the power of being funny and making people smile. I thought it was just something people did but I realized it was one of my superpowers. I felt very proud when I saw the book.

—Ashwin S.

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Above: Students rehearse for a performance at High Tech High Mesa.

Self-Assessment Strategies For Students

Sarah Strong

High Tech High Graduate School of Education

How can assessment practices be designed to best support student learning? In school, the term “assessment” is often shorthand for “grades”—or, perhaps, tests, quizzes, rubrics, and similar evaluative tools. However, thinking of “assessment” as interchangeable with “test” or “grade” limits the potential for assessment practices to lead to meaningful and deeper learning.

Reforming classroom assessment starts by understanding that everyone is capable of valuable assessment and, in fact, does so all the time. When teachers make assessment practices transparent and invite students to participate in the process, they help students articulate what—and how—they are learning and what they most value in their education. Called student-centered assessment, this shift in perspective and practice brings meaningful activities into the classroom and sends important student work into the community.

Student-centered assessment requires that assessment is no longer something that happens to students via teacher-determined standards, grades, or non-negotiable tests. Rather, assessment becomes a set of practices that students apply to their work to understand and articulate what they find important and why. When done well, this type of assessment is subject to a variety of perspectives and provides a vehicle for equity: all classroom voices are heard and valued and all students are given opportunities find their strengths



Above: Students at High Tech Elementary Chula Vista attempt to decode secret messages. They must be correct to move to the next phase of the project.

and growth areas. Student-centered assessment practices are informative, collaborative, and reflective. These practices occur when students self-assess, peer-assess, when the teacher's role shifts, and when the classroom and school structure provide support for student participation—or even leadership—in assessment. While student-centered assessment occurs most seamlessly within the parameters of project-based classrooms, the practices can be incorporated into any classroom.

Students as Self-assessors

Student-centered assessment practices begin, somewhat naturally, with student self-assessment. When all students critically look at their own work and habits, and when their assessments are taken seriously, they are empowered to begin the work of projects, problem solving, and deeper learning. One step toward students developing agency over their own learning is discovering how to articulate—with examples and evidence—what matters to them. Why is this work important? What do we value in this work and why? What difference does this work make? Where is our work headed, in terms of our learning and our impact on the world? These questions lead to the broadening of assessment practices. No longer are narrow testing categories, or even teacher-prescribed expectations, enough. Instead, the rich world of student voice allows for more real-world assessment. It is in this opportunity for student voice that a path to equity can be forged. It is also in these conversations that students develop a greater sense of agency—

value, belongingness, growth mindsets—as learners. Accordingly, this article focuses on practical advice for facilitating strengths-based self assessments with students.

Self Assessments: Sharing Personal Strengths

Students bring a wealth of strengths, skills, and preferences to the classroom. To facilitate thoughtful, personal self assessments in their classes, teachers need to help students acquire the language to describe their own strengths and to specifically call out their areas of growth. Before beginning a project or having students join a group, teachers should have students take stock of their personal strengths and growth areas. This helps them frame the work they are about to do, making the most of their strengths and making them able to share their strengths with their peers and teachers. These self-assessments help team members learn how to support one another, maximize complementary strengths, and mitigate potential conflicts.

Teachers can provide examples of strengths they feel relate to the work of their classroom and help students select a few to share with peers. Some teachers cut strips of different colored paper representing these strengths and place them at the front of the room, or across tables. Students come up and select two strips they feel most relate to them. They then bring the strips back to the table and share with their peers in a way that suggests they are “physically bringing their strengths to the table.” Identifying and discussing the strengths they see in themselves helps students proceed through group work or partnerships more effectively and helps each student feel like they have a place. Examples of strengths might include:

- I am comfortable with uncertainty.
- I like to work persistently on challenging work.
- I can create convincing arguments.
- I like to find new solutions to old problems.
- I like to identify the moving parts of a complex situation.
- I like to organize large quantities of information.
- I like to simplify complex information.
- I like to help team members through a challenging task.
- I like to help people with different opinions peacefully reach consensus.

The National School Reform Faculty’s “Compass Points” is another activity that helps students pinpoint their inherent strengths. Are some students quick actors who like to jump into new experiences (“Northerners”)? Do some prefer to take a step back and look at the big picture (“Easterners”)? Are some always aware of peers’ emotions, and careful to include all voices (“Southerners”)? Do some pay close attention to details (“Westerners”)? Once the directions are announced, students physically move to the part of the room they feel represents their personality. Once grouped according



Above: Students at the Gary and Jerri-Ann High Tech High double check their product components to ensure everything is built to their specifications.

to compass points, they identify the strengths and challenges of their personality, and share their self-assessments with the class before joining a group to do work.

Regardless of the specific activity, students should regularly share their self-assessed strengths with each other and with their teachers. Sharing strengths aloud gives students' self-assessments explicit value in the classroom. By communicating these self-assessments to teachers and peers, students share valuable insights into their identities and needs, and offer opportunities to engage them more personally.

Self-assessing strengths, habits, and preferences powerfully sends the message that Elizabeth Cohen and Rachel Lotan identify in their research: "All of us have some of these abilities" and "None of us has all these abilities" (Cohen & Lotan, 2016). This is, at its heart, a message of equity; it empowers students who struggle to find their place in the classroom and reminds higher status students that they too have areas of growth.

Self-assessment Using Mentor Examples

Another way to approach self-assessment is to offer students the opportunity to explain, with evidence, what they think of their work—and if a grade is on the line, to allow students to determine the parameters and values for themselves. This tool could be used at the start or middle of a project to help students articulate what constitutes beautiful work for that particular

assignment or project. It could also be used at the end of a project as the criteria by which students assess final products.

Mentor examples—outstanding work done by professionals, peers, or other community members—help align student and teacher expectations regarding many aspects of project-based learning, and student self-assessments are no exception. Students compare their work to a few high quality mentor examples and then answer two questions, being sure to include evidence from both the exemplary work and their own:

1. How does your work measure up favorably to professional examples? Copy and paste samples of professional work (or use photos) and show how your work is similar to that of professionals.
2. How does your work need to grow, change, or improve to be more like that of professionals? Copy & paste samples of professional work (or use photos) and show how your work needs to grow, change, or improve in order to be more like that of professionals.

This type of self-assessment assumes that all students do some things well and all have room to grow. Those students who have historically struggled in class can be guided to build on their strengths (and to note that they are doing some things similar to professionals), and the students who feel that their first draft is good enough for an “A” must articulate areas in which they can continue to improve.

Self-assessing in the context of high quality examples helps teachers shift summative assessments to formative ones that address a student’s ongoing growth. When students articulate what they value in professional work, they offer information about their own decision making and evaluative processes and provide valuable insight into how they see their own trajectory. The results of this practice help better align a teacher’s work with what their students need and want.

Self Assessment With A Mentor Text: Protocol

This protocol is designed to help students critique their work in the context of high quality examples and to craft an evidence-based response that assesses their successes and areas for continued growth. These evidence-based self-evaluations are useful in portfolio development, future reflections, and a variety of ongoing assessment practices.

First: Students, get your work! As you complete this self-assessment, be sure to have the following easily available: your final draft of your work, the provided professional example, and another high quality example of similar work that influenced you.

Then: Answer the following, and include direct evidence wherever necessary.

1. What are you most proud of in this project?
2. How does your work measure up favorably to professional examples? Copy and paste samples of professional work (or use photos) and show how your work is similar to that of professionals.
3. How does your work need to grow, change, or improve to be more like that of professionals? Copy & paste samples of professional work (or use photos) and show how your work needs to grow, change, or improve in order to be more like that of professionals.
4. What was the most effective feedback that you received while drafting and revising your work? Copy/paste the feedback below (or use photos) and describe with evidence how it influenced your subsequent work.
5. What questions do you have about how your ongoing work?
6. Overall, what are the most significant takeaways from thinking about your work in the context of high quality examples?

This protocol can also be used to have students grade their own work—if this is desired, simply add, “What grade would you award your work and why?” Then, use students’ responses as an opportunity to align your vision of quality with theirs. You will gain insight into how and why they made project-related decisions and be better positioned to support them in creating work that is more finely tuned to professional standards that you—and, most importantly, the students—respect.

Self-Assessment With Mentor Texts in the Real World: Liberty Ranch High School Agriculture Program

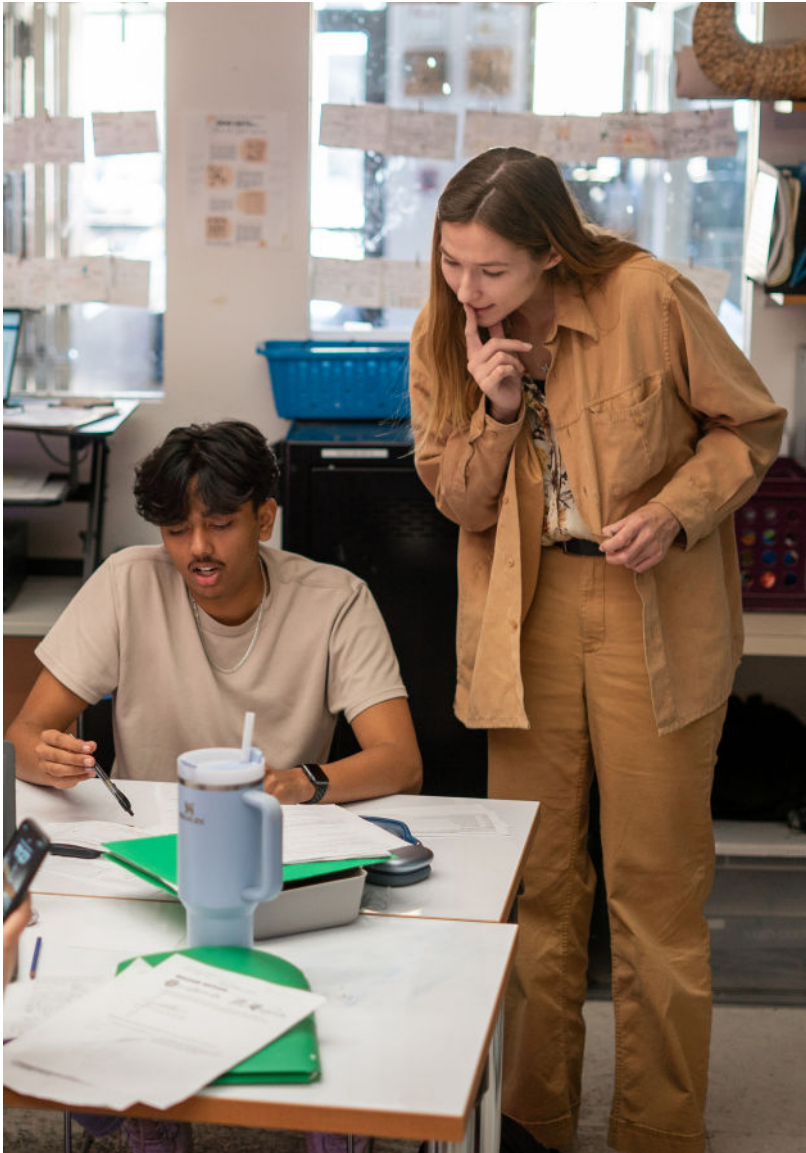
At Liberty Ranch High School, Mandy Garner engages her students in projects in the adult professional world through a variety of agricultural Career Technical Education classes: floriculture, advanced floral design, agriculture biology, agriculture leadership, and elements and principles of design. Her students run agricultural businesses—they provide floral services for weddings and formal events in the community, run a community-supported agriculture box program, and more. Mandy and her students regularly compare their work to professional examples because in many ways, it is their competition.

In the spring of 2016, Mandy began asking her students to provide written self-assessments of their work. Initially, this was an imperfect art, until she began requiring students to include photographs and detailed analyses of their professional influences. Mandy took similar self-assessments from English and history classes that asked students to compare their writing to professional writing. She adapted these to fit the needs of CTE classes; rather than have students use text-based quotations to compare their

writing to professional examples, Mandy's students photograph examples of professional work similar to what they do in class, and compare them to their own work with corresponding evidence of their own processes and products. Now, as each student works on a project, he or she saves important photographs, plans, and related documents from his or her work, and similar elements from relevant professional work. As each student product is shared with adults in the community, either because it is sold via one of the school-run businesses, or because their work is regularly displayed in the school community, students speak and write in response to prompts like "My work is similar to professional work in that..." or "I am working to more like the professionals in that..."

References

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Above: Sabelle O'Connell, math teacher at High Tech High Media Arts, consults with a student in her class.

Three Principles that Guide My Grading as a College Professor

Robert Talbert
Grand Valley State University

My career as a university mathematics professor goes back 30 years, and it feels like I have spent most of that time grading. My views and practices about grading have evolved over the years, and have run the gamut from ultra-traditional points-and-percentages methods to alternatives like standards-based grading and ungrading. I have given a lot of thought to how and why we grade students' work at the college level. I even co-wrote a book called *Grading For Growth* on this subject with my colleague David Clark, and we publish a weekly Substack newsletter about college grading with that same title.

We higher education folk don't often discuss how or why we grade student work, or talk with our K–12 colleagues about pedagogical issues at all—and teaching and professional practices in higher education are the worse for it. With that in mind, in this article I hope to start a conversation with you about grading by highlighting three overall principles that guide me—an instructor who thinks a lot about grading reform—as I grade student work.

What I Mean by “Grading”

“Grading” for me means more than just marking mistakes and putting a number or letter on an assignment. This is because, for the last ten years, I have used specifications grading in all my classes.

In specifications grading, almost none of the assignments has a point value, and there is no partial credit. Instead, we have quality standards—“specifications”—set up for each assignment that describe what “acceptable quality” work looks like. Student work is evaluated on the basis of whether it meets those standards. If it does, then it joins a list of assignments the student has completed successfully. If it does not, the student can revise and resubmit it. The student’s course grade is based on how many assignments they complete successfully, not on points or statistics.

For example, assignments in my Discrete Structures class include quizzes that cover 14 different basic skills, application-focused homework assignments, and mathematical proofs. A student must demonstrate mastery of at least 10 basic skills, complete at least four homework assignments, and write at least three proofs to earn a B in the class. For an A, those numbers are 13, 6, and 6, respectively.

Therefore, “grading” for me is essentially the same thing as “giving feedback.” While I do put marks on student work (either “Success” or “Retry”), the main work I do when grading is pointing out what went well and what needs improvement, so students can do a second (or third, or...) draft that is closer to meeting the specifications. So the three principles below that guide my grading are really just principles for how to give useful feedback to students—or anybody else.

Principle #1: Tell The Truth (The Whole Truth)

When a student turns in work that has significant issues—serious computational mistakes, logical errors, misunderstood concepts, verbal expression that’s unclear, and so on—it’s my responsibility to point these out so the student is aware of them. I need to be kind when doing so, but also to be clear and avoid sugar-coating things. In fact, when giving or receiving feedback myself, I think the kindest thing the person giving the feedback can do is simply be clear and direct.

But there’s a flip side to this principle: It’s not enough just to be truthful about some things. You have to tell the whole truth, and in grading this means pointing out not only what went wrong but also what went right. This means that the good qualities of student work (including obvious effort) need to be pointed out with just as much clarity as the mistakes. When the feedback students receive consists of nothing but mistakes being pointed out, they quickly come to dread receiving it—and eventually may stop reading it entirely.

And I don’t blame them. Any time I’ve ever gotten feedback—as a bassist, or in my promotion and tenure portfolio, or on a piece of writing, and so on—if

the feedback is a relentless drumbeat of mistakes, it's discouraging. While I appreciate being alerted to what I need to fix, I will be more motivated to act on those reports if they are leavened with a few notes about what's good.

This doesn't mean you need to praise students for everything they do right. Just a few remarks about anything noteworthy to let the student know their work was not a failure will do. For example: "Thanks for your work on this—it's clear you put a lot of time and thought into it." Or, "While there are some issues with your solution as shown in my other comments, you've got the right idea and should be able to easily fix things if you use the feedback I've given."

Principle #2: Be Helpful (But Not Too Helpful)

Giving feedback is easy if you don't care whether it's helpful or not. My own grading, earlier in my career, embodied this: It consisted of large X's angrily drawn through incorrect work, exasperated margin comments ending in multiple exclamation points, and incomprehensible abbreviations like "?????" At one point, I had a policy that if a mistake was really bad, I would switch to using a red Sharpie marker to indicate it. I was certainly giving feedback, but it would be a big stretch to call it "helpful."

What exactly makes feedback "helpful"? Or, put differently, "helpful" for what purpose? Let's look at an everyday experience to understand.

My 15-year-old son loves to cook. Sometimes he tries out new recipes for our family. I don't always give him feedback on his cooking, but when he asks for it, I try to tell the whole truth as I described above. The purpose of this feedback is for him to become a better cook. What's helpful for him, based on that purpose, is to make sure the feedback is:

Clear: The feedback is unambiguous and easy to understand, from my son's point of view. "That was delicious" is nice to hear, but "the way you paired the blueberries with the lemon was great" is even better, because it's a clearer expression of what I mean by "delicious."

Complete: All the major good and bad points are covered with nothing important left out for any reason. If he used too much hot sauce, it's not helpful to refrain from saying so and instead to focus on something else. And if it was tasty anyway, tell that truth as well. Tell the whole truth!

Correct: The feedback must come from a correct understanding of the situation. For example, if my son makes dinner and undercooks the food, it might be because the oven wasn't hot enough; but it's also possible the oven was at the right temperature but the food wasn't in the oven long enough. If my feedback to him is Leave the food in the oven longer

next time, I'm assuming the latter was the real cause—but in fact, I don't know, and until I do, I can't be assured that the feedback is really helpful. I know a lot more about math than cooking, but I can make the same mistake giving feedback to students. If there's a chance that a student's math error could be attributed to two or more causes, I need to stop and ask questions before giving feedback.

Feedback, whenever we encounter it, is “helpful” to the extent that it is instructive. Grading, thought of this way, is a natural extension of our classroom teaching roles. So being clear, complete, and correct is an economical way of describing helpfulness; it describes both good feedback and good teaching in general. And not coincidentally, that trio of adjectives is how we typically describe good student work. In other words, helpful feedback is that which is being held to the same standard as the work we are giving feedback about.

But beware of being too helpful. Being a teacher involves having a natural inclination to help people. But sometimes what we intend as “help” ends up not helping. For example, if I tried to help my son learn to cook by making the meal for him, this is not really helpful. Likewise in grading, sometimes the most helpful feedback we can give is not a direct explanation followed by instructions on how to fix, but rather pointing out issues, providing questions for students to investigate, and letting them work the rest out for themselves.

This last point gets us to the third principle:

Principle #3: Invite Continued Participation

Everything significant you have learned is the result of sustained engagement with a feedback loop: You attempt a task with some idea of what a “successful” attempt looks like; you get feedback from a trusted source on that attempt (which typically, at least at first, does not meet that success standard); you then interpret the feedback and make a plan for adjustments; and then, critically, you make another attempt based on your plan. And the loop continues until you are successful.

Most things in life are engaging and fruitful to the extent that they get you involved with a feedback loop. Most of our favorite games or sports, for example, involve taking a turn, seeing what happens, and making a decision based on the results. This is why they are fun. Imagine the game of Wordle, except without the feedback loop, so you only get one turn to guess what the five-letter word is, and you either guess right or you don't. Removing the feedback loop removes the enjoyment.

I want my classes to be learning experiences that are both significant and enjoyable for every student. So I need feedback loops at the center—this is

why I switched to specifications grading, where reattempts without penalty is the norm.¹ In my view, the goal of grading is to invite students to join me in participating in that loop.

While I need to be clear, correct, and complete, and tell the whole truth when I grade, I must make sure not to inadvertently shut students down by making snarky comments, insulting their intelligence, overloading them with feedback, and so on. I also have to make sure that my feedback prompts students to respond. For example, “You made an algebra mistake in line three” is just a statement of fact; “You made an algebra mistake in line three; what is the rule about exponents that applies here?” still states the fact but also invites students to continue their work by posing a question whose answer will guide them to the right processes.

Not everyone reading this article may be in a position to implement specifications grading or another approach where reattempts, and therefore feedback loops, are possible. If this is your situation, I encourage you to try reattempts on a small scale; for example, taking one quiz or homework assignment and allowing students to reattempt it once, with your feedback. You might be surprised at the impact that such a small change can have.

There is one overarching belief about grading that governs the three principles I’ve outlined here. That is: **the purpose of grading is growth.** We grade students’ work not to rank and sort them, or so others can do this (although unfortunately this is how many colleges and universities use grades). We grade because we care about student growth and want to enable and activate it. For me, as a college professor, I’m aware that for many of my students, the class I teach is one of the last interactions they will ever have with formal schooling. After college, learning is something they do for themselves, and the only meaningful goal I can have for my teaching is to give them the tools to learn and grow throughout their lives. If I follow these three principles, my grading can help students move in that direction one assignment at a time.

Notes

1. “Reattempts without penalty” does not mean “reattempts without limits.” In my Discrete Structures class, for example, students can revise any homework set they want—but only once. They can revise proofs up to three times a week. Putting reasonable limits on reattempts is essential to maintain a manageable workload!



Above: Network for College Success Coaches in a “Huddle”

A Meeting I Actually Look Forward To: The Coaching Huddle

Elizabeth (Beth) Brown
University of Chicago's Network for College Success

Imagine it is a January Monday morning in Chicago. Icy cold, gray skies, biting wind, and snow flurries in the air. I've lived in this city for over 40 years, and this remains, for me, a season of complete misery. However, there was one saving grace to my day—a bi-weekly Coaching Huddle that *always* made me feel better, even on the dreariest of days. If that doesn't sound like something that'll make your heart soar, read on to find out why it does mine.

Every two weeks, my Network for College Success (NCS) colleagues and I connect with each other to learn and grow our practice as Transformation Coaches. A project at the University of Chicago, NCS works to cultivate postsecondary readiness and success for all students by translating research into practice and supporting high school leaders to organize their schools for improvement and innovation. My teammates and I take up this mission by leading the Freshman Success for Equity (FS4E) Improvement Network, a group of 11 schools¹ that works toward the high achievement of Black and Latine ninth graders through racial equity work and continuous improvement. The Coaching Huddle is a collective space where my colleagues and I explore and expand our coaching actions and beliefs, as well as problem solve to improve our coaching skills.

The Coaching Huddle has become a place of deep learning and discourse for

me and my team. It is a protected time in which we take risks and lean into vulnerability to uphold our aim of repaying the educational debt to Black and Latine ninth-grade students across our network.

The Work that I “Huddle” About

To understand why the Coaching Huddle means so much to me, you need to know what my team does. The FS4E Network has the following three goals:

1. Increase the proportion of Black and Latino males who earn a grade point average of 3.0 or higher by the end of ninth grade.
2. Attain a 95 percent freshman on-track rate across the network.
3. Create deep and joyful learning experiences for all students.

To achieve these goals, I coach two ninth grade team leaders—an instructional coach and a teacher—who work in two of the FS4E partner schools. I work with my coachees on developing their skills to lead a collaborative, problem-solving team of adults, and to keep racial equity at the center of the team’s work. I meet with coachees in-person, on a weekly to bi-weekly basis, for one-on-one coaching sessions and to observe them leading their team. During coaching sessions I share strategies, tools, and protocols to strengthen team leadership, give feedback on team meetings, and ask questions, listen attentively, and hold space for coachees to talk about their beliefs, behaviors, and ways of being. To improve my coaching skills in this last area, my goal this year was to build my own emotional literacy skills—specifically, active listening, building trust, and naming and exploring emotions with others—in order to set the conditions necessary for my coachees to deeply examine their practice, take risks, be vulnerable, and thrive.

Our Huddle Routine

Everyone in the Coaching Huddle does similar work to me. We all have an improvement project and our own group of coachees. Every two weeks, we meet to engage in a simple yet powerful huddle protocol to improve our coaching practice. Each time we meet, one of us takes on the role of facilitator, another serves as notetaker, and a third person keeps time. Then, we follow the huddle protocol steps—adapted from the Improvement Collective’s Huddle Protocol Form (Grunow & Park, 2021)—to share the coaching strategies, practices, and ideas we have been trying over the previous two weeks with our coachees and school teams.

Here’s how our adapted version of the protocol works:

Step 1

Each of us takes a turn sharing what we’ve tried. For example, in early March,

I developed and tested a new data protocol to examine team feedback with my coachee.

Step 2

We share bright spots and then talk about our struggles, ask questions, and provide support to each other.

Step 3

We each name and commit to a next step that will improve our practice, and we finish by completing an “exit ticket” to give feedback on the process and our objectives for the meeting.

Together, throughout the year, our team generated impactful results in coaching practice marked by the simplicity of routine, consistency in holding the bi-weekly space, and discipline to follow the protocol each time we met.

A Transformative Space

As I look back, I can pinpoint specific low points in my work and how the Coaching Huddle helped me overcome them. Early in the year, for example, I focused on how to build trust with a new coachee educator and her team. My teammates shared clear ideas to help me improve in this area, and they encouraged me to directly ask my coachee, “How do you need me to show up for you during team meetings? What, specifically, do you need from me?” This strategy led to a deep conversation with my coachee about how she was feeling as both a new member of her school community and as a team leader. In turn, she asked me to provide feedback on the team’s sense of community and to ask more probing questions during team meetings. This turning point not only strengthened my coaching practice, but deepened trust between me and my coachee, helping to cultivate a more honest team space.

Mid-year, I remember feeling frustrated because I could not secure a consistent meeting time with a different coachee. Upon sharing my frustration with the team, one colleague suggested that I try showing up in person at the school instead of scheduling a virtual coaching session. This idea turned the trajectory of my coaching around. It was the push I needed to take a “warm-demander” coaching stance—one in which I was fully present with my coachee. I could be supportive and reassuring while also holding high expectations of her, the team, and their ability to better serve their least-reached students. Most recently, I was nervous to share unfavorable school team feedback with a coachee. When I opened up about this to the Coaching Huddle, I received immediate support on how to structure the conversation to help my coachee de-personalize the data and focus on how to use the information to support her growth as a team lead. In my next coaching session, I shared the data with my coachee using an updated protocol based on the feedback from the Coaching Huddle. To my surprise, it led to a powerful conversation in which

my coachee examined her power as team lead, reflected on what she needed to do to support the team in building collective ownership of the work, and named actions she would take to improve their collaborative relationship.

The positive impact of the Coaching Huddle on my colleagues' practice was also evident throughout the year. Exit ticket data collected between the end of September and mid-April indicates progress toward our objectives (see Figure 1). During the year, my colleagues consistently reported that the Coaching Huddle supported their growth in coaching by learning, exploring new beliefs and practices, and problem-solving together.

Additionally, the feedback from my colleagues sheds insight into the sacredness of the space, the deep trust we built as a team, and the influence of the Coaching Huddle on our practice:

"Never ceases to amaze me how much support we can give to each other in such a short time."

"Sometimes it's just nice to look each other in the eye, be honest about where we're messing up, and tell each other we're still doing a good job."

"It was really helpful to hear about how to bring coachees' goals back into the coaching space as a reflection tool, as well as reflect on how our coaching is building the leadership skills and capacity of coachees beyond the [freshman success] space."

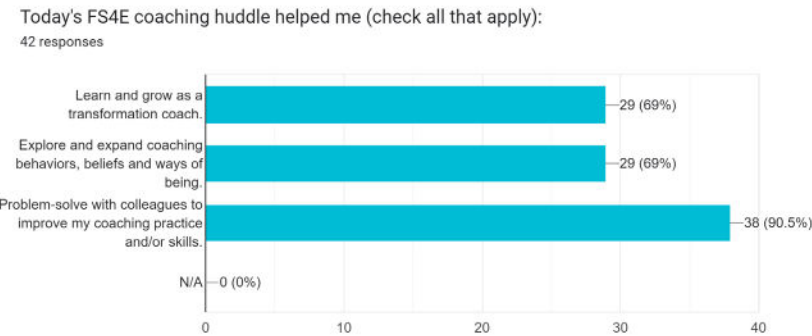
Beyond FS4E

It took my colleagues and I a full year of holding the Coaching Huddle before it became the routine practice we engage in today. To avoid our mistakes and to start using this practice as soon as "next Tuesday" in your work, consider these recommendations:

Resist the urge to use huddle time for other agenda items. Because my teammates and I are responsible for coaching and leading professional learning for our network, it was easy to fill up the huddle time with other team priorities. After a year of sometimes engaging in the protocol and sometimes talking about other topics, we recommitted to meeting for 45 minutes every other week outside of our regular team meeting time for the sole purpose of improving our coaching practice. We have held true to this commitment and take seriously the assignment of roles and the use of the protocol each session.

Remember that the protocol is a floor. A huddle protocol is critical in providing structure for the time and the team's conversation about coaching practice. While this tool is both helpful and necessary for holding the space, it is the team's responsibility to use it in a way that deepens our discourse,

Figure 1: Data from the FS4E Coaching Huddle Exit Ticket



challenges our practice, and supports us in taking action to be better coaches.

Collect data about the space and periodically reflect on it as a team. At the end of each huddle, team members complete an exit ticket to share which objectives we met during our time together, how we are currently experiencing the role of transformation coach (thriving, getting by, or surviving), and comment about what is contributing to these responses. Reviewing this data at regular intervals offers an opportunity for us to identify trends in our coaching practice and collective growth.

I am proud of the Coaching Huddle my colleagues and I put into practice, and am excited to continue engaging in this deep professional learning routine in the years ahead. I look forward to deepening my coaching practice as a member of the NCS Freshman Success for Equity team and making a greater collective impact with my teammates in the future. For more information on NCS please visit ncs.uchicago.edu.

Notes

1. This article is written about the 2023–2024 school year. As of the 2024–2025 school year, the FS4E Network had grown to 20 schools.

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Above: Educators at Christopher Elementary in South San Jose, California, participate in an ESA Transformation Network workshop.

Sometimes The Bias You Need To Disrupt Is Your Own

*Paula Espinoza
Partners in School Innovation*

For the past two years, I have been working for Partners in School Innovation. My work focuses on the East Side Alliance (ESA) Transformation Network, working with schools to interrupt patterns of inequity and increase the number of Latine, multilingual learners, and low-income students who are on track to excel in high school, college, career, and life. In the fall of 2022, I began working with Christopher Elementary, a TK–8 dual language school in South San Jose in the Hellyer-Christopher neighborhood in California’s Oak Grove School District. Christopher is one of nine schools that participated in the ESA Transformation Network.

I’m going to share with you how undertaking antiracist and antibias work with schools forced me to confront my own blind spots. In particular, I want to share insights I gained from taking part in the Improvement for Equity By Design Fellowship at the High Tech High Graduate School of Education in 2023–2024. But first let’s go back to how this work began.

In the spring of 2022 as the Christopher Elementary leadership team reflected on their School Transformation Review (STR) results, they noticed that scores on line items related to Race, Culture, Class and Power (RCCP) and Equity remained low despite their staff having strong equity mindsets and intentions. In addition, there was persistent bullying of queer kids and other middle school behaviors that were bringing up the need to

be more specific about what they meant by equity. The team conducted equity-focused school walkthroughs and observed that while teachers were recognizing and celebrating various heritage months, these celebrations tended to be superficial and sometimes reliant on stereotypes. The leadership team expressed a need to prioritize this in order to go deeper to meet their vision of having a welcoming and affirming school.

Based on this data, school leaders held focus groups to ask students, teachers, staff, and families the following question to unpack their vision:

What do we believe the student, teacher, and family experience should be at Christopher?

The leadership team's hypothesis: If we change mindsets and instructional practice, then we will create an environment where students feel connected and affirmed. But where to start? Partners in School Innovation coach Jesse Roe suggested they anchor their work in the book, *Start Here Start Now: A Guide to Antibias and Antiracist Work in Your School Community* by Liz Kleinrock.

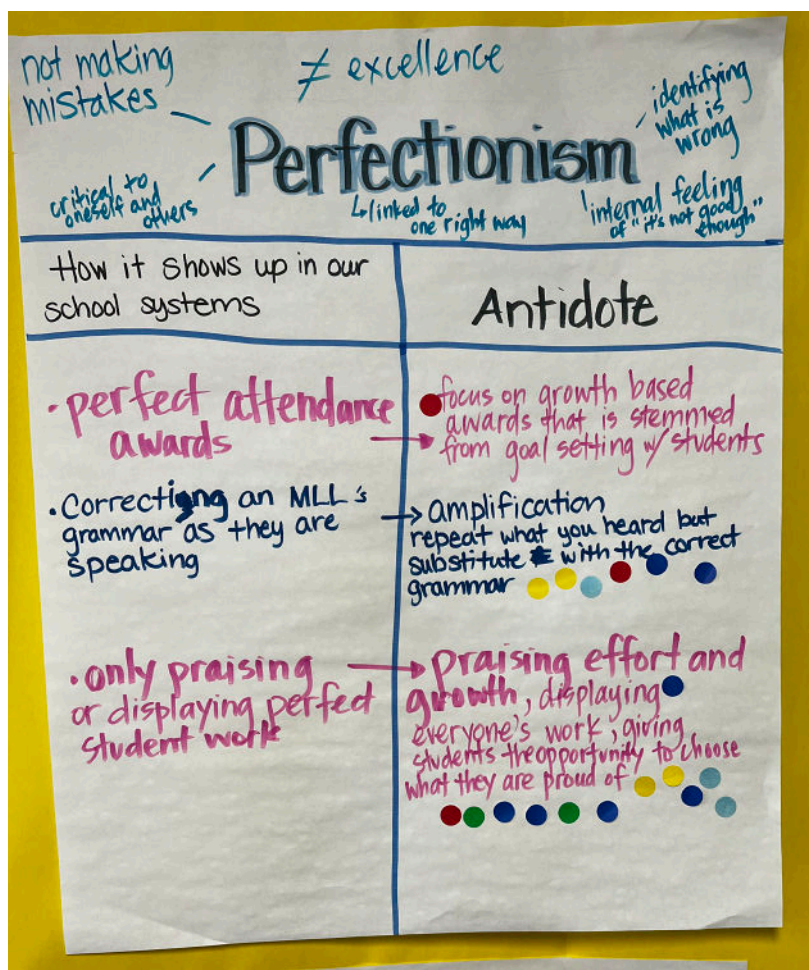
Christopher Elementary's principal, Marie Mabanag, along with instructional coaches Eva Marcoida and Karin Viera, began the journey to support their school and district explore antibias and antiracism. I was invited to support Eva and Karin to create a professional learning series that would engage people deeply in conversations and interrogate how systems, processes, and procedures could change. To guide this work, Christopher's school leaders and teaching staff utilized Kleinrock's *Start Here Start Now* and the Learning For Justice Anti-bias Framework Social Justice Standards. Eva, Karin, and I created a scope and sequence (see Table 1) for the series that began with following the chapters in *Start Here Start Now*.

As we discussed additional resources to include, I suggested incorporating Tema Okun's "White Supremacy Culture" in the sessions because I believe that gaining a deeper understanding of historical context of the design of education, paired with seeing how supremacy culture impacts our day to day work, helps us release vulnerability and embrace change. This was facilitated in small groups, where Eva, Karin, and I asked teachers and leaders to choose a white supremacy characteristic and collaboratively unpack it using a T-chart that included words to describe what it meant, where they saw it happening in the school system, and where mechanisms might be in place to disrupt it (see Figure 1). In one workshop, participants asked us, "Do we have to follow the T-chart format?" Leaning away from having it completed in an "only one way" mindset, Eva told them to make it their own. As you can see in Figure 2, these participants shared the information requested, in a format that focused more on the antidote than the "characteristic of supremacy."

Table 1: Antibias, Antiracist (ABAR) Professional Learning Series Scope and Sequence

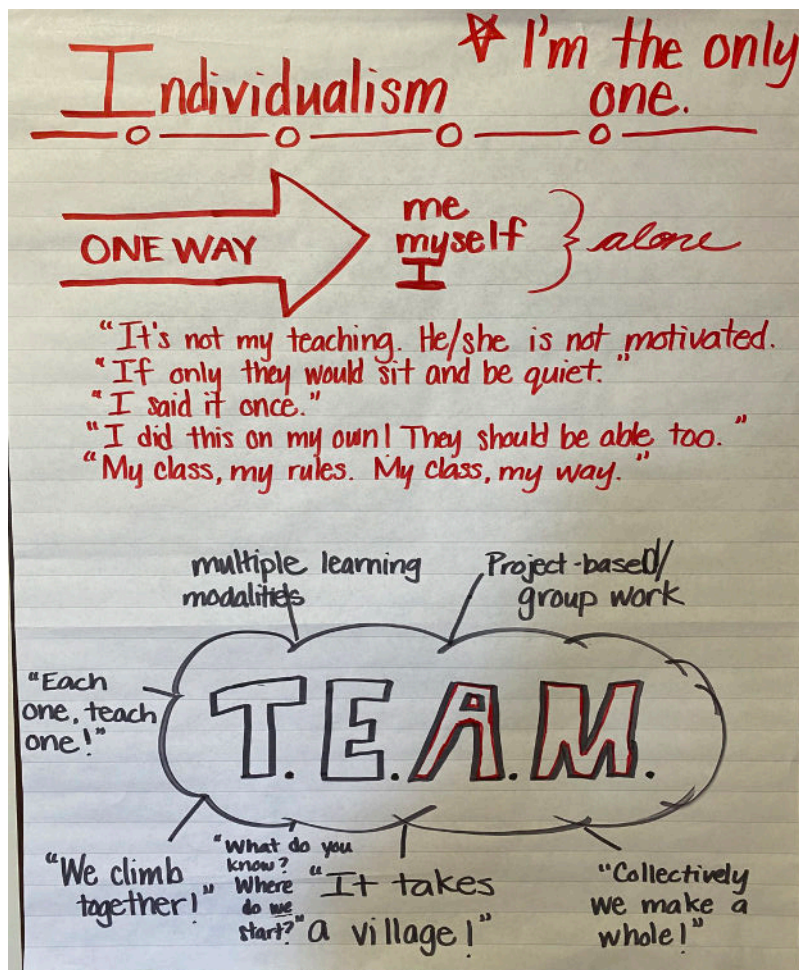
Year 1: 2022–2023 Christopher Elementary (60–90 minute sessions)		
Session	Date	Topic
1	8/30/22	Getting started with ABAR work; your own identity; ABAR foundations
2	9/13/22	Shared understanding and language of Antibias, Antiracist—What does it mean here?; discuss curriculum aligned to ABAR; ABAR foundations
3	10/18/22	Define “stereotype”—How does it show up in classrooms and curriculum?
4	12/13/22	Curriculum through an ABAR lens
5	1/31/23	White supremacy culture in educational history and intro to white supremacy culture characteristics
6	2/22/23	Unpacking white supremacy culture characteristics
7	4/25/23	Holding space for difficult conversations
8	5/9/23	ABAR in the classroom
Year 2: 2023–2024 Christopher Elementary (60–90 minute sessions)		
1	9/12/23	Transformation: looking back, moving forward
2	11/7/23	Working with parents and caregivers
3	12/12/23	Holding space for critical conversations; home-school connections (caregivers)
4	1/30/24	Caregiver/student interactive read alouds: writing book prompts
5	2/27/24	Revisit curriculum: curriculum/lesson planning with ABAR lens
6	3/12/24	Lesson share out: how did it go?
7	4/16/24	Work time choice: curriculum planning; caregiver interactive read aloud; caregiver workshop
8	5/28/24	Celebration and reflection
2023–2024 Oak Grove School District Curriculum & Instruction Administrators & Principals (2 hour sessions)		
1	11/8/23	Share the vision; getting started with ABAR work; your own identity; ABAR foundations
2	1/31/24	Holding space for critical conversations; white supremacy culture in educational history and white supremacy culture characteristics
3	4/24/24	Supporting ABAR in the classroom (curriculum); next steps: how to address resistance

Figure 1: "Perfectionism" T-Chart



As we discussed additional resources to include, I suggested incorporating Tema Okun's "White Supremacy Culture" in the sessions because I believe that gaining a deeper understanding of historical context of the design of education, paired with seeing how supremacy culture impacts our day to day work, helps us release vulnerability and embrace change. This was facilitated in small groups, where Eva, Karin, and I asked teachers and leaders to choose a white supremacy characteristic and collaboratively unpack it using a T-chart that included words to describe what it meant, where they saw it happening in the school system, and where mechanisms might be in place to disrupt it (see Figure 1). In one workshop, participants asked us, "Do we have to follow the T-chart format?" Leaning away from having it completed in an "only one way" mindset, Eva told them to make it their own. As you can see

Figure 2: Individualism (notice: not a T-chart!)



in Figure 2, these participants shared the information requested, in a format that focused more on the antidote than the "characteristic of supremacy."

In 2023, in the High Tech High Improvement for Equity by Design Fellowship, I was able to tune in tighter on thinking about how I'm supporting equity with my team and those I coach. Two times during the year, the resources and learning in the fellowship had a profound effect on my thinking around supremacy culture and how it impacts my work. The first is Daniel Lim's "Qualities of Regenerative and Liberatory Culture." This article is an important complement to Okun's work because it names ways to do more than counteract the dominant culture's destructive characteristics and become more regenerative, defined by Lim as "the creation of conditions

that help all of us replenish ourselves, enjoy life and work, and fulfill our highest creative potential.” Although I appreciated the call for regenerative and liberatory qualities, I wasn’t quite sure how to incorporate this into my day-to-day work. I let these concepts percolate in the back of my mind throughout my year.

In preparation for the last session of the fellowship, I was introduced to the second impactful article: “Swimming Against the Current: Resisting White Dominant Culture,” by Amanda Meyer. Reading this article helped click things into place for me. Meyer’s assertion that “equity-centered improvement feels separate and insufficient” resonated with me because often we check after the fact if we have included equity, instead of incorporating it in our planning. The questions posed at the end of the article, including “Which harmful patterns of white dominant culture have you observed in your own continuous improvement work?” and “What structures, supports, or resources do you think are necessary for improvement teams to consistently apply an anti-racist lens to their work?” (Meyer, 2022) gave me pause to ask myself three questions: How am I pushing against policies, practices, and expectations that perpetuate white dominant culture? Where am I seeing and doing harmful practices? How am I doing something different to change those practices?

With the work I’ve been doing with Eva and Karin, along with reading and learning about white dominant and supremacy cultures, I am beginning to recognize that I instinctively rely on the characteristics “perfectionism,” “one right way,” and “defensiveness.”

This brings me to the story about my own blind spots.

For our 2024 end-of-year cycle review and celebration, my team at Partners in School Innovation decided to give schools a choice of three options to share their story: case study, storyboard, or “Ignite” presentations. In January, we shared a storytelling guide with the schools and asked them to make a choice. Of the nine schools in the network, six chose to do Ignite presentations, while the other three chose other options.

As a team we came back together in our planning meeting to determine next steps. One member of our team suggested that since six of the nine schools were doing Ignite presentations, we should try to get other schools to do the same to make the final presentations easier to organize.

Not everyone on the team was convinced (myself included), but in the end we made the decision to have all the schools do the presentation in what became the “one right way” to do it this time. I worked with my schools to put together presentations that fit into the strict parameters that had been established by our team to ensure the product was perfect.

At Christopher Elementary, I explained to Marie, Karin, and their improvement team that the Ignite presentation should be 20 slides, auto advancing in 15 seconds each for a total of 5 minutes. As they began their planning, they asked, “Can we do it in a video?”

Like a lead weight, I was hit with the realization that even though I had been coaching their team to push against supremacy culture and was trying to incorporate more liberatory practices, I was actually perpetuating “perfectionism” and “one right way.” I was talking the talk but not walking the walk.

So I went back to our celebration planning team and asked them to embrace the purpose of the storytelling (to tell their improvement story); to focus less on the “right way” and let these teams utilize their five minutes to tell their stories their way. I asked our team to “let go of perfectionism” at that moment. The result was nine great stories, some in the Ignite format, others in video, and one team with a hybrid solution.

I pondered this with curiosity: How might I help myself lean into more liberatory qualities to change how I approach my work? Inspired by the words of Okun, Lim, and Meyer, I created a checklist for myself to utilize as I create agendas and deliverables and facilitate convening activities.

First, I identified three regenerative and liberatory qualities that I want to focus on for the upcoming year: learning culture, complexity and uncertainty, and relational knowledge. I chose these to specifically address my tendency toward perfectionism and one right way, as well as wanting to lean into the experiences and knowledge of those around me and who are at the center of my work. Next I looked for things to add to the checklist that I think will help me embrace a more liberatory way of thinking. I utilized questions for the first column to support my thought process and to help this be more than just a list of rules to follow. The second column is a reminder of other ways to disrupt dominant patterns, and to help me remember to incorporate these in my work. The last column is a reminder of the characteristic I am trying to disrupt. You can see the tool on the following page (Table 2).

Using This Tool

This tool is not one size fits all. Continuous improvement leads us to take small steps to implement a change. The first is to determine which regenerative and liberatory qualities you want to target. My suggestion is to articulate no more than three. Determine where, when, and with whom you will use this tool. Here are some suggestions:

Individual: Creating agendas or deliverables

Add to your planning tools and utilize the checklist to plan your

Table 2: Regenerative and Liberatory Qualities Tool

Regenerative and liberatory qualities	Other ways to interrupt	WSC characteristic to disrupt
Learning culture Is there space to make mistakes? Where is lived experience included? Is the timeline realistic? Are success, good work, and failure celebrated?	Emphasize more than one right way Find a place to start, even if all the answers are not known Model humility and vulnerability	Perfectionism Defensiveness Academics is the primary learning mode
Complexity and uncertainty Is there an openness to wonder and mystery? Is there grace for cognitive dissonance? Are there options for more than one way to do something? Are there multiple perspectives (truths)?	Create space for critical conversations Feature space/time for listening Use a curiosity lens Identify complexity Use data with curiosity Look for multiple angles	Either/or thinking Objectivity One right way Right to comfort
Relational knowledge Is there space for relationship-building experiences? Is there a variety of knowledge bodies? Is lived experience included? Are the voices of those closest to the work included?	Experiences not tied to the written word highlighted Identify multiple ways to document—pay attention to ways other than writing	Objectivity Worship of the written word One right way Experts (scientific method is the right way)

meetings.

Client-facing: Reflect on meeting

Add to the closing of your agenda. Choose up to three questions you want feedback on.

Team: Planning a network session

Add to your planning agenda and utilize the checklist to plan your activities and deliverables.

Team: Creating a theory of action

Add to the agenda to review your theory of action for regenerative and liberatory qualities.

This past year I met my goal to move from theory to practice in regards to RCCP by modeling equity practices in network sessions and individual coaching. In modeling these practices and supporting this school to implement antibias, antiracist professional learning, along with learning more about supremacy and white dominant culture and leaning into more liberatory practices, I've realized that my learning is still in the infancy stage. As I begin my work for the new school year, I will test out this tool by using it to plan coaching and learning sessions in order to check myself about when and why I am asking for something specific and where I can let participants/coachees share in the planning. To support my learning and include reciprocal accountability, I will use this checklist with my coachees and team members, testing it out to learn more about how we can work together to create regenerative and liberatory systems.

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Above: Student art, created about the theme "Attendance Matters"

An Improvement Project Tackling Chronic Absenteeism

Amber McEnturff
Alexandria City Public Schools

Following the COVID-19 pandemic, Ferdinand T. Day (FTD), a Title I elementary school in Alexandria, Virginia, noticed an alarming increase in chronic absenteeism rates that disproportionately impacted Hispanic students. This report describes the work undertaken by an improvement team at FTD over the course of a school year to better understand drivers of absenteeism, select interventions, and test high-leverage solutions. The key finding is that small but consistent steps added up to a big impact, with a 7 percentage point increase in attendance rates for the target group during a single two-month stretch.

The School

Alexandria City Public Schools (ACPS) is a public school division in Northern Virginia, just outside of Washington, DC. ACPS serves upwards of 16,000 students who hail from more than 119 countries and speak 124 languages. The district comprises 18 schools, including two middle schools, two K-8 schools, two early childhood education centers, and Alexandria City High School.

Ferdinand T. Day opened in 2018 and is the newest elementary school in Alexandria. FTD is a Title I school that serves just over 600 students. It has high student turnover, with 15 percent of students leaving and 20

percent enrolling throughout the course of a school year. About 75 percent of students are English Language Learners, speaking a total of 35 languages other than English. Figure 1 breaks down the student population by race and ethnicity.

The Problem: Chronic Absenteeism

Like many school divisions across the country, ACPS has seen a spike in chronic absenteeism since in-person school resumed following COVID-19 closures.

At FTD, the spike was hard to miss. In 2018–2019, the year the school opened, the absentee rate was 7 percent. In 2019–2020 the rate was 13 percent. In 2020–2021, school was remote for most of the year. Some students returned in-person March 2021, but there was no chronic absenteeism calculation. When school resumed normally in 2021–2022, the absentee rate was 27 percent (see Table 1).

When the improvement team disaggregated chronic absenteeism data by ethnicity, they found that in 2021–2022, 42 percent of Hispanic students were chronically absent (see Figure 2). When they disaggregated by English learner status within ethnicities, they found that within Hispanic and White subgroups, English learners were more likely than their peers to be chronically absent in 2021–2022.

Why Chronic Absenteeism Matters

Chronic absenteeism matters to school performance. A literature review by Dr. Ben Daley of the High Tech High Graduate School of Education found the following:

Frequent absences in kindergarten have been found to be predictive of lower likelihood of reading proficiency by the end of third grade (Ginsburg & Chang, 2014; Bruner & Chang, 2011) and lower achievement on test scores in fifth grade (Buehler, Topogna, & Chang, 2012; Bruner & Chang, 2011). Chronic absenteeism has been found to predict lower National Assessment of Educational Progress (NAEP) scores (Ginsburg & Chang, 2014) dropping out of high school (Hill, 2014), and lower rates of college persistence (Ginsburg & Chang, 2014).

In Virginia specifically, data from 2023–2024 indicate that chronically absent students performed 19 percentage points below their peers in reading and 26 percentage points below in math (Virginia Department of Education, 2022).

Perhaps less obvious is that chronic absenteeism is also a big problem for

Figure 1: Ferdinand T. Day Student Population by Race and Ethnicity

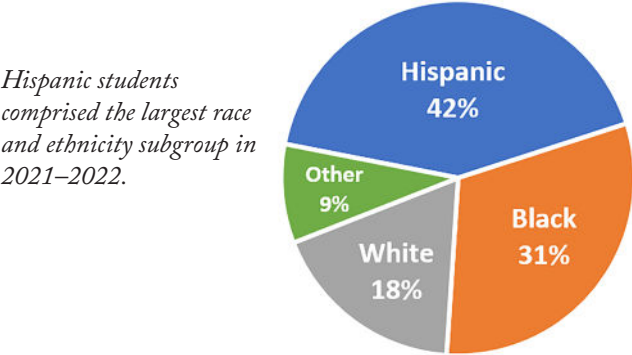


Figure 2: 2021–2022 Chronic Absenteeism Data Disaggregated by Ethnicity

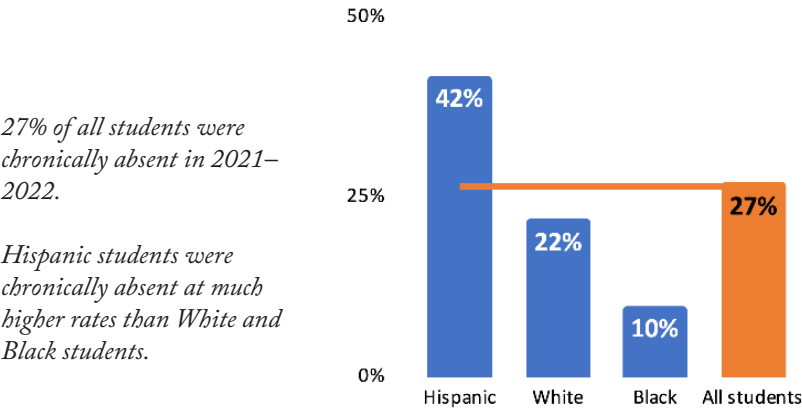


Table 1: Absenteeism at ACPS, 2018–2022

School Year	Absentee Rate (%)
2018–2019	7
2019–2020	13
2020–2021	—
2021–2022	27

staff, because state and federal law mandate a labor-intensive and time-consuming response to truancy (defined as five or more unexcused absences). While truancy and chronic absenteeism are defined differently, they are closely correlated, so higher rates of chronic absenteeism are associated with a greater number of students needing truancy outreach. With so many students missing so many classes, the burden on school staff was unsustainable.

Forming an Improvement Team

For nearly a decade, ACPS central office staff have been increasing their capacity in improvement science and integrating it into their work. Simultaneously, FTD's founding principal, Rachael Dischner, has been investing in professional learning about improvement science by sending staff members to the annual Carnegie Summit (now the National Summit on Improvement in Education). With both the school and division committed to improvement science, it was natural for them to partner to tackle chronic absenteeism.

The improvement team was a mix of division and school-level staff members, and did not include any classroom teachers. This was deliberate: while classroom teachers provided insights through empathy interviews and other mechanisms, having a team without classroom teachers meant the team could meet often, at different times during the day, without needing to find substitutes. The weekly cadence of meetings helped keep the project momentum going.

The team's composition was as follows:

Project sponsors:

- Clinton Page, Ed.D., Chief of Accountability and Research (ACPS)
- Rachael Dischner, Principal (FTD)

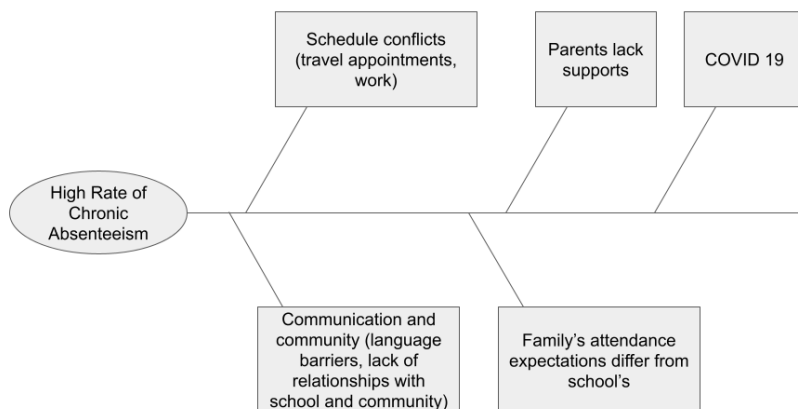
Improvement coaches:

- Amber McEnturff, Ph.D., Evaluation and Assessment Analyst
- Farah Nichols Peterson, Coordinator of School Improvement

FTD school staff

- Jocelyn Gehrke, School Social Worker
- Kaitlyn Side, Assistant Principal
- Monica Gallego, School Counselor
- Gabriela Alfaro, Registrar
- Enis Al Majeed, MTSS/Data Coach

Figure 3: Fishbone Diagram



The Goal

The project's initial goal was to reduce the rate of chronic absenteeism in the school. After some preliminary research, including empathy interviews with staff and parent focus groups held in multiple languages, we made this goal more specific—to reduce the school's second quarter absenteeism rate of 26 percent to 21 percent by the fourth quarter of the 2022–2023 school year.

Understanding the Problem's Underlying Causes

The improvement team began by making a “fishbone diagram”—a tool for beginning the process of uncovering what was causing the problem they were tackling (in this case, chronic absenteeism) (see Figure 3).

Creating a fishbone diagram can be cathartic for a team. Here, participants freely share their thoughts about why a problem exists and also find that others on the team may have the same theories. As is often the case at the start of an improvement project, this team began by focusing on causes that were outside their control—especially the wider lives of students' families. A fishbone diagram can be refined over multiple iterations to help a team tune the language and focus on factors inside their locus of control. In this case though, the coaches decided to leave it as it was, as an “artifact” of the team's shared understanding of the problem at that time. The coaches recognized the value of this imperfect fishbone as a starting point for investigating the true roots of the problem without taking a more directive coaching stance to “fix” the fishbone.

The team continued their investigation by conducting empathy interviews

with staff and parent focus groups in multiple languages. When they started the interviews, the team was still focused on external factors such as helping families improve their morning drop-off routines. However, equipped with the added perspective of staff and parents, the team refined the causes identified in the fishbone diagram by conducting an interrelationship digraph protocol (see Figure 4).

To make an interrelationship digraph, a team plots the “causes” identified in the fishbone diagram and puts them in a circle on a piece of paper. Then they look at each cause in turn. If one cause has a relationship with another cause, the team determines, in the words of the protocol, “which one causes the other the most,” and then draws an arrow from the “causal” element to the “impacted” element. The number of inward and outward arrows are counted for each cause, and the causes with the most outward arrows rise to the top as those that have the most impact on the other causes. In sum:

- Most outward arrows = Main causes to address
- Most inward arrows = Main symptoms

When the web showed that factors that took place within the school (the boxed material in Figure 4) were more impactful than home factors, the team had an “ah ha!” moment. This activity shifted the team to focus on things within their control, and they used these causal factors to create a driver diagram and begin researching change ideas.

At the end of this process the team identified three principle drivers of the problem of chronic absenteeism:

1. Communication with families
2. Shared responsibility for chronic absenteeism across school staff
3. Issues with the school’s attendance policy

They decided to focus their efforts on the first two.

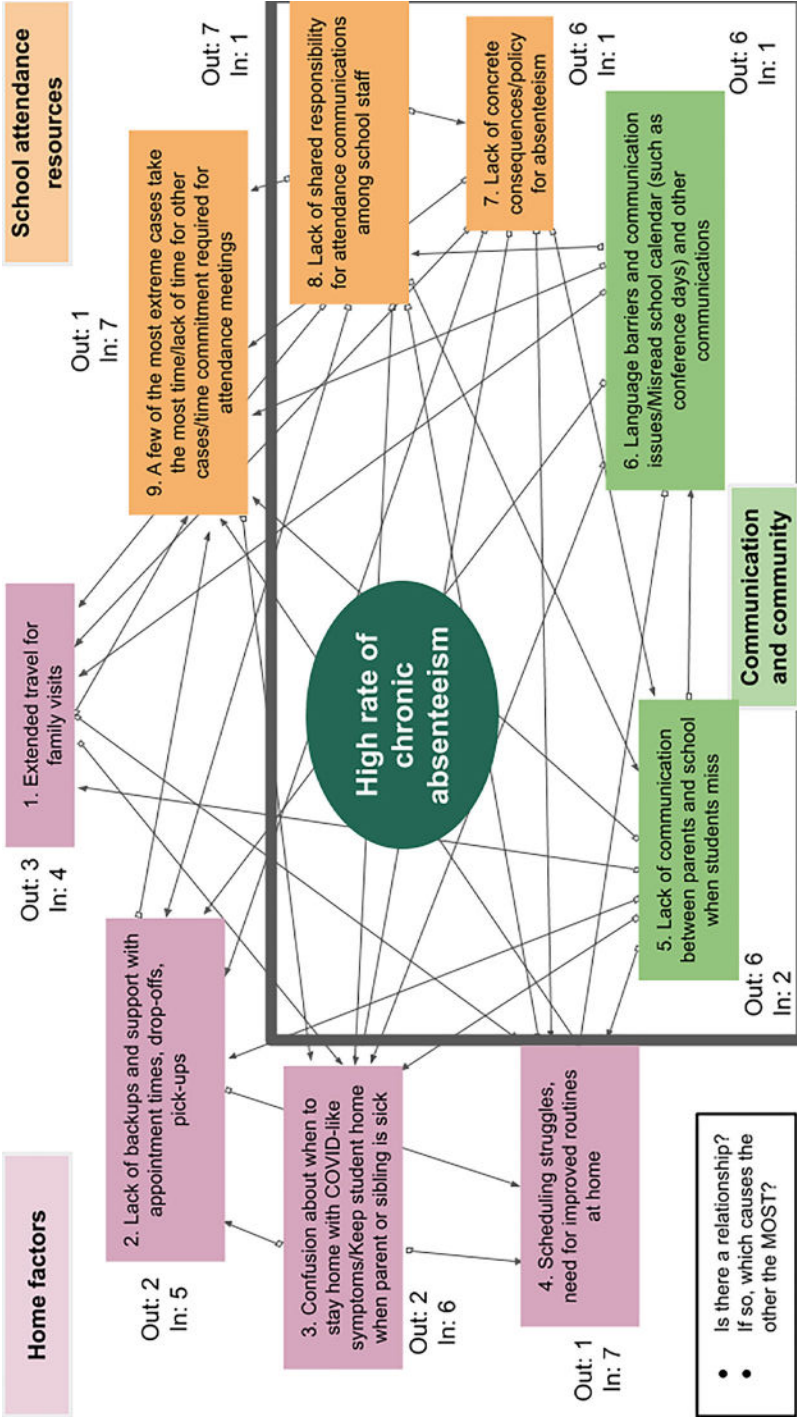
Identifying Potential Solutions to Test

Once the team identified two drivers to focus on, they plotted these on a “driver diagram” (see Figure 5) and started researching potential change options. Once they had a few ideas, they used the Generating High-Leverage Change Ideas Protocol to decide which to focus their energy on.

They decided to start with the following change ideas:

- Adaptive texting strategy: communication driver and shared school responsibility driver
 - All FTD students received ParentSquare messages touting the benefits of regular attendance.

Figure 4: Interrelationship Digraph



- After 6 weeks, students with a lower than 8 percent absenteeism rate received targeted, personalized messages highlighting consequences of missed school.
- The attendance team divided student lists to share the responsibility of providing responses if parents contacted the school.
- Professional learning for teachers: communication driver
 - A staff meeting was held devoted to sharing the relevant why of the chronic absenteeism improvement project.
 - The attendance team shared its key learnings and provided staff with facts and figures regarding regular attendance, causes of absenteeism, and teacher actions that can influence positive attendance.
- Teacher goal setting: communication driver and shared school responsibility driver
 - Teachers wrote behavior goals related to positive reinforcement of regular attendance.
 - Coaches followed up in meetings.
 - Goals were posted in hallways as a reminder.

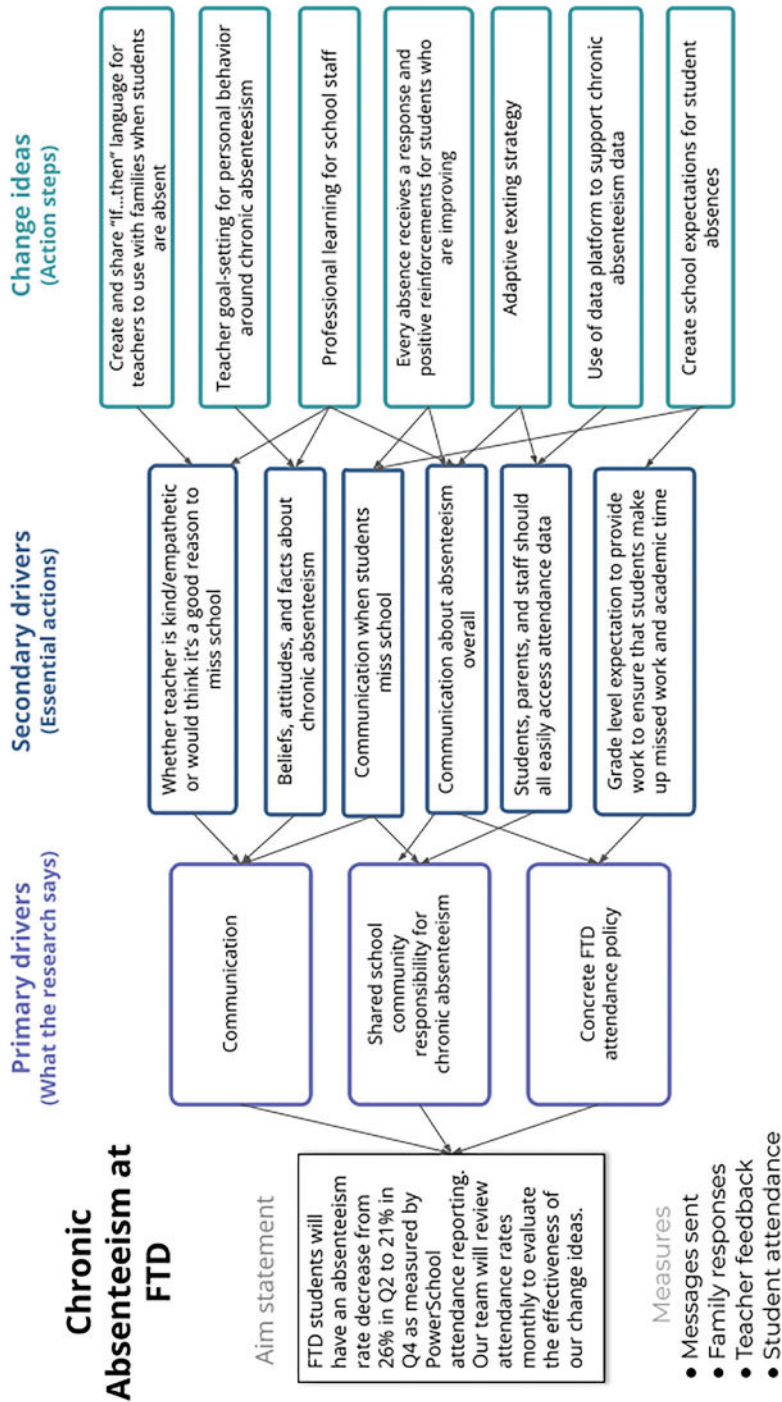
Adaptive Texting

While researching change ideas, the team learned about adaptive texting from the Department of Education's Institute of Education Science (IES). At the heart of the adaptive texting strategy was a key issue the team had identified through their ongoing outreach to families about attendance: Most families had a shared understanding that unexcused absences are a problem, but many did not see excused absences as a problem, even though the educational impact of prolonged absence is the same, whether excused or not!

Once the team decided to tackle this, it brought up another, connected issue: School communications were not reaching all families. As luck would have it, the school had a new tool available for parent communication—a product called ParentSquare, which was adopted across all ACPS schools in 2021–2022. ParentSquare provides translation according to the parent's preferred language, making it possible to translate school text messages into over 100 languages. FTD hosted a series of community outreach events where parents could sign up for the service and select their preferred language.

Adaptive texting meant that parents would receive text messages using ParentSquare with information about attendance and chronic absenteeism. The texts were “adaptive” because when FTD first implemented the texting, all families in the school received the same text with general information about the importance of school attendance. After six weeks, families of

Figure 5: Working Theory of Change Driver Diagram



chronically absent students (plus almost chronically absent—students with an absence rate of 8 percent or more) received a customized message specific to the student. Based on examples from the IES study, the improvement team crafted the following message:

“Dear parent/guardian, [Student] has been absent X total days this school year. When students are absent, they miss learning and connecting with the school community. Research shows that students in grades K-5 who miss 18 days or more per year, whether excused or unexcused, are less likely to graduate from high school. As always, we are here to support you. Please let us know how we can help.”

Some families responded defensively to this message, but it started a conversation that usually became very helpful for everyone. A key piece of what made this successful was using a team to respond to the messages; in the past, this would have been the sole responsibility of the school social worker. The team shared common parent responses and collaborated on the best ways to use these conversations to strengthen relationships with families.

The adaptive text messaging Plan-Do-Study-Act (PDSA) cycle helped us learn several key lessons. First, we had a more than 20 percent higher response rate than predicted, and parent responses were also more varied. We learned we needed multiple protocol shifts to maximize our time, and the attendance team needed an infrastructure to actually collaborate on a process that was previously handled by just one person. As one person on the team observed, “We need to invest in the process so it doesn’t overwhelm.”

We also identified next steps through the PDSA cycle, which included blocking off 30–60 minutes on work calendars to send and reply to families’ text messages. We also created basic spreadsheet protocols for team collaboration and support, and tailored future messages from the original study’s protocol, and based on responses from families. Finally, we wrote a macro to easily gather impact data the week after text messages were sent.

Professional Learning and Goal Setting for Teachers

The team used a regularly scheduled staff meeting to share an update about this work and provide information about chronic absenteeism. The meeting was designed to help teachers feel a sense of shared responsibility for chronic absenteeism at the school—that is, to make it “everyone’s problem.” The improvement team shared the following research-based strategies for reducing chronic absenteeism that teachers could quickly implement and easily integrate into their existing routines:

- Welcome students back warmly after absences.
- Take attendance regularly, showing students you care when they miss school.
- Develop and implement a system of engaging incentives for good/improved attendance.
- Connect families with other school staff (i.e., social workers or nurses) to share barriers and problem solve.
- When parents email about an absence, express how much you will miss their child, and find out in a supportive manner why they are missing school and what would help them attend more regularly.

At the end of the staff meeting, teachers completed an exit ticket where they indicated which strategy they wanted to incorporate into their teaching. Improvement coaches were then able to follow up with teachers to offer support on the strategy the teacher had chosen.

The PDSA cycles focused on professional learning and teacher goal setting helped the team learn important lessons and identify next steps. The team's key learnings were:

- Teachers reported concerns related to both supports and consequences for families of chronically absent students.
- The professional learning session revealed the need for ongoing education regarding school and division policies for responding to chronic absenteeism.
- There still persists a stigma against families experiencing chronic absenteeism. Ongoing professional learning for teachers is warranted.
- Teachers were willing to make changes to their behaviors to welcome chronically absent students and to intentionally connect with families.

The team's next steps were:

- Add teacher behavior check-ins as an agenda item at meetings.
- Focus messaging to parents/families to clarify expectations for acceptable absences for students
- Dig into staff mindsets about chronic absenteeism the week teachers returned to school in August 2023.

Evidence of Improvement

When FTD started this improvement project, overall chronic absenteeism in the previous year (2021–2022) was 27 percent. However, after two years of work, the rate of chronic absenteeism for the 2023–2024 school year was 11 percent. Across ACPs, chronic absenteeism was 13 percent, and across Virginia it was 16 percent.

During this same period (2021–2024) the rate of chronic absenteeism specifically among English learners at FTD dropped from 29 percent to 10

Figure 6: Chronic Absenteeism—FTD, ACPS, and Virginia

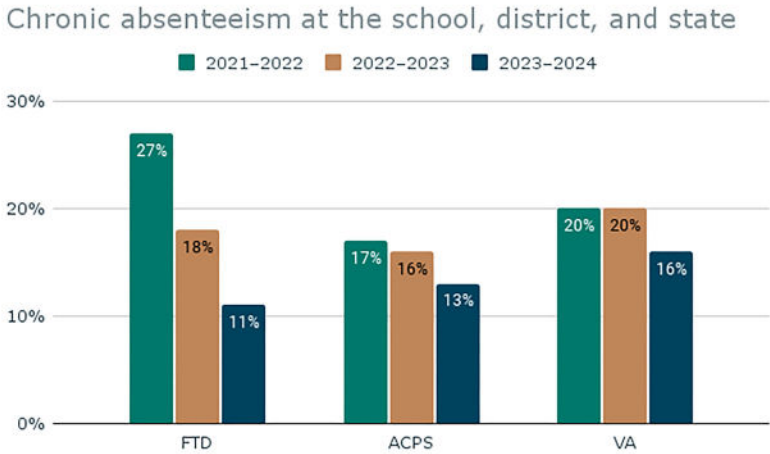


Figure 7: Chronic Absenteeism for English Learners—FTD, ACPS, and Virginia

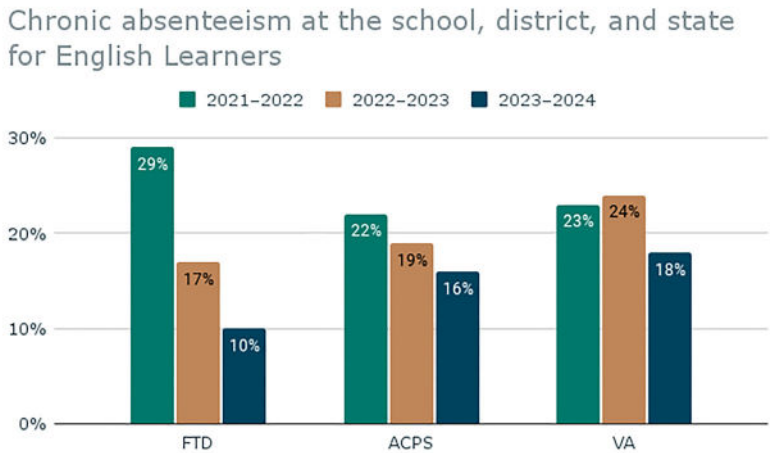
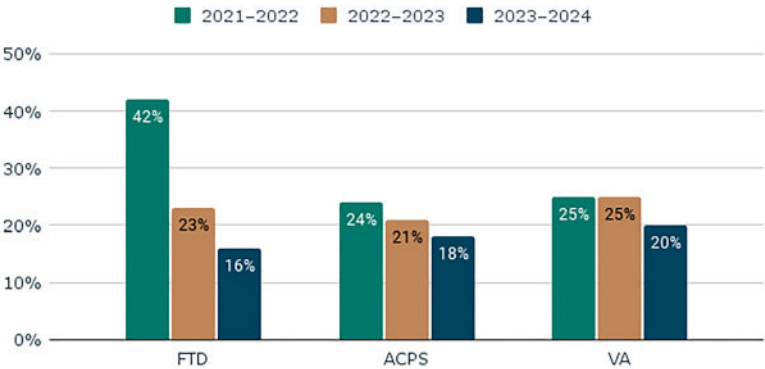


Figure 8: Chronic Absenteeism for Hispanic students—FTD, ACPS, and Virginia

Chronic absenteeism at the school, district, and state for Hispanic students



percent. For comparison, chronic absenteeism among English learners across ACPS was only 17 percent in the 2021–2022 school year—12 percentage points below the rate at FTD. However, in the 2023–2024 school year, that rate was 16 percent, 6 percentage points higher than at FTD. In other words, in three years FTD’s chronic absenteeism among English learners went from being much higher than the district average to being lower than the district average. For more comparisons between chronic absenteeism at FTD, ACPS, and Virginia, see Figures 6–8.

The evidence for the value of adaptive text messaging is particularly striking. When the school began sending weekly attendance messages schoolwide, attendance among students with 8 percent or higher absenteeism rates rose from 86 percent to 90 percent. When the school started sending custom messages to individual families, the percentage rose again to 93 percent (Figure 9).

What The Team Learned

Meet Early and Often

From a coaching perspective, we found that momentum matters. The improvement team met weekly beginning in September. The prospect of a new weekly meeting in everyone’s already busy schedules is not always appealing, but the team found they minimized the amount of work that needed to be done outside of meetings and helped them to keep taking small steps forward.

Your First Solutions are Probably Wrong

Chronic absenteeism was an urgent issue impacting students and possibly the school's accreditation. The school, understandably, wanted a quick fix. In-the-moment problem solving is a big part of working in a school; faculty are used to moving quickly. However, the team's initial hunches and biases, as shown in the fishbone diagram, turned out to be wrong, and if they had acted on those without taking time to investigate the system, they likely would not have been as successful.

Broaden Your Definition of Expert

Leaders benefit from filling rooms with different experts, perspectives, and experiences. The improvement team engaged various stakeholders, such as staff, families, and division leadership, both as part of their core team and as consultants throughout the project. Schools are filled with incredible experts. Lean on your group and their diverse knowledge and input.

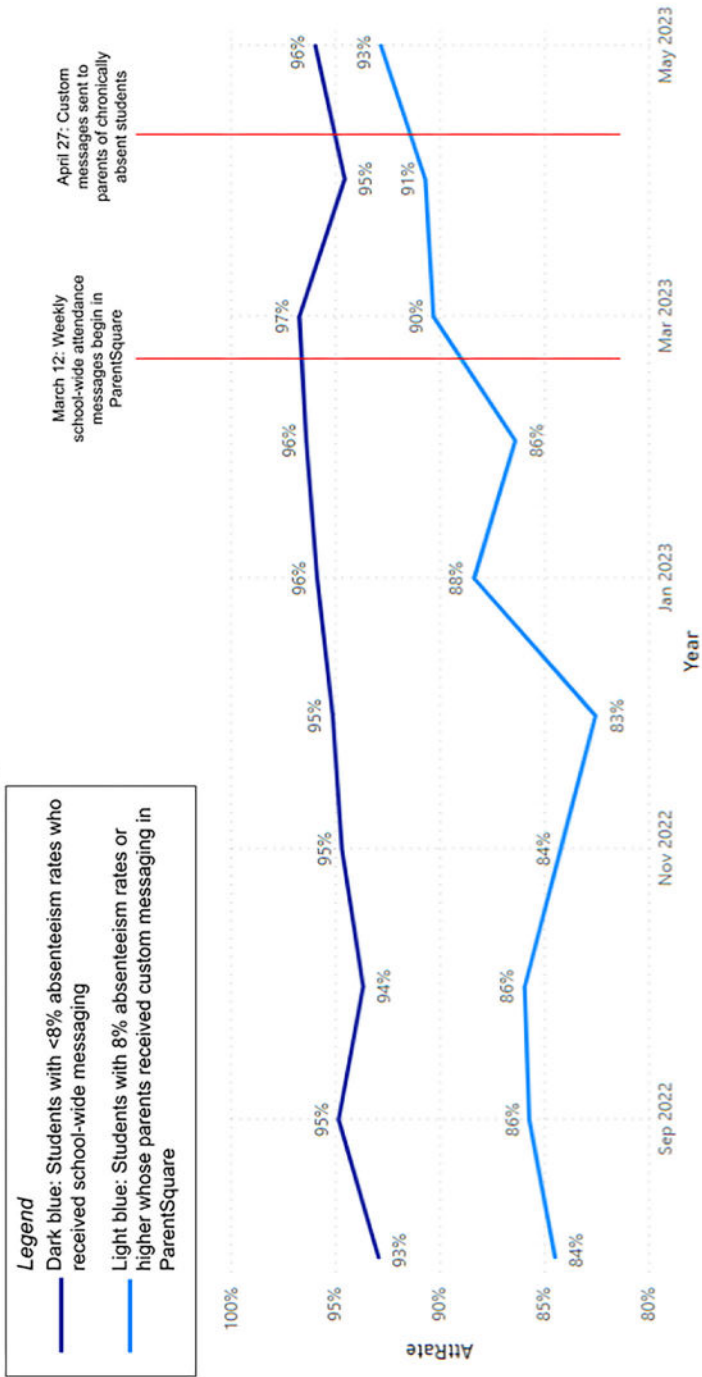
Connecting as a Group Keeps Hope Alive

At the beginning of this project, the school was at a rock-bottom of sorts. The pandemic was extremely trying for educators, and the return to in-person school, though welcomed and celebrated, brought a new set of challenges. Although things felt dire, the improvement team held hope it could be better and that the school was capable of getting there together. When they felt discouraged or overwhelmed, they took time as a group to talk about it, and then kept taking small steps forward.

This work was not easy, but it has been immensely rewarding. In particular, the team at FTD taught me a great deal about vulnerability. This was a high stakes problem during an intensely stressful time for educators. I was consistently amazed by their ability to stay hopeful and keep showing up every week, holding space for the frustration they felt but continuing to move forward on behalf of the students we care about. I also want to acknowledge my co-coach Farah's richness of insight that consistently brings out the best in me (and everyone around her). Finally, thank you to our leaders Rachael and Clint for protecting our time and empowering us to take action.

Figure 9: Attendance Rates Before and After the Introduction of Adaptive Text Messaging

2022–2023 FTD Monthly Attendance Rates





Above: Student art, created about the theme "Attendance Matters"

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