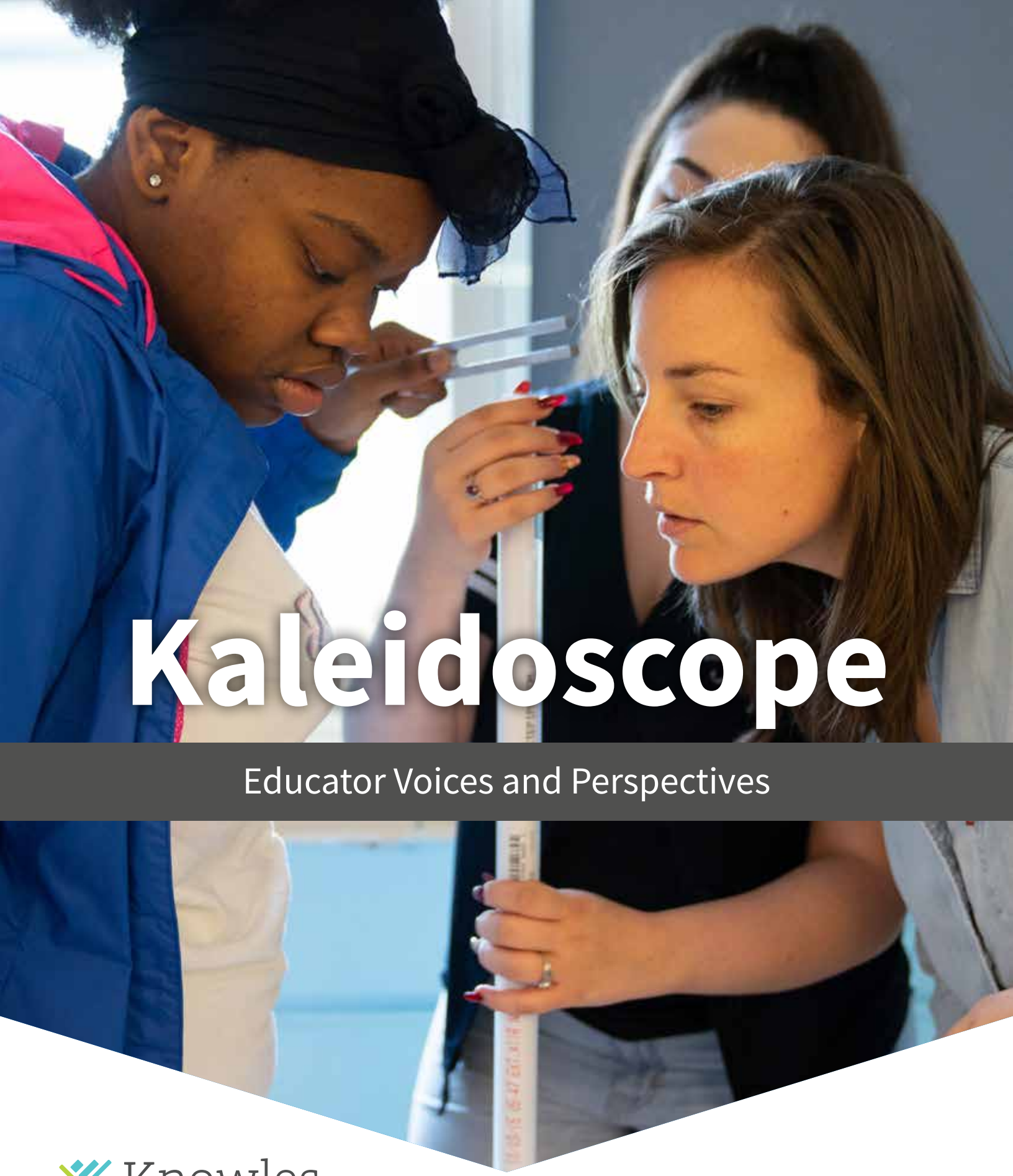

Kaleidoscope

Educator Voices and Perspectives

Knowles
TEACHER INITIATIVE

Transforming Mathematics & Science Education

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KALEIDOSCOPE

EDUCATOR VOICES AND PERSPECTIVES

Call For Submissions

The *Kaleidoscope* editorial staff accepts submissions on a rolling basis. We publish in a variety of formats, including print, podcast and video.

If you are interested in writing, or already have a piece in mind, contact **kaleidoscope@knowlesteachers.org** at any time for feedback, information, or guidance. Every submission, from idea to fully-developed piece, is assigned a peer advisor to help develop, build, and edit the piece before submission.

On our webpage, **www.knowlesteachers.org/kaleidoscope-about**, you can find other resources to help you develop your ideas, including

- a non-exhaustive list of the genres of stories we publish, including examples of pieces from *Kaleidoscope* and elsewhere;
- the rubric used for the final review of submissions; and
- past issues of *Kaleidoscope* to see what others have written.

We look forward to reading your work!

Subscriptions

Print and digital subscriptions of Kaleidoscope are available at **https://knowlesteachers.org/subscribe**; digital subscriptions are complimentary while print subscriptions are available for purchase. If you are a member of the Knowles Teacher Initiative community, please let us know when you contact us, so we can ensure that your subscription is properly processed.

In This Issue

Disclaimer

From the Editors' Desk:

What is "Normal?"

Reconsidering our ideas of what teaching "should be" and what it can be.

This past spring I listened to an episode of the podcast "Hidden Brain," which explored the use of storytelling to influence beliefs in Rwanda after the genocide (Verdanten, 2018). The researchers being interviewed were hoping to use a serial radio story to communicate ideas about how violence between groups begins, what role bystanders play in interrupting the disjunction of people, and how intermarriage and relationships between ethnic groups can generate empathy toward others.

The most interesting part of this story came in the unintended findings about beliefs and behavior. The organization and researchers who undertook this storytelling project were trying to change people's beliefs in the hopes of warding off future violent behavior in Rwanda. They failed to change peoples' beliefs—but they did change their behavior. While people still held prejudiced beliefs against people who were different from them, because they *perceived* that others in their community did not share those beliefs, they behaved as if they were not prejudiced.

This idea of behavior being largely driven by our perception of social norms, and the powerful desire to conform to social norms, has really struck me. Now that this idea is in my head, I see examples of it playing out in many parts of my life and in many of my relationships with others.

This idea around our perceptions of "what is normal" in our culture has made the work of sharing teacher stories even more urgent to me, especially in sharing these stories with other teachers. Stories give us information about ways of thinking and ways of acting that influence what we see as "normal" in societies.

One of the dominant norms in our current educational structure is the disempowered role that teachers play. Teachers can either teach, or they can really work for change as a leader through administration or research.

We at *Kaleidoscope* and the Knowles Teacher Initiative know this to be a false and damaging story about teachers. That story is not told by teachers, but rather a story told *about* us.

In providing support and a platform for teachers to tell their stories, we start to take control of that narrative. And so *Kaleidoscope* shares stories that illuminate and reshape what our fellow teachers see as "normal" for teachers and teaching. When we read stories of teachers working toward equity with their colleagues at school, we see a new norm for what teachers can be. When we read stories of teachers speaking up against school violence, we see a new norm for what teachers can be.

Even if we don't change beliefs about teaching, we offer up a new possibility, a new norm, for what it means to be a teacher in the United States. And we hope you see new possibilities for yourself, your colleagues, your students, and your country.

Rebecca Van Tassell
Editor-in-Chief

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Verdanten, S., Boyle, T., & Schwartz, M. (Producers). (2018, April 16). *Romeo & Juliet In Kigali: How A Soap Opera Sought To Change Behavior In Rwanda.* [Audio podcast] Retrieved from https://www.npr.org/2018/04/16/602872309/romeo-juliet-in-kigali-how-a-soap-opera-sought-to-change-behavior-in-rwanda

Citation

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Rebecca Van Tassell,
a Knowles Senior Fellow, is an Editor-in-Chief at Kaleidoscope. Reach Becky at rebecca.vantassell@knowlesteachers.org.

Call and Response:

New Ideas for Your Teaching

This past summer, we asked teachers in the Knowles community to tell us: "What's one thing you are going to try differently in your teaching this upcoming year?" Here are their responses.

One thing I'm going to try differently in my teaching this upcoming year is to incorporate more meaningful vocabulary in my classroom. I want to think about what specific vocabulary and phrases are required in order to access the content and build in a variety of structures to support students' understanding of the terminology. Some current plans I have are matching diagram/description cards with partners, throwing vocabulary parties, using claim/evidence/reasoning, and whiteboarding word-bank responses. I'm looking for new structures and different ways of getting students to produce academic language, so if you have suggestions I'd love to hear them!

Micaela Kaye, 2018 Teaching Fellow

I am looking forward to being more patient with my students and more willing to spend additional time on topics with which they struggle. Rather than push ahead and focus on the amount of content covered, I will focus more on the actual understanding of students, regardless of outside pressures.

Marissa Lehmann, 2016 Teaching Fellow

I am trying pull-out groups to work on specific skills.

Erin Oakley, 2015 Teaching Fellow

I'm going to try standards-based grading in my biology classes!

Erin Smith, 2017 Teaching Fellow

I'd like to refocus my units to start with an interesting and engaging phenomenon that can be threaded through the entire unit. Hopefully this will increase student engagement and keep them excited about chemistry class!

Caitlyn Macrae, 2018 Teaching Fellow

The one thing I'm going to try differently this year is to try fewer different things! Before adding new routines/structures/activities to my practice, I want to pause to consider the things I'm already doing that are effective and working. How can I get better at what works rather than adding more?

Rick Barlow, Senior Fellow

I am going to try to incorporate more of the Next Generation Science Standards into my biology class by getting rid of things not included in the assessment boundaries that I've always taught because "that's how we've always done it." Along with this, I am trying to get more project-based learning in my classroom!

Sara Abeita, 2016 Teaching Fellow

I will focus on making my classroom predictable and consistent. I am trying to make explicit the rules and culture of power in my classroom by making sure students know the answers to questions like: How do I know that I've done something right or wrong, and what are the consequences? How do teachers and administrators expect me to behave? What counts as part of my grade? How can I support my classmates?

Manju Connolly, 2017 Teaching Fellow

I am going to devote more time to meeting with students outside of class, not just to help them study but also to get to know them, and being more responsive to their input on how the class runs. Additionally, I'm going to try a couple of new projects, thanks to an inspiring presentation I attended at the 2018 Knowles Summer Meeting!

Zoe Masters, 2015 Teaching Fellow

I want to be better at giving my students feedback that can help them grow. After a major assessment, I show them their work and we move on. I want to individually conference with students to discuss their progress and give them a chance to reflect. Maybe it's time to revisit having my students make portfolios!

Kristin Mongelli, Senior Fellow

This year I want to take more time for myself. I think I can do this best by setting time limits and boundaries on my work time and also thinking more carefully about assessment in my classroom. If I am more conscious about what I need to do to assess student understanding, then I can make more time to take care of myself after work (instead of grading). I am hoping this will help me become a more patient and thoughtful teacher!

Emily Berman, 2015 Teaching Fellow

One thing that I will try differently in my classroom this upcoming year is to incorporate restorative practices into my classroom management. I also want to include "brain breaks," where students get to do something fun/engaging and educational. I am planning on doing this after the end of each unit or after testing days. I think this would help foster a more caring environment and a positive classroom culture.

Monique Rivera Velez, 2018 Teaching Fellow

My classroom is being turned into an "active learning lab" with I flexible seating, fun brightly colored walls, TV monitors, and iPads. I will be emphasizing my students' learning in an environment where active participation is required, encouraged, and integral to daily routine, with minimal direct instruction. Special features include whiteboard walls for writing problems/questions/wonderings, seating designed for collaboration, and an open layout without a traditional "front of the room."

Kara Teehan, 2016 Teaching Fellow

I'm really good at having students work on identifying who they are as learners, but I haven't had a chance to have students make that work public with other kids so they can start to connect and build allies within the classroom. This fall, I want to help students not only figure out who they are as learners and how they learn, but also find out who else is in the room is like them, so they can start to build partnerships with one another.

Kevin Henson, Senior Fellow

During my student teaching, because I felt like I had to get through content quickly, I did an activity that combined team building and content on the first day of the trimester. Unfortunately, that activity didn't set up the norms and team-building strategies that I had anticipated. So, going into this new year, I am going to dedicate at least one class period fully to team-building, and norm construction and enforcement. Hopefully, this activity will ensure that norms are clear, which will save time later in the year while fostering more productive team interactions among students.

Lawrence Teng, 2018 Teaching Fellow

We talked in our cohort [at the 2018 Knowles Summer Meeting] about norms and how they can help students have access to learning. I haven't done a really good job of having norms and being consistent with them, which is the same for a lot of my cohort members. I am excited about having working, student-centered norms that we can continue to change. If a norm comes up, and we recognize that it denies access, or I realize that it denies access, we change that norm. Last year it was what my classroom was doing; I am excited this year for *how* my classroom is doing.

Anthony Tedaldi, 2016 Teaching Fellow

This upcoming year, I am really excited to get my students to talk more efficiently in groups by enacting some of the complex instruction strategies I learned at a PD this summer.

Kayla Kutemeier, Senior Fellow

An ongoing feature in *Kaleidoscope*, Call and Response (previously Raise Your Hand) features short responses to a writing prompt. Do you have an idea for a storytelling prompt? Contact us at **kaleidoscope@knowlesteachers.org**.

Citation

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Now on Teacher Voice

Process, Process, Process

In this episode of **Teacher Voice: The Podcast,** Knowles Fellows discuss the crucial nature of collaborators in writing impactful stories. Join *Kaleidoscope* staff members as they explore the impact of a published article and discuss how writing can be an act of leadership.

In May 2014, *Educational Leadership* published an article called The Trouble with Top Down by Rebecca Van Tassell, a Knowles Senior Fellow. The article, which emerged from the work Van Tassell did with her Knowles inquiry group, explores the impact administration can have on the dynamics of teacher collaboration.

For several years now, Knowles Teaching Fellows have read Van Tassell's article as part of their learning about teacher leadership and teacher storytelling. While the story is a resonant example of teacher leadership, and one that Fellows have found useful and interesting, an unanticipated consequence was the construction of barriers to writing for Fellows. Presenting a highly polished, published piece of work set up a seemingly unattainable standard for what teacher leadership through writing could be.

In this episode of Teacher Voice, host Brittany Franckowiak asks Rick Barlow and Angela Lou, Knowles Senior Fellows and *Kaleidoscope* Associate Editors, to share their impressions of reading the piece as early-career teachers. She then asks Van Tassell, now a *Kaleidoscope* Editor-in-Chief, to reflect on the process of transforming a challenging teaching experience into a published piece of learning useful for other teachers. Van Tassell highlights the importance of iteration and the necessity of supportive critical friends throughout her writing process. Listen to the podcast to hear reflections on how the process of writing for others generates profound learning for the author, and explore other unseen work that is part of the writing process.

To hear more about the process behind teacher storytelling, listen to the podcast on our website.

> *There's definitely that feeling of those people—those are the rock stars. Me? I'm just going to try to survive."*
>
> *- Angela Lou*

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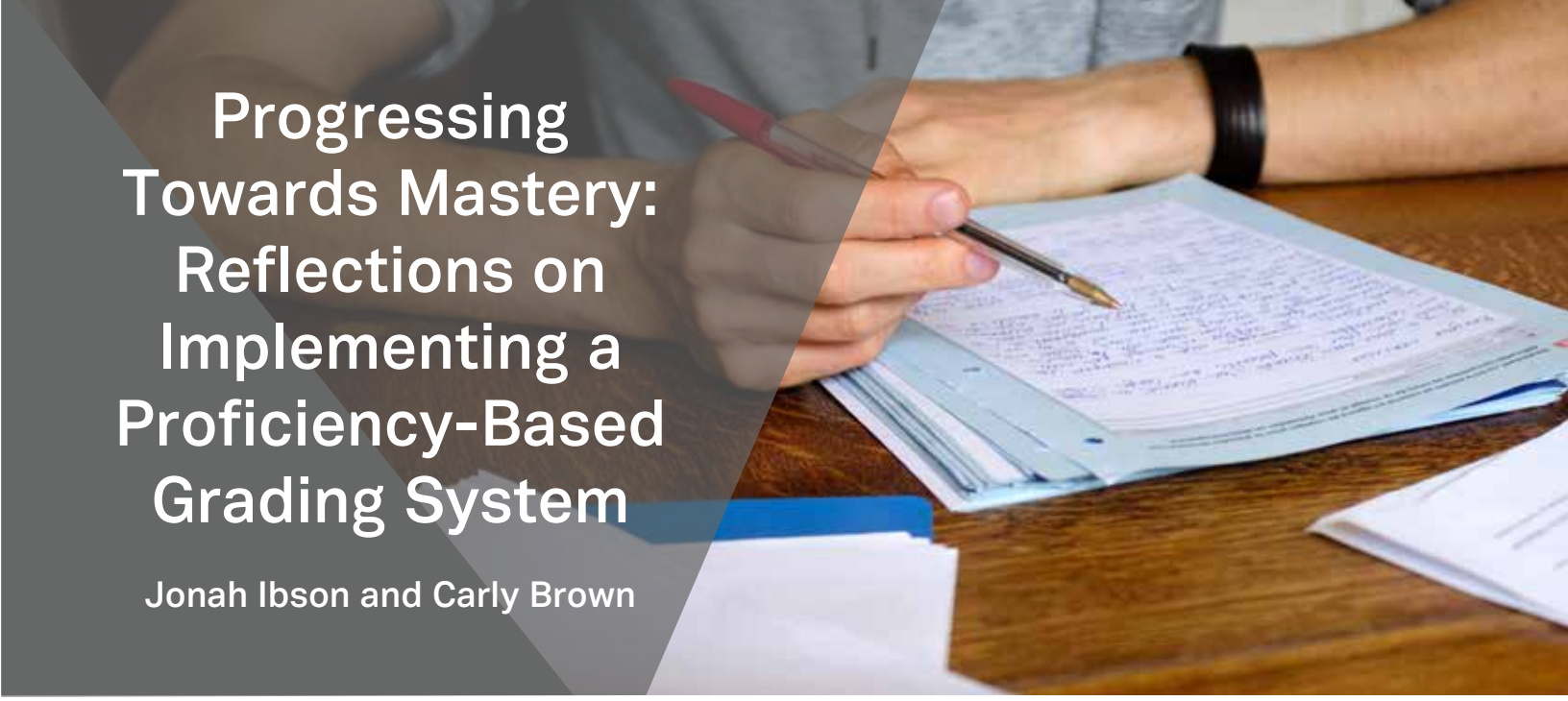

Progressing Towards Mastery: Reflections on Implementing a Proficiency-Based Grading System

Jonah Ibson and Carly Brown

How would implementing proficiency-based grading shift our teaching practice?

In the 2016–2017 academic year, our school transitioned to a proficiency-based grading (PBG) system in accordance with a state law which required Vermont schools to create "Flexible Pathways" to graduation. Flexible Pathways are "high-quality expanded learning opportunities, including academic and experiential components, which build . . . proficiencies and lead to secondary school completion, civic engagement and postsecondary readiness" (Vermont Agency of Education, 2017). In PBG, the focus is on students demonstrating skills defined by a school, with the purpose of giving students and teachers a clearer view of the current strengths of student understanding and areas for growth.

With open-ended language from the state and a principal dedicated to helping all students make progress toward cross-curricular, measurable skills, our school set out to design a new system of teaching and graduating students. In this article, we describe the impact that this shift to PBG has had on our teaching practice, as well as the role that collaborative structures played in implementing a new grading system.

At our rural Vermont middle and high school of roughly 500 students, Jonah teaches the English component of a ninth grade English/history class called Global Studies and Carly teaches ninth grade Earth and space science. Because our school's shift to PBG started with ninth grade and moved to higher grades in successive years, our ninth-grade team of teachers with common students was among the first to use the model.

In our classrooms, we focus on skills that we select from a school-wide master list divided into 10 general categories: communication, creative expression, global citizenship, inquiry, integrative thinking, problem solving, reading, writing, wellness, and self direction. For example, in Earth and space science, one of our focuses is on the skill of using "evidence and reasoning to justify claims," which falls under the broader proficiency of integrative thinking (Figure 1). Students have multiple opportunities throughout the year to show evidence of this skill and build on it through practice and feedback tied to school-wide rubrics.

5. INTEGRATIVE THINKING
Create new meaning from evidence, multiple views, perspectives, opposing models, or seemingly unrelated ideas.

HS.05.01 Use evidence and reasoning to justify claims.

HS.05.02 Explain multiple and complex causes and effects of events in the past and present.

HS.05.03 Apply systems thinking to understand the interaction and influence of related parts.

HS.05.04 Examine the causes and long term effects of people's needs and/or wants exceeding available resources.

HS.05.05 Analyze historical eras and explain why certain events are significant.

HS.05.06 Analyze a variety of media and visual representations (including maps, globes, photographs and other media)

HS.05.07 Make hypotheses based on observations.

Figure 1. An example of specific skills (blue) that make up a "proficiency" (red). Courtesy of Harwood Unified Union School District.

Shifts in Teaching Practice

While we are designing and revising our proficiency-based system school-wide, we realize that some of the most impactful changes are made at the classroom level, both in curriculum and how teachers engage with students. In using this new type of feedback and grading system, we have come to see how important it is to build relevance for students as we shift from content to skills-based teaching.

It takes creativity to imagine engaging ways for students to work together to take on real challenges and solve real problems, as well as to tap into students' inherent curiosity to help drive the development of their skills.

It is imperative that we help students understand that the skills they are developing in our classrooms will be useful to them in the future, even when—perhaps especially when—we can't foresee how. Helping students recognize and build these skills has resulted in shifts in our teaching practice that provide relevance for our students and specific feedback that celebrates and grows their skills. We highlight three shifts within our classrooms below.

Shift 1: An Intentional Focus on Skills (Jonah)

My history teaching partner and I recently found ourselves with an interesting problem. Our class is focused on global citizenship, culture, geography, literature, and current events. We had just finished a unit on revolutions and, with two weeks until vacation, didn't want to launch something new only to be interrupted. We selected two key skills we wanted students to work on: creating and delivering presentations and demonstrating organized communication.

After some serious brainstorming sessions squeezed in during lunches and after-school meetings, we discovered a way to let students use their own creativity and interests while practicing the skills we were looking to develop. The Bucket List World Tour PechaKucha Contest was born, giving students a chance to design a creative presentation showcasing the five places outside of the United States where they would most love to travel.

The PechaKucha is a presentation format created by two Japanese architects that features 20 slides advancing automatically every twenty seconds ("PechaKucha 20x20," n.d.). Each slide contains a single image and no text, and the images illustrate the ideas conveyed by the presenter. The constraints of the assignment forced our students to think creatively, to organize their ideas logically, and to express themselves in a clear and concise way. Students researched locations around the world, looking for places as diverse as the best areas to see migratory birds in South America to the most gay-friendly cities in Asia.

Our implementation of proficiency-based teaching and grading has allowed us to be more flexible with our content, giving more choice to students and letting their interests drive what they are learning. This has pushed us to focus our attention on what is most essential: the skills students will be using in the future long after they have (perhaps) forgotten the content through which they practiced and developed these skills.

In this new approach, we always begin a project by showing students exactly what skills they will be practicing, what our expectations are, and how their work will be assessed. Using the rubric (Figure 2), students practiced their PechaKucha presentations in small groups, giving each other feedback on skills such as the use of emotion and rhetoric, gestures and eye contact, and transition words and phrases. The energy level and engagement was high, skills were developed, and we believe that we encouraged some future world travelers to follow their interests around the globe.

HOW WILL MY PECHAKUCHA PRESENTATION BE ASSESSED?

Like this:

Communication	Beginning	Emerging	Proficient	Advanced
HS.01.02 Demonstrate organized communication.	I can use a basic structure to organize my thoughts, but there are inconsistencies in how I use this structure.	I can organize details, claims, examples, or evidence, although in some places the relationships between my ideas may be unclear.	I can present my ideas clearly with a logical sequence.	I can construct my ideas using a innovative or creative sequence.

Learning Target and/or Content of this task: I can create and deliver a PechaKucha presentation that highlights the five specific locations **outside of the United States** that I would most like to visit.	**Proficient:** -Your images and the locations they depict are organized in a logical sequence. -You use transitional words and phrases to move from one slide and place to the next. -Specific details about each location are presented with clarity. -Rhetoric (pathos, ethos, and logos) is used to help persuade an audience that you want to visit each of the five locations.	**Advanced:** -Your images and the locations they depict are organized in an innovative or creative sequence. -You use transitional words and phrases to move from one slide and place to the next, and to explore details about each location. -Specific details about each location are presented with clarity and creativity. -Rhetoric and figurative language is used to help persuade an audience why each of the five locations is worth visiting.
Specific Requirements: 1. Focus on five specific locations. 2. Use slides to present two images of each place: one showing where in the world it is, the other showing why you want to go there. *Notice: one image only per slide.* 3. The slides will advance automatically every 15 seconds, so plan carefully how much you can say for each slide. Remember, there is no text on the slide. All information will come from you, the speaker.		

Figure 2. A rubric that students will be assessed with, as well as specific information for what "demonstrating organized communication" looks like for a specific task.

Shift 2: Organizing Formative Assessment Results (Carly)

In my classroom I use formative assessments to develop a better understanding of students' needs on a

specific skill, then offer targeted feedback and/or adjust my instruction in order to prepare my students for a summative assessment of their skills. One challenge I've faced was organizing formative assessment results and then deciding on concrete next steps to address the diverse student needs represented in those results.

We have been encouraged to use charts adapted from Champlain Valley Union High School (Williams & Rinkema, 2017) as a way to map student progress from a formative assessment and to better challenge students (Figure 3). Of course this mapping and feedback could have happened in a traditionally-graded classroom, but it wasn't a practice in my classroom until I had the language developed through school-wide rubrics that allowed me to give specific feedback to my students.

In one task in my classroom, students use balloons to model changes within our universe as it expands. Students then developed a claim, evidence, reasoning paragraph (CER) based on their findings. As I formatively assessed students using the rubric, I also noted common areas of strengths and challenges for students who were at each of the four levels of the rubric.

From this, I developed three different activities to support students at their current level of understanding in writing a CER, each with the goal of helping teams of students reach proficiency at a minimum. For example, students who were marked as "beginning" were tasked with editing a sample claim to ensure it's a full sentence, then rewriting a sample evidence statement to include specific data. Students whose work was identified as being "proficient" were tasked with helping a pseudo-student add sophisticated connections and extensions in their reasoning.

Balloon Lab CERs

Target and Scale: Claim, Evidence, Reasoning	**Beginning:** I need support in using reasoning to connect my evidence to my claim	**Emerging:** I can discuss the evidence I gathered using reasoning to show how the evidence connects to my claim.	**Proficient: I can describe the evidence I gathered using reasoning to show how the evidence supports my claim.**	Advanced: I can analyze the evidence I gathered using reasoning, sophisticated connections or application of concepts, and/or multiple perspectives to support my claim.
Student Groups				
Determining Needs	-Claim is incorrectly formatted (not a full sentence, or not related to the prompt) -No reference to evidence.	-Reference to some, but not all, evidence. -No reasoning to connect evidence to the claim	-Evidence and reasoning is present, but could go more into WHY this makes sense (sophisticated connections).	
Planning and Organizing	Look at a typical "beginning" claim evidence reasoning example. Look at a CER example that is proficient (a different prompt). Add evidence and reasoning to the CER with gaps. Then, get a new batch of data, and create a proficient CER as a group.	Look at a claim evidence reasoning example that includes some evidence. As a team, work to include all of the evidence, then connect back to the claim through reasoning. Then, get a new batch of data, and create a proficient CER as a group.	Look at a claim evidence reasoning example that is proficient. Brainstorm extensions that could allow for sophisticated connections to the topic. Analyze why the evidence makes sense, and include this reasoning in the paragraph.	IF MISSING: Paste the lab or turn in the notebook.

Figure 3. A chart organizing formative assessment results for a lab in Earth and space science.

> *We have come to see how important it is to build relevance for students as we shift from content to skills-based teaching."*

This process of designing new tasks to address targeted student needs, while time consuming, gave students a clear model of what to work towards when writing future CER paragraphs. Using the chart also allowed me to easily organize my next steps based on the formative assessment. The next time students were asked to do CER paragraphs, I noticed more students had fully developed claim statements with reference to specific evidence.

Shift 3: Reconsidering the Role of Tests and Quizzes (Carly)

One discussion in several departments has been how some traditional practices, like tests and quizzes, might still play an important role in our PBG school. In our science department, we have continued to assess students through quizzes and tests, in addition to more project-based assessments. Through extensive department discussion, we have agreed that, for now, we do still see value in this traditional practice, as students will be expected to take quizzes and tests in many contexts outside of school (e.g., driver's permit tests, tests for certifications in various fields, college-level tests and quizzes, etc.) Furthermore, well-crafted quizzes allow students to practice working with the content in a different

way, and can provide information about their content knowledge.

However, in my classroom, I have decreased the focus on this type of assessment. This is, in part, because I have designed my assessments to reflect the diversity of skills involved in project-based assessments, but is also because I'm still trying to work out where these traditional assessments best fit in our PBG model. Are quizzes treated as a separate "content gate" that students have to pass to move on? Do we assess students on skills within the quiz? Or is there a separate rubric that highlights the skills involved in preparing for or taking tests and quizzes? So far, the shift in my classroom has been to use quizzes as formative check-ins with students, but we are still in the process of finding their place in our classrooms.

The Importance of Collaborative Structures

Because of our developing focus on broader skills, students at our school can be assessed on the same skill in multiple classrooms. This overlap requires not only communication within and between departments, but also calibration of our understanding of what each level of a rubric looks like in student work as we assess the same skill across classrooms. Here we share two examples of how collaboration was necessary under this new system.

Collaboration 1: Calibrating a Communication Skill (Carly)

Our two ninth-grade teams have followed an inquiry protocol to make observations about our assessment of students in communication. The "proficient" level of clear and effective communication was described as "*I can present my ideas coherently, with a logical sequence and use academic language and/or images to enhance my message and present my subject in a precise manner.*"

We brought student work to the ninth-grade teams to generate conversation about this skill. Science teachers brought lab reports written by students after they designed and carried out an investigation, while global studies teachers shared student narratives of culture clashes resulting from personal interviews. Using these as data, we were able to have open conversations about what proficient looked like in this skill, and how to support and challenge students in this area.

Looking at the prompts and student work from other courses allowed me to see that we weren't providing structures that many of our students needed in science in order to reach proficiency in communication. This prompted us to provide more specific guidelines and graphic organizers for students to better support them in moving toward proficiency as they write their lab reports.

Because of our developing focus on broader skills, students at our school can be assessed on the same skill in multiple classrooms."

This allowed students to more clearly communicate their ideas than our students had on the same project in previous years.

Collaboration 2: Using Student Work to Address Common Feedback (Jonah)

Feedback from colleagues has helped me to realize that I need to be doing a better job of isolating the skills that students are not yet fully grasping and directly showing students what work at different levels looks like to help them develop.

This year, we are assessing students in our large, co-taught, interdisciplinary class on the skill of using evidence to support a claim multiple times and in multiple different contexts. While reviewing student writing, I found myself making the same comment over and over again, highlighting a section of analysis and reminding students that they need to explain how their evidence explicitly supports and helps prove the idea in their claim. Despite the frequency with which I have left this comment for students, I have yet to notice many of them fully understanding and learning this skill.

Based on helpful and critical feedback from colleagues, I will be using examples of student work the next time I teach and assess this skill. Using a mini-lesson, I will show students different levels of analysis to illustrate the difference between connecting to a claim as opposed to fully supporting a claim. In this instance, the feedback of my colleagues during a ninth-grade meeting has directly led to a change (and hopefully an improvement) in my teaching practice.

Next steps

Though we have worked to develop a common understanding of what it means to be proficient in one

aspect of communication, the nature of our PBG model is that many skills are commonly assessed across classrooms. This drives a need for us to be able to come to a shared understanding, through intentional collaboration, of what we are expecting from students and how we can help them develop a variety of skills.

One area of continued focus for us is developing structures within our classrooms and the school that best challenge students at their level and encourage them to continue to progress in their skills. This might look like offering more enrichment activities in which students can further develop their skills. For example, in the past, Jonah has offered an extracurricular reading group in which students voluntarily read complex texts and then discussed them as a group. We recognize the need for more such opportunities within our school. This might also look like a continued shift within our classes that allow students more choice or opportunities to show their skills.

We continue to pursue a model of education that meets each student where they are and helps them make progress in developing essential skills. In the back of our minds, however, is this great wondering: how can we help all students maximize learning and engagement at the same time?

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Citation

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Jonah Ibson teaches the English half of a co-taught humanities class and serves on the ninth-grade team with an amazing Knowles Teaching Fellow at Harwood Union High School in Moretown, Vermont. His previous experience at two different middle schools in rural Vermont helped him develop a passion for interdisciplinary teaching and an appreciation for high-functioning, educational teams. He has been a member of the leadership team at Harwood for three years, working to design and implement a proficiency-based system for teaching, learning, and assessment. Reach Jonah at jibson@wwsu.org.

Carly Brown, a 2014 Knowles Teaching Fellow, teaches Earth and Space Science as well as marine science at Harwood Union High School, where she serves on the ninth-grade team. She previously worked as the only high school science teacher at Craftsbury Academy and as a high school science teacher in Kenya. These experiences highlighted the importance of developing strong, collaborative networks in an education climate that is changing so quickly. Contact Carly at carly.brown@knowlesteachers.org.

Difficult Conversations in Support of LGBTQ+ Students

Beverly Stuckwisch

Difficult, uncomfortable conversations improved school culture for LBGTQ+ youth after our newly-developed gay-straight alliance faced community opposition.

Starting a Gay-Straight Alliance at School

I still feel like a novice teacher in many ways, but I have always felt strongly about my ability to advocate for students. In fact, student advocacy was promoted highly in my teacher preparation program and is an expectation for teacher evaluation in Ohio. To try to build up that advocacy, in 2014, a colleague and I helped students start the first gay-straight alliance (GSA) at our small, rural high school that was located in a politically conservative community. We had excellent support from our principal. In fact, his daughter was the original president of the group.

At first, the GSA was primarily a social group—a place where LGBTQ+ students and allies could come once a week to be themselves without fear of judgment. The existence of the group spread by mostly word of mouth and by public address announcements, even though many of the students had no idea what the GSA initials represented. As that safe space began to develop and students were able to identify allies within the school, participants also began to develop a desire for more visibility and activism.

The Problems with Visibility

In April 2016, the GSA organized a recognition of the Day of Silence, "a student-led national event where folks take a vow of silence to highlight the silencing and erasure of LGBTQ+ people at school" (GLSEN, 2018). Participation was voluntary and the GSA set up a table in the cafeteria for students to sign up. Over 70 students participated in that first year.

While the students, my colleague, and I anticipated negative comments and pushback from some of the community, there were other issues that arose that

> *Looking back, I truly feel that my fear and unwillingness to have uncomfortable and emotionally charged discussions was one of the biggest things preventing the positive change I desired."*

we did not predict. A parent called the principal and complained that some of the GSA students had been going up to lunch tables informing people of the event, thus forcing the topic of homosexuality on her child. Another parent was concerned that her child would be "forced to be silent for gay rights," which was neither true nor an entirely accurate depiction of the event's purpose.

Because of incidents like these, we recognized a need to be more transparent in our advertising of the event, perhaps appealing to individuals' empathy by highlighting the disproportionate bullying, suicide, and murder rates for LGBTQ+ students. However, because of the parent concerns, the principal asked that students tone down the advertisement altogether—specifically by not going from table to table in the lunchroom and instead allowing interested students to come to them. The day of the event came and went without too many issues. Students expressed hearing some homophobic and transphobic slurs in the hallways, but in general felt the event was a success.

Feeling more empowered, in the fall of 2016, the GSA students set their focus on making themselves more visible in the community. They knew there were students who either didn't know about the group, weren't allowed to attend, or weren't ready to come out. They wanted to let those students know they weren't alone. As a result, their next project was to create a compilation of the pride flags they felt represented their identities, drawn and colored by hand. Each flag would represent a student in the GSA, so the sheer number of flags would send the message they intended.

Because of the issues the previous year, I took a photo of the finished flag (Figure 1) and sent it to the principal for approval prior to hanging. Once we had that approval, it went up in a large blank space of the math hallway (somewhere we knew all students would pass at some point in their day). Two days later, my colleague and I were asked to meet with the principal during our lunch period. I felt sick to my stomach because I knew what the outcome of that meeting would be—the flag was coming down.

Figure 1. Compilation pride flag colored by GSA students.

The principal had been contacted by some parents, students, and at least one staff member who expressed issues with the flag. While he responded with defense to remarks that were flat-out discriminatory, he found himself stuck on some other issues raised. For example, the third flag from the right on the bottom row included the word "pansexual." Some parents expressed they did not want the school to be educating their children on sexuality in any form and that the word itself hanging on the wall was in fact attempting to educate students on multiple sexualities. It was also brought to light that the school policies currently in place did not allow "non-curriculum groups" to hang flyers and posters inside the school. Although that hadn't been enforced in the recent past, it would have to be enforced now—starting with taking the flag down.

My response was angry tears. I knew how much it meant to the GSA students and what taking it down would represent to them and those who've oppressed them. At the time, I was so emotional that I was unable to process my principal's response or address it with him in an effective way. Instead, I let my feelings stew and blamed him harshly for not being able to see the future and predict what would happen when the flag went up. As someone who historically avoided conflict, it took nearly six months for me to feel like I could have a real conversation with him again.

Rising Tensions and a Difficult Conversation

The 2016 presidential election followed closely behind the flag incident. Students expressed concern and fear in GSA meetings. There was a rising tension in the air as transgender restroom rights were questioned throughout the nation. In April 2017, the GSA sponsored the Day of Silence again. Because of their inability to advertise in ways the students felt were effective, they had about half the number of participants as the previous year. The students, my colleague, and I felt stifled in how we could support activist work in the community, while at the same time feeling it was more important than ever. Partly because of the polarity of the political parties in the news, I found myself making blanketed assumptions about colleagues and community members that I knew to be politically conservative.

At a Knowles Teacher Initiative meeting, I expressed all of these feelings to a group of Knowles Teaching Fellows. It was in this setting that I was challenged to reconsider my assumptions. We identified a common thread of not knowing how to address difficult conversations in each of our settings. As a result, we decided to read *Difficult Conversations* (Stone, et al., 2010) and make it a goal to face those issues head-on.

In the final week of the 2016–2017 school year, I worked

with my principal to host an open conversation about the GSA. The principal, superintendent, guidance counselors, about 10 staff members, five students from the GSA and one parent attended. Prior to the conversation, I emailed a document to staff and GSA students outlining the purpose of the conversation, as well as some conversations starters. The purpose was to:

- ensure that students and staff were on the same page about the purpose of the GSA,
- help make the conversation about GSA more positive in the community, and
- give a voice to anyone who had concerns or comments about the purpose of the GSA.

Initiating this conversation felt risky to me. I worried that either no one would attend or that someone would derail the conversation. I think that was the biggest reason why I waited until the end of the year. If it went well, we would be starting the new year with some footing. If it didn't go well, we'd have the summer to recover and work on next steps. Figure 2 shows a visual representation of how the conversation went.

After the meeting, I felt like our conversation actually accomplished exactly what we hoped it would. Once everything was out in the open, it was clear that the more vocal staff members who were in opposition to some of the GSA's activities did not understand the students' situations or motives. At the beginning of the meeting, one staff member consistently stated that if LGBTQ+ students in our school were being bullied, then it was their responsibility to stand up for themselves and to report it. More than one person reached out to me after the meeting, referring to his comments as "victim blaming."

One thing that was clear in the conversation, though, was that this staff member had never considered how difficult it would be for a student to advocate for themselves when no one else was advocating for them. More than one staff member was shocked to learn that some of those students had zero support at home and a few had even been kicked out of the house. Most importantly, some really good ideas came up for how to move forward and create a more inclusive learning environment for the next year.

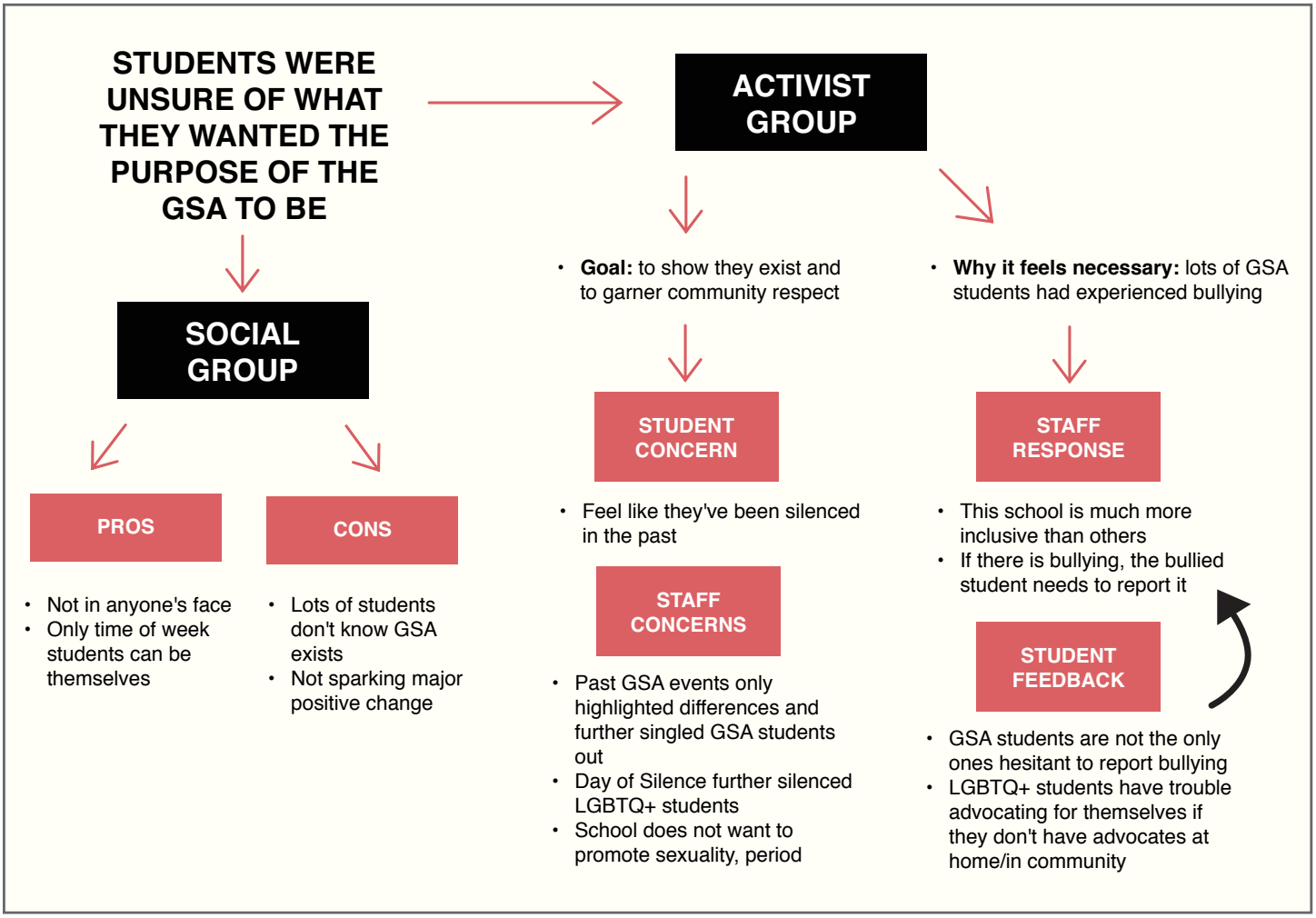

Figure 2. Takeaways from the open conversation about the GSA.

Another, more personal, result of this conversation was that I was finally able to start to see some different perspectives. Planning events solely focused on the GSA and on LGBTQ+ topics was further isolating those students in the eyes of some community members. This was something neither I nor the students in the GSA had considered. Even if we disagreed with the way that some people responded, we couldn't make progress until we at least recognized their feelings and concerns.

Moving forward, we wanted to focus more on partnering with other groups to help create a more inclusive community for all students. My hope was that through these projects, more students who needed the GSA would find it and other students would discover ways to stand up for their peers as allies. If one of the major goals of the GSA was to help students feel less alone and isolated in our school, then perhaps partnering with other groups to work on bigger projects and goals would accomplish just that.

Making Progress

At the beginning of the 2017–2018 school year, I reached out to all staff to create a professional learning community (PLC) to examine the culture of our school and our students' experiences of harassment and bullying. Fourteen staff members joined the group and, eventually, four students joined as well. We met throughout the year, analyzing data from surveys, interviews, and focus groups with students as well as brainstorming ways to help students and staff engage more thoughtfully on topics of empathy and equity. To help join various students groups together, the PLC helped the National Honor Society prepare morning announcements for National Bullying Prevention Month in October. Another student club created a bulletin board displaying those announcements. Even though they couldn't post flyers, the GSA students were allowed to continue to utilize the morning announcements as well and did so during Transgender Awareness week, announcing bullying and suicide statistics for trans students.

As predicted, there was at least one student and parent complaint about the announcements, but since we had made sure to follow all written school guidelines and focused solely on empathy building for trans students rather than on something more politicized like bathroom rights, it was very easy to defend our actions.

Both my colleague and I now work at different schools, for reasons unrelated to the challenges we faced advising the GSA. Prior to opening up the conversations I had previously been avoiding, I would have wrongly assumed that there were very few support systems for the GSA students other than my colleague and me. Instead, when I announced that I was leaving, two other teachers volunteered to be the advisors moving forward. Several others voiced support as well. Additionally, the city where the school resides hosted its first pride event in the summer of 2018. One of the GSA students even attended a planning meeting for the event, which led to them having a table to represent our school.

Looking back, I truly feel that my fear and unwillingness to have uncomfortable and emotionally charged discussions was one of the biggest things preventing the positive change I desired. Using difficult conversations to unpack my assumptions about people I perceived to have different values than me was the first step to real change.

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The "Invisible Knapsack": Rip it open. Spend it down.

Ginna Roach

I used to think of my whiteness as a burden. Now I realize it is an account that I can cash in to weaken systems of unearned power in my classroom and beyond.

The comedian Michael Jr. does a bit in his stand-up routine where he talks about knowing your "what" versus knowing your "why" (Michael Jr., 2015). For me, the "what" has always been teaching, but the "why" has been harder to articulate.

If you had asked me six years ago why I wanted to be a teacher, I would have said something about loving to work with kids, about how satisfying it is when a student finally "gets" a concept. For a long time, the why behind my desire to teach was self-motivated, rooted in the personal satisfaction I got from helping others.

Now my why is different. Now, I teach to disrupt hegemonic and racist power systems.

Everything I am is the result of institutionalized practices that bolstered me along life's journey, and I am committed to not only unlearning these practices, but intentionally and actively working against them. Teaching is the vehicle that helped me arrive at this "why," and it is also the vehicle through which I work to actualize it.

Every day, we participate in oppressive practices that systematically subjugate people based on their identities. Through our participation in these normalized practices, we learn to reproduce them. Deborah Ball called this the "apprenticeship of participation" (2018), the process by which we learn, repeat, and thus normalize oppressive practices. No one is immune to this apprenticeship, because hegemony is the air that we breathe. How often do we refer to a group of people as "guys," thereby centering the male experience? How often do we call someone "crazy," normalizing an ableist view of the world? How often do we fail to honor the First Nations people on whose land we stand, contributing to their systematic erasure from our collective history?

These are not practices that I have always been attuned to, and I know there are many more that I am still not yet aware of. Identifying and unlearning the ways that I perpetuate oppression is active, intentional work. If I want to be anti-racist and disrupt hegemonic power structures, I need to first start with myself.

Phase One: Looking Inward

The first phase in actively disrupting racist and hegemonic systems requires me to look inward; to interrogate the multiple aspects of my identity and understand how my culture—which is deeply rooted in these identities—affects the way that I show up in the world. I have to start by recognizing the air that I breathe.

When you exist in a culture that reflects you and gives you power, it's easy to be unaware of your privilege—to think that your identity is the "default," the "norm." Hegemony is the air that we breathe.

I remember sitting in the library reading Peggy

> *The first phase in actively disrupting racist and hegemonic systems requires me to look inward; to interrogate the multiple aspects of my identity and understand how my culture—which is deeply rooted in these identities—affects the way that I show up in the world. I have to start by recognizing the air that I breathe."*

McIntosh's *The Invisible Knapsack* and being struck by McIntosh's image of the knapsack of whiteness: an unearned package filled with special tools, privileges, and codes that others did not have access to, but that I did because of my racial identity (McIntosh, 1989, p. 10). There I was, realizing at the age of 22 that I had been walking around with this knapsack for my entire life, accessing its contents constantly, never knowing it was there. I felt as though blinders had been removed. The world suddenly looked different. For the first time, I caught the scent of the air that I was breathing.

Reading *The Invisible Knapsack* was just the first step in what has become an ongoing journey for me: a journey of constant internal examination of how my identity shapes my lived experience. As a woman, I can't help but gender my experiences, but as a White person, it is easy for me to de-racialize—to ignore the ways that my race affects my reality.

And so the first step in being actively anti-racist, the first step in disrupting, is to actively practice racial consciousness: to recognize that every experience I have is racialized. When I leave the store and don't get asked to show my receipt, that experience is racialized. When I can take risks because my performance will not be seen as a reflection of my entire race, that experience is racialized. When I write this piece in a language and style that mirrors those used in my home, that experience is racialized.

What's more: people of color are not responsible for educating me on how my experiences are racialized. Rather, this is internal work that I need to do on myself, for myself. Practicing consciousness means constantly reminding myself that where I am today—every accomplishment, every milestone, every step—is the direct result of oppressive systems that give me power while erasing and subjugating those who do not look like me.

Just practicing consciousness, though, can get us stuck in the paralyzing quicksand of guilt. I could smell the hegemony in the air, but I wasn't sure what to do about it. My best solution was to work at a public neighborhood school where I would get to teach students who were targeted by many of the injustices I saw around me. The second phase of my work had begun.

Phase Two: Pushing Outward

The second phase in this work requires me to push outward. It means I must intentionally work to build an anti-racist and anti-hegemonic culture in my classroom; to change the air that students breathe, even if just for the 45 minutes they are in my class.

I was determined to do something about these injustices that I was starting to sense all around me, so I attempted to assuage my White guilt by dedicating huge amounts of time to planning lessons grounded in social justice issues. My students used exponential functions to analyze predatory lending; used graphs to chronicle years of injustices against women; and used proportions to critique the electoral college. I used complex instruction, presentations, and research projects aimed at redistributing power by elevating students' voices and centering their experiences. Student test scores improved, the rigor of the course increased, and surveys showed measurable improvements in students' relationship with mathematics.

Because I could see and feel that these moves were leading to better math experiences for my students of color, I assumed I was doing my part to deconstruct power systems. "What" I was doing was teaching social-justice lessons, "why" I did that was to empower my students of color. It took a change of context for me to realize just how much more learning and work lay ahead of me.

After three years, I accepted an offer to work at a selective school where students must score highly on a

test to be admitted. This was a fraught decision for me, to say the least. Until that point, I had been focused entirely on empowering students of color, helping them see themselves in their math curriculum, and encouraging them to reclaim their power in my classroom. At my new school, though, my classes were filled with well-served, mostly White students who had always had this power. I struggled to see how I could continue my social justice work in this environment. How could I fight for justice if I wasn't working primarily with students who were victims of injustice?

To resolve this dilemma, I had to realize that my "why" went deeper than just empowering students of color. The reason why I aim to empower students of color is to dismantle racism. And if my why is dismantling racism, then in fact there are many pathways I can (and must) follow to pursue that goal.

I came to understand that while empowering students of color is a critical and necessary part of the work of anti-racism, it isn't enough. Being anti-hegemonic requires me to work with everyone to change the air for everyone; it is not just a project to be done with my students of color within the walls of my classroom. This concept of extending my work beyond the walls of my own classroom felt risky for a long time. I wasn't convinced that I had the capital to try and spur any kind of social change within my school community.

Phase Three: Spending the Capital of My Privilege

The third phase of actively disrupting racism and hegemony requires me to cash in on my whiteness—to spend the capital of my privilege towards making change.

During the first two phases of my journey, my fear of speaking out had held me back from seeking change beyond my classroom. I justified my lack of outreach by blaming my colleagues: telling myself they were close-minded and uninterested in bringing justice into their classrooms. I fell back on the convenient narrative of the disengaged veteran teacher and let fear dictate my lack of action.

Enter McIntosh again, this time with the analogy of whiteness as "an account of unearned assets that [she] can count on cashing in each day" (McIntosh, 1989, p. 10). If my whiteness is an account of privilege, it gives me capital to spend. I can intentionally cash in that capital to disrupt normalized hegemonic practices.

With this understanding of my racial identity as capital, I could no longer work in isolation in my classroom. I realized that I was going to have to speak up, knowing that I could count on my account of privilege to shield me from the potential negative consequences that I feared.

I have slowly begun to cash in this capital, but the work continues to be messy, ill-defined, and full of unanswered questions. For example, at the end of last year, I began to raise questions about the fairness of our department's assessment system, in which we were seeing a range of negative outcomes for our students of color. I agonized over the ways that I contributed to these outcomes, but also continued to push my colleagues in conversations about it until we eventually met to re-work our system. It felt risky, and so I spent the capital of my privilege slowly at first in my individual conversations, then more liberally when I called my first ever department meeting—knowing that whatever capital I was spending by speaking up would soon be replenished, because that's how the account of privilege works.

This summer, I continued to spend my capital by speaking up at professional development and calling my White colleagues to action. Our summer professional development was entirely focused on issues of race and equity, and I was excited to see so many of my White colleagues leaning in to this work. I was inspired by the risks that many of them took in being vulnerable during those workshops, but it was exhausting for my colleagues who are people of color. Having spent their lives interrogating their racialized lived experiences, they felt frustrated by the amount of time being spent catering to White staff members' personal racial awakenings.

So at the beginning of one of our workshops, I spoke up in front of 115 colleagues. I shared my personal journey interrogating my identity, and called in my White colleagues to do this work *on ourselves, for ourselves*, rather than asking our colleagues of color to bear that responsibility for us. I have no idea what effect this had on my colleagues, if any. I do know that no matter how terrified I felt in that moment, I was (and will continue to be) backed by my racial capital. That alone is enough to make me continue taking steps forward, no matter how risky they may feel.

I have always been able to identify my "whats." My "what" is teaching. My "what" is creating culturally relevant, social justice-oriented lessons. My "what" is helping students of color reclaim their power from those who have systematically taken it from them. But without a "why," these "whats" could only take me so far. I didn't know how to work towards justice in my new school. It wasn't until I reflected on my "why" that I realized empowering students of color is not enough, and that it is equally urgent that I cash in my whiteness to talk back to, question, and push on power systems. As Michael Jr. says in the conclusion of his piece: "when you know your why, your 'what' has more impact, because you are walking towards your purpose" (Michael Jr., 2015).

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From Public School to Homeschool

Rachel Verbois

Experiences in my previous teaching position inform and strengthen my current work as a homeschooling parent.

What does your typical school day look like? As a public school chemistry teacher, mine followed a certain rhythm, which probably sounds similar to yours: opening warm-up and homework checks, direct instruction or inquiry into a particular topic, group or lab work, wrap-up before the closing bell, repeat for the next class.

Fast-forward six years. Now that I'm a homeschooling mom to a second grader, a kindergartener, and a toddler, my new rhythm feels radically different, but it still has echoes of my former classroom routines: opening activities in the morning time (i.e., studying the Bible, singing and reading aloud), instruction in traditional school subjects, hands-on activities through science experiments and art projects.

This rhythm is, by necessity, much more flexible—after all, where does a rambunctious two year old fit in when we're learning about ancient Athens? Why, he's quietly getting into the freezer to eat ice cream at 9:30 in the morning, of course! But the day's pattern gives us a familiar structure that allows us to learn and live side-by-side and provides an environment for developing the life-long learning skills that seem to be an essential touchstone in modern education.

Sometimes I wonder how exactly I ended up here. Even as a child, I knew that teaching was something that I wanted to pursue, but I never expected the direction it would take me. From 2006–2011, I taught chemistry at a public high school in central Virginia. I loved my job and my work with students. After the birth of our first child, I stepped away from the classroom to be at home; since then, we have had two other children and I have started homeschooling our oldest, Katie. This year, she is in second grade and our middle daughter, Elise, is starting kindergarten.

> *Every homeschool is unique, just as every classroom is unique, comprised of different students with different strengths and weaknesses, different teachers with various guiding philosophies and interests teaching from different curricula."*

My husband was homeschooled throughout his K–12 education; he completed his PhD in 2011 at the University of Virginia and is currently a professor at a liberal arts college in western Pennsylvania. When he initially suggested that we pursue homeschooling our children, I was resistant to the idea. After all, what did I know about early elementary education? In particular, the prospect of teaching our kids how to read terrified me—it's so fundamental to all learning. What if I did it wrong? Would my children be scarred for life?

But there were aspects of homeschooling that were very appealing—using my general skills as a teacher in a different environment; being able to tailor my teaching and activities around the learning needs and styles of only two children (and a toddler); and choosing to incorporate subjects or books that addressed their own personal character development. Within a homeschool environment, I have the freedom to design our instructional goals and themes around their particular interests and cultivate their love of learning. I can challenge them where they are ready for more difficult skills or content, and remediate where they struggle. Gradually, through trial and error, I have come to really enjoy this direction that we have chosen for our family.

I will be the first to say that it is not for everyone and not for every season of life—and it is certainly the road "less traveled." As a novice teacher, I remember feeling very isolated sometimes, particularly when I was struggling with a challenging class. Being a homeschool mom can feel the same way; after all, much of my time is spent at home within the confines of my own family. As a result, I have deliberately made the effort to find and build community with other homeschool families in our small town, similar to the professional learning communities in my public school.

Before our various families started homeschooling, we as moms came from different career fields: some were teachers, some were not. But as we navigate the complexities of being the principal, teacher, and parent in our homeschools, we are all on equal footing. Those struggling in a subject or with a child ask for help; those with experience share suggestions or strategies. We work hard to encourage and support each other without judgment—through forming trusting relationships where we feel the freedom to be open and vulnerable, which takes time and investment. We read books together that challenge our ideas on learning, then try to incorporate what we're learning into the lessons we teach and learning environments we create. This year, with four other homeschool families, we are forming a co-op for our kids to go on field trips and learn certain topics together, sort of a mini-classroom that meets regularly in each other's homes.

But what does a homeschool "classroom" actually look like? Every homeschool is unique, just as every classroom is unique, comprised of different students with different strengths and weaknesses, different teachers with various guiding philosophies and interests teaching from different curricula. Although I can't speak for all homeschools' routines, I can describe a little of ours.

Our work takes at least two to three hours in the morning, and often art projects or science experiments spill over into the afternoon (or even the weekend, occasionally). Because my instruction is one-on-two, we are able to cover a lot of material in a significantly shorter time span than a traditional school day. We cover topics in history, geography, literature, religion, writing, French, spelling, and math each day, with art projects, music, and science incorporated at least three times per week.

In designing our homeschool, one of my first tasks was to choose a curriculum (or choose to create my own). There are as many curricula as there are home school families, but I was looking for one that combined a cross-curricular focus with academic rigor and, most importantly, flexibility. After all, curriculum is supposed to be a tool that serves me—I shouldn't be bound by it. The one I have settled on is designed to adjust to my own unique needs, with suggestions for books and learning activities at various learning levels that I can choose to incorporate or not, and it is historical in nature—that is, the study of history forms the backbone of the year's study, with other subjects being integrated into that framework, similar to a unit-study model. For example, when we did a unit on ancient Egypt last year in first grade, we read Egyptian myths for literature (and later compared them with the myths of other cultures we were studying), did spelling and grammar work with Egypt-related vocabulary words, learned about the ecology of river deltas like the Nile and made our own paper for science.

Of course, within the framework of the curriculum, I also have the flexibility of adding my own ideas into our work, of speeding up or slowing down our progress, or including materials from other sources. As we're moving through the content, I find that I often have to brush up on my own knowledge of a given topic. How much do you remember about ancient civilizations in India or Byzantine iconography? When was the last time you wrote a grade-appropriate lab activity for exploring magnetism and early compasses, originally developed in ancient China around 2500 BC? It's definitely been a while for me!

Some might see the need for continual learning to be just one more thing on a teacher's ever-expanding plate

of responsibilities; for me, continuing education that actually educated me was one of the joys of teaching in public school. Now, I am forced to do this almost daily, since one of the constant challenges in homeschooling is the fact that I don't repeat things. In our homeschool, each day is full of new content that I've never taught before. It forces me to adjust on the fly and be much more flexible with our schedule than I used to be.

One of the major benefits to homeschooling is the natural opportunity it provides to incorporate what we are learning—both content knowledge and process skills—into other subjects and our everyday lives. The ability to see the connections between school and life is one of the things that can help keep students interested in what we have to teach them; when these become disconnected, teachers often struggle with student engagement, behavior, and performance. As a homeschool mom, opportunities present themselves as we're in the grocery store, identifying fruits and vegetables in French or adding up the cost of the items in the cart. When we're baking, we talk about phases of matter and chemical versus physical changes. These cross-curricular connections help cement their developing understanding and reveal that all knowledge is interrelated. While the compartmentalization of content makes it much easier to teach in a classroom, it can limit the ability of students to apply what they're learning to life. Incorporating subjects back together allows them to see the world as a united whole, not as fragmented parts. This re-integration is also the goal of the unit study method, which seems to be gaining traction in some school districts.

Homeschooling involves our whole family each day. When we are reading history or literature, we do it together. When we do science experiments, both girls make predictions and participate in the experiment itself; even my two-year-old son Peter can play with (or break, or try to eat) the materials. Homeschool science curricula often are light on hands-on activities, and since parents aren't always confident in these subjects themselves, they rely on reading more challenging texts.

In our homeschool, each day is full of new content that I've never taught before. It forces me to adjust on the fly and be much more flexible with our schedule than I used to be."

In my classroom, I found that I was most able to engage students when they were doing something, not just reading out of a textbook or listening to me lecture. Thus, in my homeschool, I've developed my own science curriculum this year that incorporates many different experiments and learning experiences. I also deliberately manage the way we spend our time during the school day, so that quieter seat work is broken up by more physically active and engaging tasks—like phonics hop-scotch or music notes tic-tac-toe. My girls love playing games, so incorporating our learning into this format seemed like an easy way to reinforce skills and content.

Sometimes, this all-together-ness looks like chaos—as Katie and I are working on math or drawing a diagram of the water cycle on a whiteboard, Peter is climbing on the table, erasing the words with his feet or trying to hang from the dining room chandelier. A few minutes later, while Katie is reading independently, Elise is working on letters and Peter is trying to take the pencil away from her or rips out a page from the binder, much to her chagrin. Managing the chaos is definitely a challenge! I try not to get lost in the frustration of the moment and to respond firmly, but with kindness. My children aren't perfect, but neither am I. This openness drives many of our conversations after a particular incident and helps to resolve the conflict.

Other times, this whole-family model is truly beautiful. You know the thrill you get when a student has a breakthrough and understands something essential to your content? It's the feeling that makes all the angst worth it, right? I get the privilege of experiencing that each day with my own children. I get a front-row seat to watch them grow, mature, and learn every time we open a book or do an experiment at my kitchen table.

Sometimes our learning goals are small—the tail on the g should go below the line—and sometimes they are more comprehensive—what does this myth teach us about ourselves and the world around us? We get our hands (very!) dirty with paper mache models of Greek amphora, salt maps showing some of the geographical features of Egypt, caterpillar cocoons, oobleck, and art projects. We compare relative densities of coins, measure the rate of oxygen consumption of candles, and excavate model pyramids by decoding hieroglyphs to uncover model mummies.

Homeschooling does not mean I can do anything I want

> *The day's pattern gives us a familiar structure that allows us to learn and live side-by-side and provides an environment for developing the life-long learning skills that seem to be an essential touchstone in modern education."*

or nothing at all; I am held accountable to the district and state for the academic progress of my children. At the beginning of a school year, I spend some time reviewing state standards for our current grade levels and trying to align what we're doing with process skills or content that would be covered in a traditional school. Reporting laws vary by state; in Pennsylvania (considered to be a high-regulation state by the Home School Legal Defense Association (n.d.)), I will have to submit a portfolio at the end of each year after each child turns eight to an outside source licensed by the state to evaluate our curriculum and progress. The portfolio contents will have to include lesson plans showing the scope of the content that I have covered, samples from our work in the different subjects that show "reasonable progress," reading lists, and attendance logs (to make sure we're meeting state minimums of instructional days and hours). In addition, my children will have to take standardized tests in math and language arts from an approved list of choices at the end of third, fifth and eighth grades. The district superintendent has the right to challenge whether or not I am providing a "reasonable education" based on our portfolios and test scores and conduct an audit, if necessary.

There are definitely times when I wonder if we're doing the right thing. When people ask Katie what she's learning in school, sometimes she answers, "I don't go to school." Yikes! But when she comes down in the morning and asks to get started early (as she often does), or picks up one of our school books to start reading it on her own, or when Elise sings a children's song of French greetings to herself when we're on a walk, I know that we are on the right path for our family. I don't know how long we will continue on this homeschool journey, but for now, we're continuing in that direction. We have chosen the road less traveled, and I hope it makes all the difference.

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Citation

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Transforming Collaborative Culture through Vulnerable Acts of Everyday Leadership

Shelley Kunasek

When my school colleagues and I started sharing our vulnerable moments, our departmental culture transformed.

As a new teacher, I had big ambitions for leadership and collaboration in my department. I wanted to feel connected to my colleagues and learn from their experiences in the classroom. However, opportunities to collaborate during common planning time or organized departmental discussions were rare.

In an effort to generate the cohesive and collaborative spirit I sought, I started leading my colleagues in monthly classroom observations and lunch discussions that I hoped would improve our teaching. I imagined we would all be sharing and building off each other's ideas effortlessly. Instead, my colleagues and I were intermittently awkward, self-important, and guarded. During the meetings, huge sweat circles blossomed under my armpits, and I felt clueless about how to change the tone of these conversations.

What I did not realize at first was how much the choices I made in everyday interactions could lay the foundation for more formal collaboration in our monthly meetings. Through structured inquiry on the emotional dynamics of collaboration during my fifth year as a Knowles Teaching Fellow, I finally began to see how everyday interactions can become acts of leadership that shape departmental culture. I hope my story will offer an empowering new perspective to other teachers and administrators who recognize that their schools' collaborative culture needs to change.

Everyday Leadership Through Vulnerability

My year of inquiry started by investigating the emotional impact of different everyday conversations with colleagues at different times in my career.

In my first year of teaching, talking with Dave[1]:

> "Can we talk about the worksheets for the acid-base unit?" I asked Dave after his class. I had hunted him down and was still out of breath. "It seems like this makes pH overly complicated. I think maybe we can simplify it and make it more engaging with an inquiry lab."
>
> "Well, it has worked just fine for me so far," said Dave, flushing defensively. He then launched into a longer justification of his approach.

In my second year of teaching, talking with Alex:

> "Well, that went badly!" I announced rather jokingly to my officemate, as I plopped myself into a chair after class.
>
> Alex threw his head back and cackled, "I know what you mean." Then he added, "I tried this new project today in my A block. I spent hours on it, but my kids just stared at it like," and here he mimicked a vacant

[1] All names are pseudonyms.

look. “They were totally not interested! I have to figure out how to rework it for tomorrow.”

I laughed at his imitation. “Yeah. Don’t mind my muttering expletives over here for the next hour, while I try to figure out how to make this make sense to kids tomorrow.”

Though I wanted both conversations to re-examine teaching strategies, the first ended with a defensive withdrawal from open-minded collaboration, while the second ended with an empowering growth mindset. I began to wonder how the difference in my approach may have affected the emotional tone and outcome of the conversations.

Before my brief exchange with Alex, I felt disheartened, frustrated, and anxious. However, I made myself vulnerable by sharing about my failure. Alex responded in kind, sharing a story that made him equally vulnerable, but also expressing his growth mindset about his own teaching. His tone suggested that this process of taking risks, making mistakes, and learning from them was simply the work of a teacher. I was not a failure, I was a fellow risk-taker doing the brave work of teaching.

I was fortified by Alex’s empathic response, relieved that someone else understood my feeling of failure, astonished that even a lauded veteran teacher still took risks that sometimes flopped, and gratified that he had shared with me. I felt connected, like we were “in this together.” When I turned back to my computer to go about my work, I was no longer beating myself up about the lesson. I was ready to learn from my mistakes and improve by embracing the same growth mindset Alex expressed.

By contrast, my attempt to collaborate with Dave started with a criticism that damaged our personal connection and inhibited a growth mindset. My judgment that the worksheet made pH “overly complicated” positioned me as superior, which likely made Dave feel attacked as inadequate or inferior. His natural response to defend himself turned our conversation away from growth and change to instead argue the veracity of flaws in his past work. I wonder how different this conversation might have gone if I started instead by simply offering the idea of an inquiry lab without any pretext: “What do you think of starting our work on pH with an inquiry lab?” This open-ended question may have invited more genuine conversation, though I admittedly would have felt more vulnerable to Dave’s judgments about my own idea.

Looking back, I realized that there can be powerful leadership in the small choices teachers make in these everyday interactions. A willingness to be publicly vulnerable and express a growth mindset about teaching seems to be critical currency for authentic collaboration.

When I turned back to my computer to go about my work, I was no longer beating myself up about the lesson. I was ready to learn from my mistakes and improve by embracing the same growth mindset Alex expressed."

I decided to test this emerging theory by making more explicit attempts to share my vulnerable moments and observing whether other colleagues were also willingly vulnerable. After several months, I realized that the culture of vulnerability was becoming more of a norm in our office. Alex and I were not the only ones willing to share vulnerable moments. One day, Rachel had a pile of sugar cubes and icing on her desk. After Jimmy asked her what was up and Alex joked that he was excited that we were starting a bakery, Rachel admitted that she was struggling to keep students awake in her 90 minute geometry classes. We cheered on her idea to try a sugar-cube construction activity, and Alex offered to share his similar attempts at doing hands-on activities in geometry.

Another day, Jimmy invited Alex and me to look at his class data, broken down by gender, from the previous year. We took a moment to puzzle together over how to change the fact that female students in male-dominated classrooms ended with significantly worse outcomes than females in his more gender-balanced classes. Both of these small, everyday interactions showed that my colleagues were increasingly willing to be vulnerable with each other and help each other improve our teaching.

Being able to ask for help and receive thoughtful feedback paid dividends for my students. For example, one day months after this inquiry, I found myself comfortable venting to colleagues about my perpetual frustration with teaching graphing. “Why is it so hard!? Why can’t they remember what I taught them in

September!?" They laughed knowingly at my outburst, then each shared tidbits on graphing in their classrooms.

Using their feedback, I sat down and recrafted my scaffolds, which met with major success the next week. "Oh this makes sense," said one student. "It's a lot like what we learned in Jimmy's class, but more chemistry-ish." I wish I had understood the transformative impact of being vulnerable sooner, so I could have skipped over the collaborative missteps I faced my first year and instead enjoyed the rewards of authentic teamwork.

Bottom-Up Changes in Our Department Collaboration

I think it is no coincidence that when my colleagues and I became more authentic with each other over the years, our monthly lunch discussions became increasingly animated and productive. I had started the monthly discussions in a brave, unilateral effort during my second year. As the least experienced teacher in my department, I felt incredibly insecure leading my more established colleagues in discussion. Though most of my colleagues participated supportively, initially our dynamics were awkward and hesitant. There were huge inequities in verbal participation and none of the topics we discussed had impacts beyond our lunch discussion.

Like many teacher leaders and administrators, I initially focused on structures and logistics to help improve our discussions. I thought that maybe engagement would improve by going over group norms at the start of meetings or trying different protocols or crafting superior discussion prompts. I surveyed participants for feedback and made small changes. Though our discussions improved, they still did not generate impactful change in our teaching practices.

In the winter of my fourth year, after noticing small but meaningful changes in everyday office interactions, I felt a positive change of our monthly discussions as well. Having shared vulnerable moments with individual participants, I felt more personally connected to each. Unsurprisingly, I felt more authentic leading our discussions and helping ensure equity of voice. My unfortunate armpit sweat circles shrank and eventually disappeared.

There were even more important markers of our success, though. A few new leaders stepped up in February, sharing the responsibility of leading monthly discussions. A month later, the entire group of participants agreed to collect data about our own science department's achievement gap, examining how classroom climate issues might inequitably impact students of different race, gender, religious and cultural beliefs, extracurricular affiliations and other backgrounds. Some participants verbally acknowledged each others' willingness to be vulnerable in collecting potentially unflattering data. This represented an exciting shift in dynamics, with more people taking ownership in discussions and tackling issues that deeply impact our students.

Transforming Collaboration Culture

Great collaboration doesn't necessarily start with finding the perfect leader, making mandatory professional learning communities or discussion groups, or handing down idealized protocols or norms. It can start with empowering colleagues to take small everyday acts of leadership, sharing vulnerabilities and having a growth mindset towards teaching. There is powerful leadership in displaying vulnerability—it breaks down barriers and welcomes others to express their own challenges openly.

I wonder how many of our students' lives would be impacted if every young teacher felt empowered to share their risk-taking and growth mindset with colleagues in everyday interactions. I likewise wonder how many teachers' lives would be changed if administrators modeled and championed vulnerability as an act of everyday leadership to help teacher collaboration grow organically from the bottom-up. This stance could be even more powerful than top-down directives. In my department, only when vulnerability became the norm in everyday interactions, did the culture of collaboration transform.

Citation

Kunasek, S. (2018). Transforming collaborative culture through vulnerable acts of everyday leadership. *Kaleidoscope: Educator Voices and Perspectives, 5*(1), 23–25.

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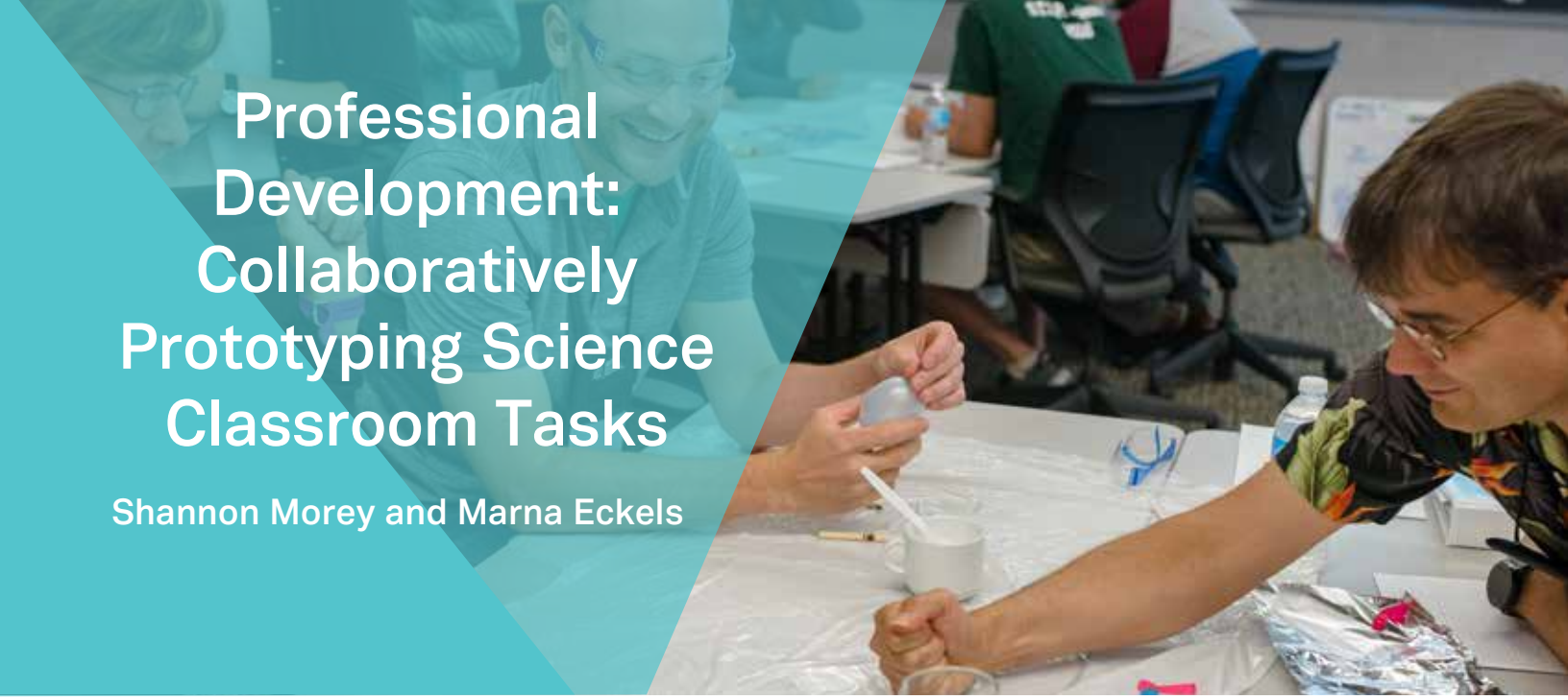
Professional Development: Collaboratively Prototyping Science Classroom Tasks

Shannon Morey and Marna Eckels



We self-organized a professional development experience to increase our skills in integrating engineering design and computational thinking tasks into our physics classrooms.

Introduction

Collaboration can help teachers think critically about their pedagogy and inspire new ideas. In larger schools, it is often possible to collaborate with someone who is teaching the same class, or at least the same subject. In a small school, though, someone might be the only teacher in a particular area. For a specialized content area like physics, collaboration with other teachers in the science department can be rewarding, but there's still an unpassable divide due to not sharing field specific pedagogical dilemmas.

Both of us are the only physics teachers at our respective schools. Marna is a ninth grade physics and engineering teacher at the Dearborn STEM Academy a small 6–12 school in the Boston Public Schools (BPS) and Shannon is a physics and chemistry teacher at Abbott Lawrence Academy in Lawrence, Massachusetts. We previously worked together at a larger BPS school, where we developed a close working relationship, and found ourselves struggling to get the type of feedback and inspiration that is often only possible from someone teaching the same content. In our new positions, we were both grappling with new state science standards that required students to master engineering skills and rigorous computational thinking while contending with the pressures of the high-stakes physics exam all of our students take at the end of the year.

We each needed a thought partner who would help us develop lessons and projects that would meet the content standards while also helping students develop the skills laid out by the Next Generation Science Standards. In order to meet these needs, we started to meet regularly to collaborate on developing new projects and activities. This self-designed professional development (PD) gave us agency in our own learning. We felt supported in taking risks that would lead to improving our practice and student learning. It was an empowering experience that we recommend to other educators.

What We Did Together

We started collaborating near the end of the school year by comparing the scope and sequence each of us planned to use for the coming school year. We had ideas for projects and activities that we wanted to investigate together and decided to schedule monthly meetings starting in the summer. Our meetings consisted of a mix of developing new activities and reflecting on lessons we had previously completed. We also spent time at each meeting reviewing classroom data and thinking about successes and areas for improvement for each activity.

In the summer and fall, we developed a low-budget cardboard pinball machine project based on a purchased pinball machine kit that one of Marna's students assembled the previous school year (Figure 1). This

engineering project incorporated ideas from our initial forces unit in physics class. The baseline project students built was very similar in both classrooms, but we were able to adapt the project setup to the needs of students in each classroom. Shannon included two whole-class investigations about spring constants and friction, while Marna incorporated a set of student-chosen science fair investigations about the forces in rubber bands, angles of ramp elevation, and friction on different surfaces.

Figure 1. A cardboard pinball machine constructed by a student.

In another meeting, we worked on building a speaker for an engineering project based on electromagnetism and sound. During our meeting, we made several attempts to construct a working speaker but were not able to create something functional. Though this project did not make it to our students, it was still productive to try it out with a thought partner. It was originally a project we hoped would increase student understanding of wave behavior, but we agreed that student learning would be hampered by difficulties in creating the device and our end goal would be lost in student frustration. Having another teacher agree that this project would not be the best use of class time helped us let go of the idea and move on to other activities.

Shannon did an electric art project with her students the previous year (Figure 2), and Marna wanted to try it with her classes. We spent time looking at Shannon's documents and photos of her students' work, and Marna asked questions about materials and thought about how to adapt the project to meet her students' needs.

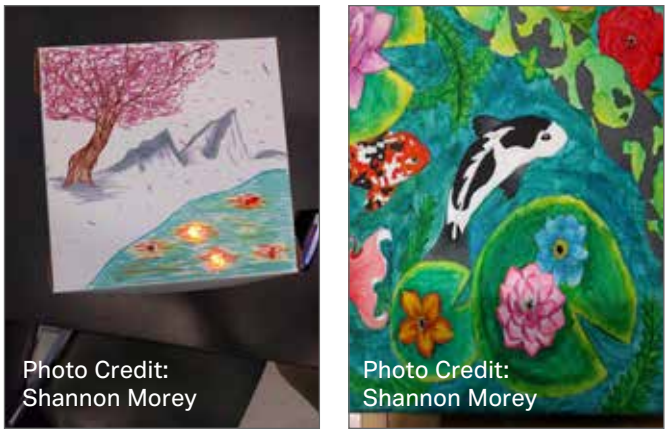


Figure 2. A student prototype of their electric art project completed in a small cardboard box (left) and a final project completed on a canvas with lights not yet installed (right).

We also worked on other electricity ideas, including building a set of mystery circuit boxes with hidden wiring connecting exposed bulbs in different combinations of series or parallel connections (Figure 3). Marna ended up building a set of large-scale circuits to use as a class demonstration for students to discuss and write about in pairs, and Shannon used a smaller-scale version in a station activity.

Figure 3. Testing a mystery circuit during one of our meetings.

We prototyped various smaller activities throughout the year, including:

- an exploration of universal gravitation based on images and graphs,
- a set of activities about computational thinking using Ozobot robots to illustrate physics concepts, and
- a device called GravityLight that converts gravitational potential energy into light intended for places without reliable electric service (Figure 4).

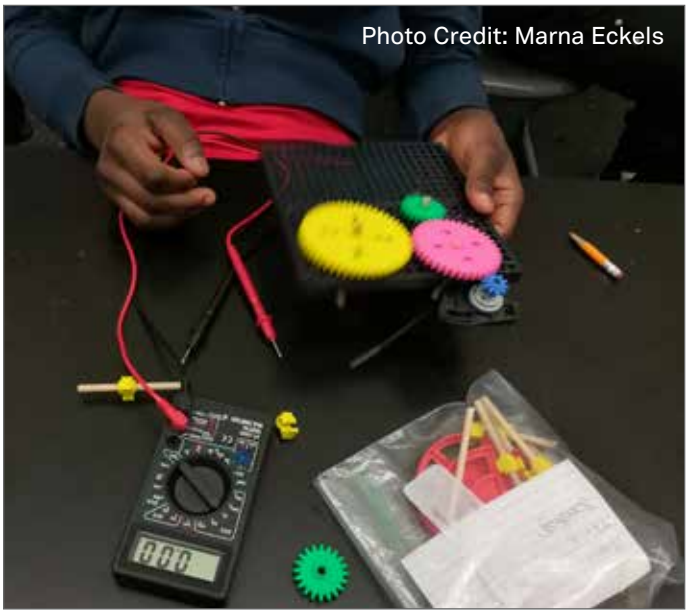


Figure 4. A student working to create their own GravityLight.

Shannon's Story: Building Cultures of Risk-Taking

While I am interested in new projects or lesson ideas, I often need a nudge to get me to try it. Marna was always that nudge for me this year.

At first I thought, "Cardboard pinball machines sound interesting, but how will I integrate them well into my curriculum? Will students see the connections between their projects and the science content I want them to learn?"

With Marna's enthusiasm and our mutual backgrounds and interest in engineering design, I pushed ahead and didn't regret it. My students developed an intuitive sense of spring constants and why they are important in real-life situations. They also saw the applications of Newton's Three Laws of Motion in the context of their own creations. It was a powerful experience at the beginning of the year; one my students are still talking about.

> *"There were missteps and things I would do differently in the future, but I am happy I took those risks and know that I grew as a teacher because of them."*

Throughout the year I took other risks, from designing collaborative tasks that pushed my students' computational thinking to utilizing new reading materials that connected our content to other areas of science like marine biology. I always trusted Marna's ideas, and Marna helped me to trust some of my risky ideas, too. There were missteps and things I would do differently in the future, but I am happy I took those risks and know that I grew as a teacher because of them.

The projects and lessons Marna and I developed together helped my students to take more risks themselves. Engineering design projects inspire student creativity, and the prototyping process allows them to try something out in a low-stakes environment. That attitude can carry over to other activities and projects. Working collaboratively from the beginning of the year on projects where all students had a way to shine helped build a positive classroom community. As I implemented new and challenging computational tasks later in the school year, the culture of risk taking and support within groups paid off in terms of student learning.

Marna's Story: How Collaboration Can Decrease Frustration and Increase Reflection

Like Shannon, I often have risky ideas that might work with my physics curriculum, but it usually takes real work to shape them so that they are tightly aligned with our state's standards and are accessible for my beginning English language learner students. If it's an engineering project, it always takes some hands-on tinkering to make sure the actual materials I'm planning to provide in class will work. That work of prototyping the project can be a frustrating task if taken on alone.

Having regular meetings with Shannon to try different materials and build that initial project prototype helped make more projects a reality in my class this year. Instead of struggling to devise an easy-to-build marble launcher on my own, Shannon and I worked something out together, bouncing ideas (and marbles) back and forth. In some cases, like the homemade speaker project, working with Shannon helped me give up on a project that just wasn't working with the materials we had. If I had been developing that project on my own, I would have probably spent much more time fiddling with the wires and magnets before deciding it wasn't the right project for this year.

Working with Shannon also helped me to be more reflective about how these projects went in my class. We would debrief the activities by text or email, sharing pictures of our students' work and discussing our challenges and successes at our next meeting, with an eye for what to try differently next year. In one case, I even took this idea of debriefing a project with another teacher directly to my students. I explained to my class that I talked with a physics teacher from another school about the project they just completed, and that she might try a similar project with her students in the future. My students wrote letters to Shannon with advice about the project, including diagrams and explanations of what worked and what was frustrating for them. This gave students a genuine audience, and required them to write with a level of precision and detail beyond what is required when they are writing in their notebooks for my class.

Our Advice

For teachers interested in collaborating this way, we recommend developing a timeline. Consider when you will try out certain ideas and when you will debrief lessons or projects you have completed. We found that the general timeline we developed at the beginning of the collaboration helped us focus each meeting and gave us something specific to work on. Flexibility is also important. Some of our best ideas were the result of thinking about another project or connections we made after we developed our initial timeline. Communication was also key. Between meetings we sent each other multiple emails in order to plan. The meetings themselves were held at our own houses. As we live about 45 minutes away from each other, we typically alternated between the two to share the burden of travel.

Designing your own professional development experience with a close colleague is empowering. Both of us have often felt that PD sessions we have attended were not designed with our needs or our students' needs in mind. As this PD was designed by us, it focused on the exact needs we had at any given moment. In addition to being responsive, our collaboration was inspiring. Both of us looked forward to our meetings and they provided an opportunity for us to try projects we wouldn't have tried if we didn't have someone else cheerleading for us. Our meetings also gave us a reason to reach out and ask each other about the specifics of an upcoming lesson or project. We knew we had someone within our content area who was interested in what we were doing and would provide valuable feedback. Teaching can be a lonely profession, and this type of collaborative professional development can provide support for fighting that isolation.

Citation

Morey, S., & Eckels, M. (2018). Collaboratively prototyping science classroom tasks. *Kaleidoscope: Educator Voices and Perspectives, 5*(1), 26–29.

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Marna Eckels
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ABOUT *KALEIDOSCOPE: EDUCATOR VOICES AND PERSPECTIVES*

In December 2014, the Knowles Teacher Initiative published the inaugural issue of its new journal—*Kaleidoscope: Educator Voices and Perspectives*. Through ***Kaleidoscope***, Knowles shares stories from teachers about teaching, leading and learning.

Kaleidoscope strives to provide readers and writers a public space for discourse and dialogue about the knowledge and expertise of teachers and the complexity of our profession. We believe that teachers are well-positioned to improve education in their classrooms and beyond, and we know the power that storytelling and knowledge sharing can hold in the process of transforming educational outcomes for students.

Two issues of *Kaleidoscope: Educator Voices and Perspectives* are published each academic year (Spring and Fall).

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