



# Kaleidoscope

Educator Voices and Perspectives



## **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).

## **ABOUT THE KNOWLES TEACHER INITIATIVE**

The Knowles Teacher Initiative is a nonprofit organization that supports a national network of mathematics and science teachers who are collaborative, innovative leaders improving education for all students in the United States. We strive to create an educational system that is led by teachers who are equipped to solve difficult problems and respond to local challenges in order to serve all of our nation's students. For more information, visit [www.knowledgeteachers.org](http://www.knowledgeteachers.org).

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# KALEIDOSCOPE

## EDUCATOR VOICES AND PERSPECTIVES

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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](mailto: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](http://www.knowlesteachers.org/kaleidoscope)**, 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 shared.

We look forward to learning your story!

### **Subscriptions**

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## Disclaimer

The opinions and beliefs expressed in the journal reflect authors' perspectives and may not represent those of the *Kaleidoscope* editorial staff or the Knowles Teacher Initiative.



# From the Editors' Desk:

## What does it mean to be a journal?

### Exploring the implications of what it means to be a journal.

What does it mean to be a journal?

*Kaleidoscope: Educator Voices and Perspectives* is a journal that shares stories by teachers for teachers. But what does the term journal imply? We've been pondering that question a lot recently—wondering about the ways that the word may unintentionally and intentionally put up barriers to engaging more people in sharing stories and in reading the stories we have.

*Kaleidoscope* was initially envisioned as a sandbox for Knowles Fellows to practice writing in the discipline of academic research, to give them practice and an outlet to add their voices to the academe of education. Our early issues were full of incredible stories from teachers about the work of teaching, written overwhelmingly in academic language, mimicking the acceptable style of communication in academia. We also established a robust peer-review process, the hallmark of validity in academia. We were operating under an unspoken assumption that professional writing was academic writing. But as you, our readers, know, we have leaned into first-person writing, with more expressive and what some might describe as informal language.

But we know of course that the knowledge that teachers have about teaching is unique and distinct from the knowledge that academic researchers have about teaching. Should we be trying to insert our voices into the dialogue of academia? What about all the knowledge we have that is too big to fit there? What about the ways that white supremacy culture systematically silences non-white voices in the academy? Does using the term journal cast a valence of whiteness over the whole

endeavor? Do the very processes that we were trying to replicate to give validity to our teacher-voices actually censor and exclude?

We want to showcase and share the knowledge teachers have of practice and we want to do that inclusively. We've been trying to self-assess and shine light on whether and how our practices exclude or silence diverse perspectives. We've broadened our scope—we write in the narrative style, centered on ourselves as the protagonist in our own stories (thank you Diane Wood for this wonderful phrase), while drawing on our knowledge of practice. When we write in this way, it is more akin to journaling, rather than writing for an academic journal. We've also crafted a peer-review process that feels very different from the peer-review process for other journals: we center the author's voice and give them the option of rejecting our suggestions for revision.

So what do we call this "product" that we send into the world? This collection of perspectives that only teachers hold? If we were to cast off this term, what would take its place? And what else might we need to cast off to welcome and affirm the full range of teachers' experiences? We invite you to get in touch with us at [kaleidoscope@knowlesteachers.org](mailto:kaleidoscope@knowlesteachers.org) if you are interested in being a thinking partner as the staff explores these questions.

### Citation

Van Tassell, R. (2023). From the editors' desk: What does it mean to be a journal? *Kaleidoscope: Educator Voices and Perspectives*, 9(2), 1.



# Call and Response:

What gets you through the tough months of teaching?

We asked teachers in our community what gets them through the tough times. Here's what they said.

When I think about “getting through” and those times being “tough,” the sentence implies a bad or negative situation. Some months are tough and getting through is my only option. The opposite is, perhaps, that some months are “easy” and you “coast” through them. I don't think either point of view is helpful during the school year. I don't want to coast or just get through. What I really want is an impactful and meaningful teaching experience. I have come to realize that tough times can be more meaningful, leaving me with the feeling that my teaching matters. I'm not looking for easy, and not even

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*What I really want is an impactful and meaningful teaching experience. I have come to realize that tough times can be more meaningful, leaving me with the feeling that my teaching matters.”*

happy, but I am looking to enjoy my time teaching and that comes when I find meaning in the work I do.

**Michael Huntington, Knowles Senior Fellow**

Good strong coffee, chubby baby-arm hugs, evenings after dark on the front porch, walks in the forest, tiny frogs crouching on doorknobs, the grins of shy students, questions I can answer, and the questions I can't.

**Liz Dengate, 2020 Knowles Teaching Fellow**

A list of things I do that get me through the tough months:

- 1. Eat lunch with another teacher.** I almost never spend time in my classroom by myself during lunch. I always run over to another teacher's room, the staff break room, or just sit outside and have my lunch. It has helped a lot in allowing me to turn off my teacher mode. Just yesterday I ate lunch with one of the new Spanish teachers in the break room.
- 2. Have a dance party in my room.** Every day after school I turn on some happy music from my Spotify playlist and wipe down the board, grade, or lesson plan. Whenever my favorite part of the song comes

on I pause and wave my hands around somewhat in time to the song. It's normal until I do this with other teachers in the room.

**3. Quiet the voice in my head that tells me I failed.**

It's really easy to focus on that one disruptive kid who derailed the lesson during a tough period. However, I step back and remind myself, there were the other 30 kids who did learn something from the lesson. And I celebrate that.

**4. Read Calvin and Hobbes.** On one particularly tough day of teaching in February, I was very stressed from not knowing how to deal with a few students in my first period. I came to school with no lesson plan. I parked my car in the teacher's lot, walked into first period, laid my head down, and started crying. As the students came in, I couldn't stop crying. One student left to get the principal, and my principal came in and had me call the day off. My parents picked me up and took me home. At home they fed me and I spent two hours re-reading my Calvin and Hobbes anthology books. They brought me so much laughter and joy, just like they did when I first got *The Essential Calvin and Hobbes* when I was in third grade.

**5. Rewatch Rita Pierson's TED Talk on YouTube.**

There is nothing more inspiring than this video. I especially think about the line "You know kids don't learn from people they don't like" and the line "minus 18 sucks the life out of you, plus 2 says it ain't all bad" and "When my momma died two years ago at 92, there were so many former students at her funeral it brought tears to my eyes not because she was gone but because she left a legacy of relationships that could never disappear." I always cry a little at the very end of the talk.

**6. Read my yearbook my students and other teachers signed last year.** I spent \$95 for a yearbook last year, and my students signed it. Whenever I feel as if I am not making an impact or my lessons are not up to par, I read those messages.

**Oliver Yang, 2021 Knowles Teaching Fellow**

## Citation

Dengate, L., Huntington, M., and Yang, O. (2023). Call and response: What gets you through the tough months of teaching? *Kaleidoscope: Educator Voices and Perspectives*, 9(2), 2–3.

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





# Now on Teacher Voice

## Compassion

In this episode of *Teacher Voice: The Podcast*, we contemplate compassion: for our students, for our classrooms, for each other and for ourselves.

Take a walk in nature with biology teacher Kirstin Milks and her family to hear how this is an act of compassion. Listen to special education teacher Dan Bianchini and the way he sees the whole student and how schools need to address students' basic needs before learning can occur. Woven into this podcast, we hear from biology teacher Jamie Melton about the many small moments where she finds compassion for herself.

To hear more about how we find compassion for ourselves and extend it to others, listen to the podcast on our website.

*"I think that's really important right now to find ways that we can be buffered or protected from stress."*

*- Kirstin Milks*

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# Invisible Identities

Erin Smith



**What happens when we bring our whole selves into the classroom, instead of showing up as only the teacher?**

I. As a child, I was bewildered whenever I saw my teachers outside of school. Happening upon my third-grade teacher at the grocery store or the playground monitor at the dentist's office somehow felt akin to trespassing or opening someone else's mail—like I was crossing some clearly defined boundary I had no business crossing. Perhaps I was a particularly shy and slightly neurotic child, but I don't think I was alone in the disorientation I felt in spotting a teacher outside of the classroom. I've often heard friends joke that they used to think teachers lived inside of the school building. By early elementary school, I'm sure I knew that teachers needed to eat and get their teeth cleaned like the rest of us, yet there always seemed to be some strange boundary between my life and theirs. In hindsight, it's amazing how long it took me to understand teachers were real people who not only participated in life's banalities, like running errands, but also had their own joys and sorrows, desires and regrets.

I think this detachment from seeing my teachers as people must have come in some part from the way teachers are portrayed in contemporary American culture. You just need to turn on the news to see this. There are countless feel-good, albeit problematic stories about teacher-martyrdom: professionals who give it all to their students and seem not to rest or have

any semblance of a life outside of the classroom. When you are a teacher, it often feels like you are expected to be a teacher with a capital T. That is, teaching is your entire identity. Maybe this is the result of living in a capitalist society that tries to tell you your worth is a product of your labor. When we see teachers this way, we miss out on the multifaceted and flawed, but whole, person behind the career. I'm always struck by how often teachers are framed as teachers above all and anything else. People who are teachers are not amorphous and interchangeable vessels to be filled with an identity that our jobs assign. Teachers' identities overlap, correspond, and messily inform who we are and how we show up to the classroom.

I am fortunate enough to be a part of a community of math and science teachers through the Knowles Teaching Fellows Program—a five-year program that positions practitioner inquiry as a key leadership development thread. Within the Teaching Fellowship, we often reflect on our identities and how the intersection of those identities show up in our teaching. I tend to focus on my visible identity markers, notably my whiteness and being a young woman, and the implications of these markers in my interactions with both students and colleagues. It is less often that I interrogate my non-visible identity markers. Probably because if I don't bring it up, they go unsaid. What identities do we share and what identities do we keep hidden, and why?

II. People cannot tell by looking at me that I have struggled with mental health throughout my adolescence and

young adulthood. I have tried to keep it this way for most of my life. Beyond a few close friends, my partner, and immediate family, it's not something I really bring up. It is hard to talk about mental health for many reasons. Mental health and wellness are simultaneously stigmatized and minimized, and because of this, I've often felt a sense of trepidation about outing myself as someone who struggles. Professionally, there's the looming risk of not being taken seriously, or even scaring people. And as for minimization, there is a well-documented history of people with mental health issues being thought of as hysterical, doing it for attention, or not being capable of taking care of themselves or others. While I'm fortunate that my social circle understands the complexities of the mental health arena, it's hard to shake such deep-rooted stereotypes—in fact, I'm sure I've internalized many of them.

While I've struggled with mental health most of my life, I had what I now consider a full blown mental health crisis during the last year and a half of college. I felt simultaneously like every neuron in my brain was on fire and at the same time like I was moving extremely slowly through excruciatingly cold water. I felt extremely aware of myself and the space I took up in the world, and at the same time had moments of utter depersonalization, not knowing how I got from point A to B. I was diagnosed, finally, with generalized anxiety disorder and obsessive compulsive disorder.

All that, and I can list on one hand the people in my life at the time who were actually aware of any of this—not only because I tried to hide it, but also because I was “high functioning.” I did not, on the surface, fit the profile of someone having a mental breakdown. My own experience showed me that mental health challenges are often invisible in school systems if you don't have glaring academic warning signs, like poor grades. This is clearly a problem. When I was a student in college, my mental health challenges were hidden beneath the veneer of high achievement. I always got good grades, and even while I was in the depths of crisis, I was still extremely involved in campus life, excelling in a senior research thesis in microbiology and working four jobs. When people saw this, they often stopped looking. Just because I understood the system and how to make it work for me, does not mean I was being cared for by that system.

Although I stabilized from this particular point in my life, mental health is rarely, if ever, a linear journey. While I have found a tight-knit support network, therapists, and medication, there are still some days where it feels like my brain is a hummingbird, wings beating hundreds of times a minute, but appearing very still to everyone who is looking in from the outside.



*By sharing the very stories I used to worry would bring judgment or fear, I give permission for students to bring their whole selves, wherever they are in their own journeys, to our class."*

III.

When I first began teaching, I didn't divulge anything about my own mental health journey to students. For one, I thought that might delegitimize me as a teacher somehow, even if I was speaking in past tense. I also thought, frankly, that I would scare them. But as the years passed I found myself wondering, what happens when a student's present reality runs up against my own history of mental illness? Whenever I saw a student struggling with mental health and anxiety, I considered the extent to which I should reveal my own story.

Teachers are used to wearing many hats. Sometimes we become de facto mentors, librarians, guidance counselors, and even parental figures, in addition to being a chemistry or algebra teacher. Many teachers find that students will come to them first to share difficult emotions, and I find no different. The longer I teach, the more conversations I have with students about their mental health—from anxiety to depression to eating disorders to suicidal ideation. When students approach me with a mental health need, some are tentative, some curious, some desperate—but they all want to be listened to.

When I was going through the lowest points in my mental health journey, I felt like I had morphed into something freakish—that no one would even be able to speak the same language as me if I did open up about what I was feeling. I don't doubt that some of my students who voice their own struggles felt this way too. I think I realized that one part of listening is gently letting students know that I see them in a way that only someone who has lived what they are going through can see.

As I gain confidence as a teacher, I gain confidence in sharing parts of my story and parts of my identity that I used to hide. Early on in the school year, I hold a

community circle in my class, where my students and I talk about the identities that we share with others and the identities we keep hidden. I start by asking students to think about all the identities they share openly with others. Students share that they are siblings, artists, athletes; I share that I am a teacher, a runner, a writer. Then, I ask students to ponder identities they don't share openly with others. To model, I share about my own mental health struggles. I ask students to write their own unshared identities anonymously on slips of paper, then I hang the identities they write on a bulletin board for my students to read throughout the year. I find that students share deeply and truthfully when given a safe platform to make their stories known.

"I am depressed but hide it from my friends"  
"My father was deported"  
"I have an IEP"  
"I'm still struggling with my mother's death"

As my students share these identities and more, I realize that by sharing my own story, I am not scaring my students or delegitimizing myself, as I feared. Instead, their comfort level increases when I make the space for students to bring their own struggles with mental health and other possibly hidden identities into the classroom. By sharing the very stories I used to worry would bring judgment or fear, I give permission for students to bring their whole selves, wherever they are in their own journeys, to our class. I often notice students relax when I share my story, not tense up in fear or judgment.

IV.  
Since the COVID-19 pandemic started, schools have been grappling with a seeming explosion of mental health issues amongst student populations. Some of these issues surfacing may be new, others unveiled through the realization that schools are the support providers in the community for so much more than just education, be it supplying food, counseling, or medicine.

I've noticed that the term "self-care" seems to be everywhere since the pandemic began. As someone who has struggled with mental health issues, I sometimes roll my eyes at emails preaching self-care but not offering the structural changes necessary for students and educators alike to feel cared for by the education system. I've encountered an increasing number of reminders to "take time for self-care this weekend" or "counter burnout with three self-care practices!" As well meaning as they might be, I take issue with these messages as they implicitly frame taking care of oneself as separate from schooling or work.

What would it take to create a system of schooling where taking care of oneself was not separate from existing within a school community? A system in which



*As well meaning as [these reminders] might be, I take issue with these messages as they implicitly frame taking care of oneself as separate from schooling or work."*

care and learning were intertwined?

I won't pretend to know the answers to these questions. But I do know that if we want to help the growing mental health crisis, we can't just apply bandages to individuals by selling them products, or hoping that self-care will fix problems created by a broken system.

I like to think I'm doing my part to chip away at that societal myth of capital-T teacher—the one who lives to teach and doesn't have a life outside school—whose appearance at the supermarket or laundromat would send the six-year-old me into an existential panic. Because at the end of the day, I am only the teacher I am because of my past, however painful. I want my students to know that I have lived and struggled not for them, but alongside them.

#### Citation

Smith, E. (2023). Invisible identities. *Kaleidoscope: Educator Voices and Perspectives*, 9(2), 5–7.



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# The Illusion of Communication

Adam Ramirez

**Misunderstandings abound when we make assumptions about how our communications are received by others.**

**“The single biggest problem in communication is the illusion that it has taken place”**  
- George Bernard Shaw  
(*George Bernard Shaw Quotes*, 2022)

I came across George Bernard Shaw's quote as I was preparing to facilitate a discussion about communication with a group of high school teachers. I loved it because it perfectly summarized the main points that I hoped would be the takeaways of our discussion: the biggest problem with communication is not that we do not know how to do it—it is that we think we are doing it when we are not.

Speaking from a sociological perspective, verbal communication is arguably a relatively new phenomenon for humans; one could argue that language, either verbal or otherwise, complicates interactions that other species seem to master through simpler methods. For instance, a certain sound made by a particular animal could suggest that a predator is near. That's it. Nothing else. The buddies of this animal would not sit and wonder what their peer really meant by making that sound—all of those who did were eaten shortly thereafter.

On the other hand, a single word could trigger a million

questions when a human utters it in the presence of another. What did they mean by that? Were they talking about me? Did they sound angry when they said that? The lack of an immediate threat to our survival leads us to overthink anything and everything that we hear.

In my classroom, this problem surfaced in many different circumstances. As a teacher, I am often certain that I have effectively communicated my priorities to students, parents, colleagues, and supervisors. More often than I would like, this is incorrect.

With the utmost certainty, I am inclined to believe that my students know what I am expecting. After all, I outlined our objectives in a syllabus, on the whiteboard daily, and in my phone calls home to their parents. I knelt down next to a disruptive student and leveled with him. We even fist-bumped after. They get it. So, why is that student flicking a paper airplane across the room again in an attempt to score a finger field goal? Why is another student turning off her camera during a Zoom lesson in which we all agreed to remain engaged the entire time? It doesn't make sense.

This dissonance can be frustrating. Our brains do not like frustration. When there are no clear answers to a question or problem, our minds refuse to accept uncertainty. This organ is special at filling the voids and creating answers that can make us feel better. Unfortunately, these fabrications are often based on assumptions. When these assumptions combine with the illusion of communication, a very dangerous thing happens.

Let's go back to my aspiring paper football player. I was certain that I had communicated with this student and that he understood my intention, appreciated my feelings, and his future behavior would reflect the deep connection we established during our 30-second chat. So, how does this illusion mesh with the reality that ensued? Not well. The student's continued disruption now lies in direct conflict with what I perceived to be the knowledge that is at the forefront of this student's mind. He knows how I feel. He knows what I want. And, his refusal to change his behavior is a direct slap to my face. He wants to irritate me, I assume. It's time to roll up my sleeves.

Truth be told, this student might not even know my first name, let alone care enough to do something that would intentionally hurt me. No. His goal is simply to keep his streak of paper football field goals going. That's it. He took a halftime break to indulge the few words that I shared with him. What was a meaningful conversation for me was nothing more than a pep talk for the future paper football star. I have my objectives. He has his.

Why does this happen? Why do I assume that checking off a box for how I know best to communicate immediately leads to checking off a box for how my student knows to do the same? Is it because I'm short on time? Perhaps it is easier to grow frustrated at a situation that I convince myself I have no control over than it is to think about how I am deluding myself into assuming I have effectively communicated. In the grand scheme of things, the illusion of communication for this particular instance may not have significant consequences. My student is bright. His disruption will likely go on to be a small blemish over the course of an otherwise successful day, week, month, semester, and year. However, what happens when this is not the case? What happens when the illusion of communication takes place in a circumstance with much higher stakes?

Throughout nearly a decade of time in the classroom, I have convinced myself that I communicated well with students on multiple occasions. As a result, I have made assumptions about my students many times. Here is an example of a frequent progression for me:

1. I communicate individually to a student that I want to support her in improving her grade.
2. The student thanks me and agrees that she will stick with the plan I created.
3. I set time aside for the student, differentiate my plans, and adjust my grading structures to reward any proficiencies that the student acquires, even if it is later in the semester.
4. The student neglects all of my efforts.
5. I assume the student does not care about improving her grade.

What happened? Look at step 1 and compare it to step 5. Wow! What a change in mentality on my part. Over the course of three steps, I have been so damaged by my illusion of communication that I have moved from being strongly determined to help a student to making a full characterization about the student's motives and philosophy regarding her progress in my class. This is a testament to how powerful being fooled into thinking I have effectively communicated can be.

Just as I assumed that my chat with my paper footballer led to creating a genuine connection, I assumed that my benevolent interest in helping a struggling student was a sufficient replacement for a genuine relationship. When both of those assumptions proved to be wrong, different outcomes ensued. In the former case, my frustration grew and I reprimanded a student for what I thought was unacceptable behavior, but truly my feelings were hurt because I saw his disregard of my requests as a personal attack. In the latter case, I convinced myself that my student did not care about my class. I was bold enough to assume that a direct refusal to accept my services was an indication that this individual had no interest in improving her performance in my class.

In both situations, I never looked behind their faces. I would later go on to find out that my paper footballer was homeless and had been sleeping in the back seat of his mom's car for nearly two years. His friends did not know and it was important to him to frequently be seen as a cool guy. While I assumed he was trying to spite me by defying my requests, his attention was on whether his buddies would continue validating the streak of field goals he had going. It was the highlight of his day.

As for my other student, you know, the one I categorized as having no interest in her education, well, she had a few other things on her mind too. Her father had passed away less than a year ago and she had become her mother's main support in raising her three younger brothers. Needless to say, staying after school to indulge my requests for additional tutoring was not high on her list of priorities. Rightfully so, neither was sitting down and explaining her situation to me.

I want to make it clear that I do not outline these brief anecdotes in an attempt to make an impact by trafficking in trauma. The heart of this article is to highlight the dangers that the illusion of communication poses to our daily interactions with others. In these situations, I generated assumptions that filled gaps for me in the moment. It is something I have done and will continue to do for the rest of my life. Furthermore, I am only aware of this because I have been fortunate enough to gain access to insight about some of my



*With my students, assuming that my interactions with them are all separate narratives that I am entering at an uncertain time allows me to always strive to see behind their faces and carefully consider what they are and are not telling or showing me."*

students that has challenged the comfort that my assumptions provided. With this in mind, it is concerning to think about how many other curtains have not been lifted for me, and, as a result, how many illusions I continue to live when it comes to communication with my students, peers, colleagues, community members, family and friends.

In an effort to illustrate some of these additional veils, I'll share aspects of communication dynamics that have underscored my interactions with peers and supervisors throughout my career. In any job that I have worked, if I hear a general message with a potentially negative undertone from a supervisor, I immediately assume it is directed at me and that my job, career, and livelihood are now all at risk. If I am late to a meeting, I assume that this communicates that I do not care about it and so I apologize incessantly. If a sent email does not receive an immediate response, I fabricate a myriad of potential stories for why this is the case—and most are not good.

I cannot control that aspect of how my brain works. I have come to accept that. My brain will travel in whatever direction makes it feel better. However, what I can control is the finality I give to my thoughts. And this, truly, has helped me fight the illusion of communication. I no longer view interactions as singular events. Instead, I view them as narratives. More importantly, I convince myself that I enter these narratives not at the beginning or end, but at some point in the middle. This mindset helps me in many ways.

At the beginning of this article, I mentioned leading a professional development session on communication with colleagues. This time was focused on viewing communication as a series of narratives. As a group, we arrived at the conclusion that conflicts amongst staff, between staff and administration, and between educators and parents/community members, takes place primarily when we assume that the snapshot of time that incorporated a conversation is the beginning, middle, and end of a narrative. For instance, it is easy to assume that a supervisor is out to get us if they did not make eye contact when passing us in the hallway; it is a comfortable solution for our brains to suggest that parents are disinterested in their child's education if they never pick up the phone when we call; it is understandable to believe that a colleague does not like an idea I proposed if they did not 'thumbs up' my message on our text thread.

In each of these situations, it is much more difficult to immediately assume that the supervisor had just heard her husband had an emergency and was rushing back to her office to call without making eye contact to avoid sharing her watery eyes; that a parent does not pick up the phone because he is embarrassed to speak about his son's academics for the 10<sup>th</sup> time this school year, despite his best efforts to support him at home; or that our colleague did not even see the text message with an idea I proposed because they had 50 other messages to get through. As a group, we concluded that the assumptions place a finality on the communication narrative whereas gaining access to what is behind the curtain potentially extends that narrative in a way that leads to uncertainty, which we rarely prefer in comparison to the finality offered by our presumptions.

With my students, assuming that my interactions with them are all separate narratives that I am entering at an uncertain time allows me to always strive to see behind their faces and carefully consider what they are and are not telling or showing me. One vivid example of how I strive to do this is by recognizing that community building is not something that strictly happens at the beginning of the school year. I embed questions that ask students about different aspects of their lives in warm ups, exit slips, and even in assessments. I found that something as little as adding a personal note at the end of a test telling a student how grateful I am to get to be their teacher and alluding to something in their lives that they previously shared opens the door for further conversation and connection in the future. With my colleagues, this allows me to realize that an end to a conversation does not mark a final understanding of my or their expectations. I leave conversations fully expecting to follow up and reiterate what I have heard and what I have said. With supervisors, I accept that

their illusion of communication is just as powerful as mine, despite our different titles. This helps me grow comfortable with the notion that any conversation I have with them is truly taking place in the middle of their narrative, as well as mine.

This is a comfortable place for me. By no means does this solve the issue that the illusion of communication presents. The illusion that communication has happened will always exist. Realizing that is key to accepting that I will continue to fill gaps with assumptions. And understanding that is key to recognizing when I am placing myself at the beginning or end of someone's narrative. From there, all I have to do is work to turn to the right page.

## References

*George Bernard Shaw Quotes*. (n.d.). BrainyQuote. [https://www.brainyquote.com/quotes/george\\_bernard\\_shaw\\_385438](https://www.brainyquote.com/quotes/george_bernard_shaw_385438)

## Citation

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# Teacher Voices: Collaboration is Key to Remote Learning Challenges

Brenda Grimoldi

**Silver linings abound for this author: see how remote teaching prompted additional learning through collaboration with others through the pandemic.**

If we think about it, our world and how we manage our daily lives has changed dramatically since COVID-19 became our new reality—from purchasing more products online to having telemedicine conferences with our physicians. When it comes to teaching—whether it’s college, high school, or elementary—it all boils down to adapting to a whole new era of virtual “long-distance” learning. The adaptations vary from teacher to professor—some feel more comfortable with technology and adapt to change easily. Other instructors might face challenges that are out of their control, such as lack of technological resources, and must work with what they have or is available to them. I call it “long-distance” learning because it is reciprocal: teachers learn as we go and some of our students teach us valuable technology tips!

I remember my last day of in-person instruction like it was yesterday; Friday March 13, 2020! COVID-19 closures hit us by surprise and we had to adapt to a new way of instruction and do the best we could under such challenging circumstances. At that point, Zoom became the online teaching platform for many school districts, including mine. The end of the 2019–2020 school year became a trial and error sort of year for

teaching virtually. I had to learn to laugh at my own mistakes during my first experience with Zoom in the spring of 2020. At that time, I would connect with my students a couple of times a week and we would have very condensed English language arts and math lessons. Then I would follow up with them on Google Classroom to assign them their independent work. I was learning and laughing at my mistakes: I didn’t learn how to share the sound from videos in Zoom until the last week of school in June! It was just a matter of clicking on a little square at the bottom that read “share my sound” whenever I shared my screen with them. When my husband showed me this, I could not believe how easy it was and I had missed it! Teaching remotely was a constant challenge and the only way to overcome it was through professional development and collaboration.

I definitely learned from that mistake and others along the way. After hours of summer training on different learning apps and platforms, I tuned up my technology skills and learned to multitask digitally, so to speak. Once I started with my new third-grade class in the fall of 2020, I was able to create Zoom breakout rooms during intervention time. Ms. Bridgett, a “Read with Me” volunteer, connected twice a week to provide reading support to all of my students in groups of four to five at a time. I also had a tutor who would connect on different days to work with my migrant students. Meanwhile, I went over other skills the rest of the class needed to review or we learned about a new application. Now I can say that I have come a long way since the pandemic started in March of 2020.

## Magic Happens

Part of adapting to this new era was getting comfortable sitting in the passenger's seat and, at times, letting the students take the lead. This was when the magic began to happen in my class. There are always student leaders that want to take the initiative to try something new, especially when it comes to technology. Usually at the end of the day, we tried a new app. I asked for a volunteer to demonstrate the steps of how to log in by allowing them to share their screen. This way, the rest of the class got the "student view" of what they are supposed to do. For instance, there was this very interactive math app called Dreambox in which students were presented with opportunities to practice their math skills. This app had the format of a game with high quality graphics where they got to advance levels and earn points and rewards. I would choose at least three volunteers to take turns modeling how to play with the different math skills, such as rounding to the nearest 100 on a number line. The number line showed a frog jumping on a pond and the student had to enter the estimated number of jumps it would take to reach that rounded amount. This is only one example (out of many) when students stepped in and assisted the class.

As another example, I gave them a group assignment where they worked collaboratively and a leader in each group acted as a facilitator. These facilitators shared their screen to display the whiteboard and wrote a math problem to solve. In these "Number Talks," they each shared their strategies and reasoning behind how to solve a math equation. We used breakout rooms and when I joined each group to check on them, I was amazed at how much they were learning from each other! Teaching virtually has allowed me to see different facets of myself, as well. I am a spectator at times, but I jump in and clarify if needed. I am also a facilitator, a coach, a counselor, and I have developed stronger relationships with my students and their parents.

Another positive aspect of teaching virtually is the high level of collaboration that has been developing among teachers, even across grade levels. Mrs. Walker, my son's kindergarten teacher, shared her very animated Bitmoji Google slides for certain holidays. For example, she shared an interactive slide with the Christmas tree and decorations, a cozy fireplace, and a puppy chewing on a toy, to make it fun for the students. It also had links to read alouds that they could access during the winter break. Mrs. Lopez-Lowe, a close friend of mine who teaches fifth grade, and I share a lot of resources with each other on Google Drive. She helped me organize my third grade Google slides for each subject that I teach my students. Having my slides in order and with the links relevant to each subject saved me time, thus making my lessons more interactive and effective. Each slide has my Bitmoji either standing pointing at the board or sitting. My physical education class slide has work out equipment



*Teaching remotely was a constant challenge and the only way to overcome it was through professional development and collaboration."*

and one of the posters has the link to [gonoodle.com](https://www.gonoodle.com), the website I use for fun exercise videos. More importantly, it gave my students the virtual experience of being in the classroom. It has definitely been an exchange of ideas, digital resources, and people actually putting in the time to help out their colleagues.

## Challenges at the College Level and in Different Countries

In an email conversation with Dr. Sonia Guillen, my former professor of Spanish and Linguistics at California State University-San Bernardino, she shared that at the beginning of this pandemic she had a hard time learning all the ins and outs of Blackboard, an online teaching platform. Not only that, but she also had to learn how to conduct Zoom meetings with her students in a short period of time. She wrote she was very thankful that her colleague, Dr. Bibiana Diaz, a professor from the same Spanish Department, took the time to teach her how to navigate Blackboard and how to conduct Zoom meetings successfully. Dr. Diaz spent a total of 60 hours teaching her these online skills! I am truly amazed at this level of collaboration at the university level.

Another amazing teaching story comes from my husband's aunt, Ms. Laura Lo Giudice, who is a teacher to a combined class of fourth and fifth grade students in Rosario de Santa Fe, Argentina. Over a Zoom meeting, she shared how difficult it was to continue to teach her students when the pandemic first broke out. Unfortunately, in her area, they didn't have the technology resources to make virtual learning accessible. Due to the lack of funds in the area, they couldn't provide internet to students nor electronic devices. She remarked that many families tend to have only one device per home and that it is usually a prepaid phone. From that phone, students would have to use their prepaid minutes to complete



*The switch to virtual learning has required all teachers to learn new skills, while trying to stay a step ahead of our students and keep them engaged, which is much harder to do when they are not sitting in front of us. But it has also helped us see the generosity of our fellow teachers and the creativity and initiative of many of our students."*

assignments she posted on a Facebook page and in two WhatsApp groups. She created packets for students who didn't have internet access that they could pick up at their local library. In addition, the local TV network had a program of lessons for all elementary and middle school students that would be played at different scheduled times. She is now on a hybrid model—cohort "A" is taught in person, while cohort "B" completes the same lessons at home. She posts the work on the WhatsApp application. The following week, the cohorts rotate. This way, all the students are covering the same material and she can move both groups along at the same pace. This is another example of a challenging situation that was overcome by the community collaborating to make learning possible!

It is truly admirable how teachers are collaborating and making "long-distance" learning work and finding creative ways to overcome technical challenges and a serious lack of resources to keep the educational process going for their students. The switch to virtual learning has required all teachers to learn new skills, while trying to stay a step ahead of our students and keep them engaged, which is much harder to do when they are not sitting in front of us. But it has also helped us see the generosity of our fellow teachers and the creativity and initiative of many of our students.

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# “I Don't Even Belong In This Class, Bro”: A Framework for Teacher Inquiry into Students’ Sense of Belonging

Jenny Goetz, Mark Hartman,  
Heather Hotchkiss, Kate Miller,  
and Katelyn Warner



## What does it mean to belong and how can we quantify it to improve our classrooms?

At the beginning of her fifth year as a high school science teacher, Katelyn, one of the authors, received her Conceptual (C-Level) Astronomy roster for the year. Students deemed in need of additional mathematical support and students labeled as learning English as a Second or Other Language (ESOL) were tracked into C-Level Astronomy. While this had been true in the two years she had previously taught this course, this year's high percentage of ESOL students surprised Katelyn. Katelyn's roster consisted of ~60% ESOL students, with a significant number of Hispanic (~47%) and Black (~14%) students, all higher percentages than her school's population as a whole.

Aiming to support each and every student, Katelyn recognized the importance of building a positive and inclusive classroom culture in C-Level Astronomy. At the beginning of the year, each class began with a meeting aimed at building relationships and setting norms. Katelyn was also cognizant of giving students choice and voice in assignments, designing inquiry-based instruction, and differentiating to meet students where they were.

Yet something felt like it was missing. Based on previous years' experience, Katelyn's ESOL, Hispanic, and Black students seemed to not “buy in” to her class, and more broadly to school. She remembered instances in which

students were silent with their arms crossed during class meetings, refused to work with their peers, and skipped class. More often than not, these instances were from students of color, and Katelyn wanted this upcoming year to be different. She wanted every student to feel that they belonged, had a voice, and were valued as individuals, but she wasn't sure how to accomplish this. Furthermore, she worried that all of her students were struggling to be fully present and engaged during virtual astronomy class in the height of the pandemic.

When Katelyn brought this narrative reflection to our inquiry group, her feelings of concern were mirrored by all of us in our own contexts. As a group of five teachers (see Table 1), we had worked together for several years planning and implementing instruction for our International Baccalaureate (IB) Physics courses (see Hartman et al., 2014). We decided to leverage our aligned philosophies of teaching, established group norms, and common time together to transition from a planning group to an inquiry group, using improvement science (Bryk et al., 2015; Carnegie Foundation for the Advancement of Teaching, 2015; Langley et al., 2009) as our guiding framework. Our first aim was to unpack Katelyn's dilemma: a sense of belonging may not be consistently felt across all student groups.

### Inspiration & Positionality

As a group, we engaged in reading Knowles' summer 2020 book selection, Bettina Love's *We Want to Do More Than Survive: Abolitionist Teaching and the Pursuit of Educational Freedom*. We were struck by Love's (2019) concept of homeplace:



Homeplace is a space where Black folx truly matter to each other, where souls are nurtured, comforted, and fed. Homeplace is a community, typically led by women, where White power and the damages done by it are healed by loving Blackness and restoring dignity . . . “homeplace” is a site of resistance. (p. 64)

As teachers trying to unpack students’ sense of belonging, it is important to recognize our group’s collective positionality. We are all White and thus members of the dominant racial group in the United States. This racial identity, combined with our own socialization into the racial narratives in science, education, and society more broadly, means that we do not and cannot fully access and understand the experiences of our Black, Indigenous, Latinx and other marginalized student communities. We cannot step outside of our whiteness.

In particular, we are trying to be aware of the sometimes insidious expectation that we, as White educators, know what it will take for our students of color to feel comfortable with academic vulnerability in the classroom—such as sharing unfinished and potentially incorrect ideas. Our own expectations may reflect a White, Eurocentric standard of classroom engagement, potentially disregarding the cultural and linguistic ways

of engaging that could better support our students’ academic vulnerability and success in the classroom.

We would like to uplift Love’s notion of homeplace and the essence of the concept that initially inspired our work. At the same time, we acknowledge that, as White teachers, we cannot fully cultivate all aspects of Love’s sense of homeplace for our students, particularly our students of color. As authors, we do not want to co-opt a term that was not intended for us, thus we will move forward with the term “sense of belonging” throughout this article.

In addition, we acknowledge our role as White teacher researchers and education researchers. There are many historical examples of White researchers exploiting communities of color (Tuck, 2009). We recognize this tendency within the field, and actively fight against this disposition. It is for this reason that we intentionally invite student voices into our inquiry, honoring their insight into their authentic experiences in schools and in classrooms (our own included). It is our hope that, by grounding our work in quotes from students’ responses, the reader sees how we bring students in as co-authorities in the inquiry work that we present here. Please note that all quotes reflect students’ original grammar and spelling.

**Table 1**

*Teacher Profiles*

Teacher	Location	Type of School	Years Teaching	Race	Gender
Heather Hotchkiss (Knowles Senior Fellow)	Newton, MA (suburb of Boston, MA)	Public	11	White	Female
Jenny Goetz (Knowles Senior Fellow)	St. Paul, MN	Public	8	White	Female
Kate Miller (Knowles Senior Fellow)	Lima, Peru	Private	8	White	Female
Katelyn Warner	Chesterfield, VA (suburb of Richmond, VA)	Public	6	White	Female
Mark Hartman (Knowles Senior Fellow)	Raleigh, NC	Public	12	White	Male

Note: Location & Years Teaching reported through the 2020–2021 school year.

## Framework for Critical Reflection

To begin our inquiry, we pulled on our experiences as teachers to brainstorm potential barriers to students feeling a sense of belonging in the science classroom. We first brainstormed individually then sorted our ideas as a group, looking for overarching themes that arose within our responses.

Subsequently, we felt it necessary to invite student voices into the conversation. We posed the question: "Not all students feel they belong at school or in science classes. Why do you think that might be?" With 49 student responses collected from three of our classrooms (see Table 2 for classroom contexts), we explored how students' perspectives and teachers' perspectives aligned. This helped us to modify and expand upon the teacher-generated themes to create a more holistic picture (see <https://bit.ly/TeacherAndStudentResponses> for teachers' and students' responses sorted by theme).

It is important to note that these responses are not from the students in Katelyn's class, as she was on maternity leave and did not have direct access to them at the time. We felt it was important to use student voices and experiences to ground our own initial reflections, and to attempt to disrupt inherent oversights from our White perspectives. We make the assumption that there is some level of transfer of perspectives from Katelyn's class to the other classrooms, not in that the demographic mix is identical, but that leaving out student perspectives at all (even if not an ideal comparison group) would be a mistake.

**Table 2**

*Classroom Contexts for Student Responses*

Teacher	Number of Student Responses	Class	Grade Level
Jenny	11	IB Physics Year 2	12th
Mark	18	IB Physics Year 1	11th
Heather	20	Introductory Physics	9th
Total	49		

Note: Kate was no longer in the classroom and Katelyn was on maternity leave at the time of student data collection, thus student responses were collected from Jenny, Mark and Heather's classrooms.

From these two data sources, we constructed a framework (see Figure 1) to help us map why students may not feel a sense of belonging consistently across all student groups.

In what follows, we briefly describe each theme in our framework as well as invite the reader to engage in critical reflection on potential barriers that may exist when considering students in their own contexts. Our intention is not to claim perfect transferability or generality of our own findings, but rather to provide prompting questions that are generative for the reader's own reflection and self-assessment.

### Theme 1: Learning the English Language

Since many students in Katelyn's classroom were ESOL learners, we hypothesized that students may feel excluded from class activities due to language barriers. Since the class was conducted in English, if students were not comfortable with their English language proficiency, they may have found it difficult to understand and participate fully in activities.

Note that only teacher responses inspired this theme; no students referenced learning the English language as a potential barrier in their responses. This may be due to the fact that few ESOL learners were in our student dataset, or perhaps the nature of our data collection being a written response (in English) prompted by a question (in English). It would be interesting to further engage with students through verbal interviews, perhaps in their home language, to explore students' perspectives around this theme.

To reflect on this theme in your own classroom, ask yourself:

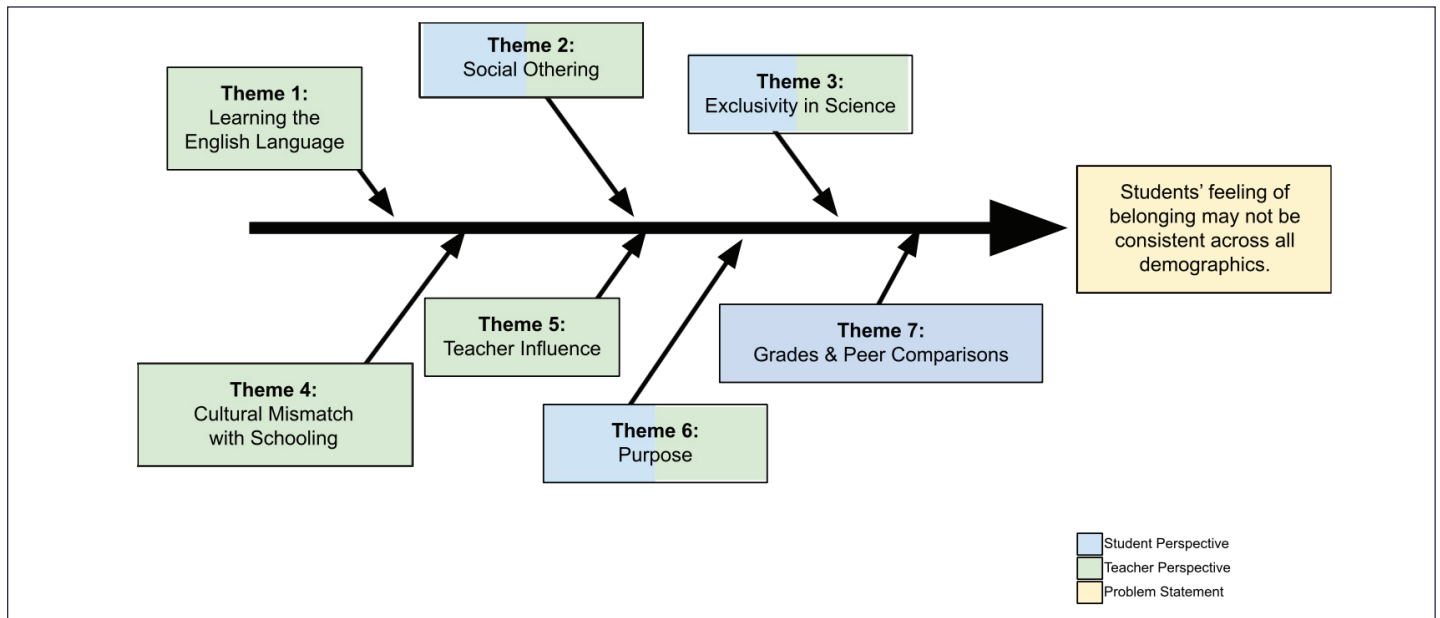
- What language proficiency levels are my students currently labeled as?
- What does my school/district consider ESOL "best-practices?" How do these practices work towards inclusivity?
- What assumptions am I (might I be) making about my ESOL students' potential when it comes to science learning?

### Theme 2: Social Othering

This theme refers to the social dynamics that may be "othering" (Kumashiro, 2000) students. Considering the peer pressures that exist in school, formation of cliques, and possible disconnect between in-school

**Figure 1**

*Potential Barriers to Students' Sense of Belonging*



social groups and out-of-school social life, this theme captures the exclusion some students may feel in school and in the classroom.

Approximately 14% (7/49) of student responses contributed to this theme. Notably, two students referenced bullying while two other students referenced mental health. One student's response states, "... this feeling may be due to how it may be hard to make some friends ...," while another student writes, "... students might be facing depression or might be lonely, so they think isolation is the answer."

To investigate this theme in your own context, consider:

- What kind of social groups exist in my school? How are these groups reflected in my classroom?
- Who is seen as a "good" student? A "smart science" student? A "popular" student? How do these various forms of social capital play out in my classroom?
- What am I doing proactively to work towards making my classroom a place where students can and do communicate across social groups?
- What classroom structures can I put in place to help my students connect as humans?

### Theme 3: Exclusivity in Science

Another potential barrier to students feeling a sense of belonging in a science class is the exclusivity that is often associated with the discipline and those who do science. Limited representations of scientists in the curriculum, implicit communications of who belongs in science, and ideas about smartness fit here.

Most student responses align with this theme. Approximately 22% (11/49) of students reference smartness; for example one student writes, "... some students have been told in the past they aren't smart enough, or they can't handle certain classes."

Approximately 12% (6/49) of student responses point to demographic factors and associated stereotypes that exclude marginalized groups from science. One student writes, "... if I was the only girl in my science class, I wouldn't feel a sense of belonging. So if people didn't see others that share an ethnicity, religion, etc., they probably wouldn't feel like they belong," while another student writes, "Gender could be a part of it because stereotypically STEM is dominated predominantly by males and race could be apart of it for asian american as the 'dominant' race."

In addition, approximately 12% (6/49) perceived science to be too hard, challenging, or difficult, as seen in one student writing, "I think it's because of the stigma that science is a hard subject ..."

Finally, approximately 14% (7/49) of students



responded that not adequately understanding the science material being taught can lead to a lack of belonging in the science classroom. For example, one student's response says, ". . . because they think they're not good in science . . . and they don't understand the materials as well."

To examine this theme in your own classroom, ask yourself:

- How can I highlight and honor multiple identities in my classroom?
- What reputation does my science course have in my school?
- To what extent do my students assume they can or cannot be successful in a science classroom? Where do these assumptions come from?
- In what ways do I uphold and/or disrupt societal expectations around what it means to be smart or good at science?

#### Theme 4: Cultural Mismatch with Schooling

We recognize a potential mismatch that exists between students' culturally valued ways of knowing and learning and what is traditionally valued in schools. For example, Zaretta Hammond (2014) discusses how many cultures around the world center structured learning in collectivist ways that are very different from the Eurocentric, individualistic culture dominant in American schools. Robin Wall Kimmerer (2013) writes about how indigenous ways of knowing are not recognized as "scientific" ways of knowing. Kimmerer argues both present different but complementary lenses to the canonical ideas which our physics/astronomy classes are typically built upon. This theme considers both outside of school experiences—at home and in the community—commonly referred to as "funds of knowledge" (Gonzalez et al., 1995), as well as previous school experiences, particularly in math and science classes.

Note that this theme only pulls on teacher responses and no student responses aligned here. Perhaps this is evidence of our critical reflection and work around examining systems of oppression that exist in education, something that students may not be exposed to throughout their schooling experience. Alternatively, students may not consider the Eurocentric standards of American schooling to be mutable or may not yet recognize their impact on their sense of belonging in school.

To reflect on potential mismatches with schooling in your context, reflect on:

- How are students placed in this science course? Are there prerequisites to this course? If so, what are the benefits and consequences?
- What funds of knowledge do students bring to my classroom? How do these (mis)match with my curriculum?

#### Theme 5: Teacher Influence

This theme refers to the impact of the teacher's own positionality on the classroom culture, the teacher's biased perceptions of interactions in the classroom, and the pedagogical choices the teacher makes in building a classroom community.

No student responses aligned with this theme. Perhaps this is due to the wording of the journal prompt itself. Students may have been cued to focus only on their (or their peers') relationship to school, rather than recognizing teachers as part of that system. Additionally, it may be the case that students were afraid to answer honestly when it comes to teacher influence since they knew that their teacher would be reading their journal responses.

To reflect on your own influence as a teacher, answer the following questions:

- How could my own identities (e.g., racial, ethnic, gender, age, linguistic, etc.) influence students' perceptions of me? How do my students' identities influence my perception of them?
- What student behaviors get valued in my classroom? Which do not? Why?
- To what extent do I welcome others' cultures in my classroom community? In science?
- Have I recently reviewed my own actions and thoughts through a lens of privilege and bias?

#### Theme 6: Purpose

The sixth theme captures why students choose to

engage in school and specifically in science class. It considers their purposes for taking the course (including student interest) and how connected the topics feel to their current lives and future goals.

Approximately 10% (5/49) of students expressed a lack of interest or disconnect from science, or an overall feeling of “wasted time” in school. One student writes, “. . . I think that some kids do not like school, because they do not see value in the things they are learning . . .” Some students do not see value added to their future lives from the course they are enrolled in beyond achieving the required credits. This theme may have roots in other themes for individual students, such as Theme 4: Cultural Mismatch with Schooling, for students whose cultural ways of being are not valued in the individualistic American classroom, or Theme 3: Exclusivity in Science, for students whose previous science struggles have led them to seek fields where they will not “need” this knowledge.

To investigate this theme in your context, ask yourself:

- Why are students taking this course? How does this course align with their current and future goals?
- How can I bring students’ personal interests into the curriculum?
- To what extent am I influencing students beyond the scope of the curriculum?

## Theme 7: Grades & Peer Comparison

This final theme was created solely based on student responses, and relates closely to Themes 2, 3, 4 and 6 above, yet feels distinct in and of itself. Approximately 22% (11/49) of students referenced low grades as a barrier to feeling a sense of belonging in school or in the science classroom. Some students mentioned that the goal of earning a good grade can feel overwhelming or unachievable at times, while other students emphasized grades as a means of comparing themselves to their peers. Some examples of student responses include: “Because school is overwhelming and if you dont get a good grade on something your looked as dumb or lesser than . . .;” “. . . becuase they feel intimidated by others grades and they feel pressure to meet those high standards;” and “Because I feel like students are constantly being compared to each other and that when you get a good grade, there are those who did way better and it makes you feel like your grade wasn't good enough. Self esteem is hard to have when you get grades back.”

To examine the impact of grades in your school and classroom, reflect on:

- What values are my grading practices communicating to students?
- How can we partner with students around grading? How can I rethink grading policies to be more authentic and humanizing?
- How can we partner with students around assessment? How can assessments be more authentic and humanizing?

## Where Did WE Go Next?

After constructing our framework, we considered the interdependence that we felt existed between themes. We wanted to design interventions that addressed the root causes rather than the symptoms of a problem.

To identify causes and effects, we used an interrelationship digraph (see <https://bit.ly/Interrelationship-Digraph>). Relying on our experience as teachers, we considered each theme in relation to each other theme. We then decided if there was no relation between the themes, or if there was a causal relationship. In the latter case, we decided which theme was the cause and which was the effect. For instance, we considered Theme 5: Teacher Influence as a cause of Theme 3: Exclusivity in Science because we hypothesized that students’ previous experiences with teachers in science, particularly when they are from a different cultural background, could lead to a feeling of mismatch with the people who do science and what is considered smart in science, as many students’ only role models in science are likely to have been their science teachers.

After this process, we counted the number of times a theme showed up as a cause and as an effect. Theme 4: Cultural Mismatch with Schooling, Theme 1: Learning the English Language, and Theme 5: Teacher Influence were categorized as “cause” most often. In comparison, we found that Theme 6: Purpose and Theme 2: Social Othering were categorized as “effect” most often.

Once identifying the causal themes, we considered our locus of control. For us, the causal theme within our locus of control to affect change was Theme 5: Teacher Influence. This helped us focus on changes within our own classrooms, rather than becoming overwhelmed by tackling larger barriers beyond our immediate control in the classroom at the beginning of our work. Therefore, our inquiry group moved forward with ideas for change within Katelyn’s classroom centered on Theme 5: Teacher Influence.

We created a journal structure in C-Level Astronomy where students responded to a daily prompt (see Table 3 for brainstormed journal prompts) in a document that Katelyn could read but wasn't shared publicly. We first pushed on teacher-student interactions within the journal structure. Katelyn replied to each student's response in their individual journal documents and Katelyn shared her own responses to the questions with the class as a whole. Based on intentionally elicited student feedback, students identified the journals as an effective way for their teacher to get to know them, and vice versa.

We then shifted to encouraging student-to-student interactions by asking students to share their journal responses verbally or in a written format (through the online chat feature or on a sticky note in a Jamboard). We had limited success as evidenced by students' lack of engagement during these exercises (18% of students shared out loud; one student shared in the chat), which may have been due to the online format of class during the pandemic. This prompted us to reimagine student-to-student interactions. Katelyn anonymously shared (with permission) a few classmates' previous journal responses and asked students to respond to prompts such as: Which of these responses is surprising to you? Which response do you relate most to? Why might they have responded this way? This helped students get to know their peers a bit better, while pushing them to reflect empathetically on their classmates' experiences.

Based on student responses highlighting a lack of belonging in the science class specifically, we shifted gears once again to focus more on Theme 3: Exclusivity in Science. Aligned with Katelyn's school's required Black History Month activities, we chose to highlight scientists, particularly astronomers, of color (see Presentation: Black History Month; [bit.ly/BlackHistoryMonthWarmUps](https://bit.ly/BlackHistoryMonthWarmUps)). We intentionally worked to humanize the scientists, not only highlighting their successes and awards, but also providing an overview of their life stories including social obstacles they had to overcome. Subsequently, we repeated this idea with regard to gender, highlighting women in science. Journal prompts pushed students to consider how these scientists felt, what mentors supported the scientists through their careers, and the importance of community to developing a sense of belonging in science. Student responses showed authentic connections between their own lives and the scientists' lives:

In response to the question, *If no one else looks like you in class, how would you feel? How might this affect you?*, one student wrote "I've kind of been in this position before- at my old school in upstate New York my grade was super small, and everyone was white, there were no Hispanics or Asians. There was one black student and then me. I felt out of place sometimes and self conscious."

**Table 3**

*Brainstormed Journal Prompts*

- What is your personal definition of "success"?
- What is your dream job after you're done with school?
- At the end of your life, how do you hope others will describe you? / What do you want to be remembered for?
- What do you think your best personality trait is? Which of your personality traits do you want to change?
- What do you eat to celebrate something exciting (like a birthday or holiday)?
- Who is your hero and why?
- Among your friends and family, what are you "famous" for?
- What are you most looking forward to in the next month?
- What personality trait of others do you value most?
- What's the best thing that happened to you last week/recently?
- If you didn't have to sleep, what would you do with the extra time?
- How well do you feel like you know [teacher name]? How well do you feel like [teacher name] knows YOU?
- How can [teacher name] get to know you better?
- How do you typically react to challenges/obstacles?
- What motivates you?
- What are you most passionate about?

In response to the question, *How was Dr. George Carruthers' experience [with a lack of role models who looked like him] similar or different to your experience with role models?*, one student wrote, "I also don't really have any role models that are African American. Because they really aren't brought up that much when in class. Most of the time black role models only come up in history class for the civil rights movement."

In response to the question, *What piece(s) of Dr. [Beth] Brown's advice do you agree with?*, following three pieces of advice Dr. Brown gives to students, one student wrote, "I agree with all of her advice. I really agree with 'It's never too late to follow your passions' because for a long time I didn't know what I wanted to do and always thought I was running out of time but soon learned that it's okay to not know everything you want to do in life."

In an end-of-the-year survey, we asked Katelyn's students to reflect on their engagement with the various activities we had tried throughout the year (writing journal responses themselves, hearing

Katelyn share her journal responses, highlighting Black scientists, highlighting women scientists, sharing journal responses in the chat, reflecting on other students' responses, etc.). On a scale of 1–5 (5 being the most engaging), responses for each question, on average, were between 3.86 and 4.54 (N=63), leading us to conclude high levels of overall student engagement with the ideas of change we had tried. Perhaps most telling though were students' responses to "My teacher treats all students fairly and with respect" and "My teacher is passionate about teaching and is committed to student learning," where all students surveyed reported a 5.

### Where Can YOU Go Next?

Once you've critically reflected on each theme in the framework, we invite you to move from awareness to action. This, of course, will look different for each reader in their own, unique context. Below, we present some potential next steps you might take in your context.

First and foremost, we'd encourage you to invite your students' voices into this conversation around belonging. This could mean having an informal conversation with a small group of students, having a whole class discussion with guiding prompts, or surveying students as we did. Similarly, inviting your teacher colleagues into the conversation can lead to fruitful collaboration, as it has for our inquiry group. Consider bringing up the topic of student belonging in the lunchroom or incorporating it into an existing meeting.

Then, use these new data to reflect:

- Where do your students' responses align with our themes? What new themes arise?
- Where do your teacher colleagues' responses align with our themes? What new themes arise?

We encourage you to modify our framework to match your own analysis.

Next, consider the interdependence that may exist between themes. In moving towards action, it is important to design interventions that address the root causes rather than the symptoms of a problem. To do this, we recommend using an interrelationship diagram.

- Which of your themes are causal?
- Which of your themes are the effects of other themes?

In addition, it is important to keep in mind your locus of control and opportunities for collaboration.

- Within the causal themes, which are things you can do something about?
- Are there colleagues who might help you engage in this work collaboratively?

### Conclusion

When students develop a strong sense of belonging in school, they are more likely to have positive attitudes towards school, classwork, teachers and peers; to be engaged and participate in activities; to be invested in the learning process; and have a stronger sense of their own competence (Osterman, 2000). Thus, it is essential for teachers to critically examine and take action towards fostering students' sense of belonging in their school and classroom. Our own inquiry into this topic helped us to better understand and begin to address potential barriers to students feeling they belong in Katelyn's high school astronomy classroom. We hope that you find our framework useful for your own self-reflection and self-assessment of your students' sense of belonging, and feel empowered to take steps towards addressing barriers that may exist in your context. Change happens incrementally and over time. Tuck & Yang (2018) write, ". . . we can get a false impression that moving between theories of change requires great effort or journeying" (p. 2). They go on to remind us that change comes in "small shifts" (p. 4). With small steps and over time, we can all work towards a more inclusive, more equitable educational experience for our students.



## References

- Bryk, A. S., Gomez, L., Grunow, A., & LeMahieu, P. (2015). *Learning to improve: How America's schools can get better at getting better*. Harvard Education Publishing.
- Carnegie Foundation For the Advancement of Teaching. (2015, July 21). *Improvement discipline in practice*. <https://www.carnegiefoundation.org/blog/improvement-discipline-in-practice/>
- Gonzalez, N., Moll, L. C., Tenery, M. F., Rivera, A., Rendon, P., Gonzales, R., & Amanti, C. (1995). Funds of knowledge for teaching in Latino households. *Urban Education, 29*(4), 443–470. <https://doi.org/10.1177/0042085995029004005>
- Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students*. Corwin Press.
- Hartman, M., Hotchkiss, H., & Miller, K. (2014). The tale of a successful collaboration. *Kaleidoscope: Educator Voices and Perspectives, 1*(1), 3–7.
- Kimmerer, R. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Milkweed editions.
- Kumashiro, K. (2000). Toward a theory of anti-oppressive education. *Review of Educational Research, 70*(1), 25–53.
- Langley, G. J., Moen, R. D., Nolan, K. M., Nolan, T. W., Norman, C. L., & Provost, L. P. (2009). *The improvement guide: A practical approach to enhancing organizational performance*. Jossey-Bass.
- Love, B. L. (2019). *We want to do more than survive: Abolitionist teaching and the pursuit of educational freedom*. Beacon Press.
- Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research, 70*(3), 323–367. <https://doi.org/10.3102/00346543070003323>
- Tuck, E. (2009). Suspending damage: A letter to communities. *Harvard Educational Review, 79*(3), 409–428. <https://doi.org/10.17763/haer.79.3.n0016675661t3n15>
- Tuck, E. & Yang, K. W. (2018). *Towards what justice? Describing diverse dreams of justice in education*. New York: Routledge.

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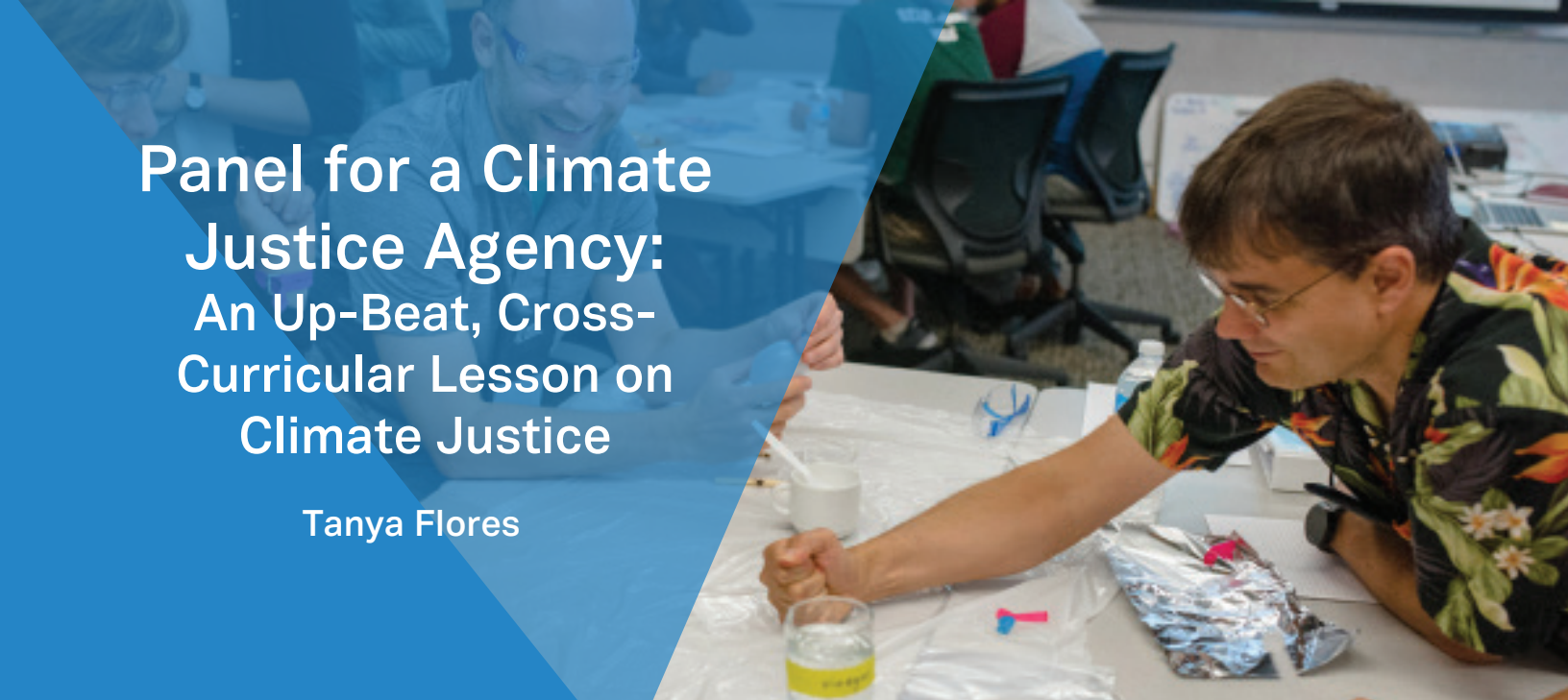
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# Panel for a Climate Justice Agency: An Up-Beat, Cross-Curricular Lesson on Climate Justice

Tanya Flores

**When teaching climate science, it can be hard to be hopeful in the face of the many global impacts. In this lesson, see how students engage in a solution-oriented activity, confronting multiple climate justice issues head on.**

Picture a balmy late July day in 2022 at the Schoodic Institute in Acadia National Park, Maine. If you were standing on the lawn in front of the classic two story, multi-colored, ornately bricked Rockefeller Hall, you would smell crustacean-crusts brackish air, and be listening to the rhythmic wash of the ocean against the water-worn, smooth, lichen-coated cliff faces of Schoodic Point. Gathered inside of the Education and Resource Center (within Rockefeller Hall) is an old wooden window filled meeting room with a large conference table at one end. The students are science teachers and it is the first day of a week-long service retreat with the Technical Education Research Centers (TERC) organization, funded through the MacArthur Foundation. The purpose: to unpack climate and equity, also known as climate justice, education.

I was invited to this week-long conference, along with 11 other teachers from across the nation (four urban, four suburban, and four rural), to learn from experts and each other on ways to influence climate justice in the next generation. At the retreat, we studied how climate relates to equity with a series of guest speakers that included ecologist Lyanda Haupt, Reverend Mariama

Whitehammond, psychologist Dr. Megan Bang, and climate communication scientist Dr. Susanne Moser. We were brought together to consider best practices for effectively teaching students from small to large communities. Before the first day of the conference, each teacher was asked to prepare a 20-minute climate and equity lesson to use with the group that would serve as an ice breaker and provide a way to get to know that teacher and their teaching style.

Now it is my turn to teach, and the 11 teachers, along with TERC staff Drs. Brian Drayton, Folashade Solomon, and Gillian Puttnick, are playing the role of the students. Together, they match randomly distributed cards containing domain-specific vocabulary to a set of cards containing high-quality photographic images. For this lesson I used 10 matching sets of cards. Each participant began with one card, either a description or a title of a project, and then was tasked with finding its match in the hands of another participant. When these two persons found each other within the throng, they became a team. They read and discuss the information about the project that they now represent. They imagine that they are serving on a panel that will award the winners of a climate change initiative an array of meaningful prizes and funding. Soon the room erupts with discussions about which of a variety of awards will best serve the vastly different projects. The awards are as varied as the projects and this causes deliberation and negotiations in the area of the room where the awards have been set across the floor.

The participants are using their abstract problem-solving skills to defend and justify their perspectives.





Flores, T. (2022). Teachers at Schoodic Institute discussing which award is best to grant to what project. [Photograph].

Discussions are born in the room; the participants are anxious to regroup and present their thinking. Time is flying and the class is driving the learning.

Within minutes, the room of teachers seems to lose the sense that they are engaged in a lesson. They have become acutely focussed on trying to figure out what would be the best use of resources to mitigate climate change and bring justice to all. I am smiling because this lesson exceeded my engagement dreams. After 15 minutes, a timer goes off and everyone returns to the conference table to share the projects they are representing as well as to unpack their justifications.

Participating teacher Ronnie Vesnaver said, "I love how the activity firstly taught about grants and the methods for how people and organizations can enact change. It gave students a real-world understanding of how things get done. Secondly, I liked that it required participants to engage with a partner to discuss their ideas. Thirdly, I think it was great that it got us out of our chairs and onto our feet!"

## My Process

In designing this climate justice lesson, I wanted to put my best foot forward. To do this, I needed to draw upon my resources as a second language English teacher and create a lesson that included positive engagement, body movement, tactile prompts, conversation, and climate vocabulary, all supported by quality photographs. Further, I wanted my lesson to place the students in the driver's seat and leave me in a peripheral role. I wanted to focus on hopeful solutions rather than habitat loss dread. I wanted there to be no possibility of wrong answers. I wanted the lesson to be flexible for time constraints. Needless to say, coming up with the details of this lesson kept me up for a few nights.

I already knew a lot about climate change. I had been tracking the sobering data on loss of species, ice sheets, and increasingly severe natural disasters. I had attended several conferences put on by the Earth Science Information Partners (ESIP), a foundation of data sharing partners who come together annually from earth science communities across the globe. I had written and published a gamified climate change teaching app through a grant I received from ESIP. However, I had not actually developed my own climate lessons beyond talking with classes and having them number-crunch glum statistics, like storm severity and ice sheet/sea-level data sets. When I thought about it,



Flores, T. (2022). Teachers at the Schoodic Institute finding their partners by matching the project description to the illustrated title. [Photograph].





*Climate change is an issue that will elicit a range of emotions from students."*

I had never even considered writing the sort of lesson that was being asked of me now.

The biggest obstacle I had was that the lesson was supposed to be about climate equity and I wasn't positive what "climate equity" meant (also referred to as climate justice during the conference). After some time, I interpreted climate equity as every solution needing to address the whole global population and not just the needs of more developed nations.

My hope is that this lesson is highly adaptable for other teachers, regardless of the discipline or grade level. I also want the resources to be useful and flexible for additional lessons. I already used the image cards for a writing project after having used it for the justice panel. Also, this lesson can be used with students who already have an understanding of climate change and equity or it can be used as a way of introducing to the topic.

In the end, climate change is an issue that will elicit a range of emotions from students. I have learned that common responses include panic, worry, anger, and apathy. Just because it's a loaded issue does not mean that we should avoid the topic. One big takeaway from attending the conference in Maine was that it's our current students who are precisely the ones needed to address this issue. I wanted to empower my students to feel a sense of agency as they are called upon to be part of the solution.

After I led this lesson with other teachers and with students, I got resounding positive feedback. The aspect of this lesson that struck a chord with the other teachers and TERC group was its focus on positive outcomes. When I taught it in my high school classes, I got this feedback from my students:

"It really had me thinking about the earth and what can we do to prevent an outcome of destruction." - Ty, 12<sup>th</sup> grade

"It is interesting how we get electricity, transportation, or other things out of nature. We also learned about culture, like the indigenous one and it was cool." - Alyssa, 12<sup>th</sup> grade

"I really liked that "exercise" because it was trying to find what picture matches the card and putting a lot of thinking into what we're doing. It was pretty fun." - Kayleia, 9<sup>th</sup> grade

Every time I deliver this lesson, I learn about the ways my students think and it fosters my classroom coming together as a community, just like it did for the teacher group in Maine. I have been surprised how engaged students become, how invested they seem in choosing the appropriate award for each project.

### Lesson Description

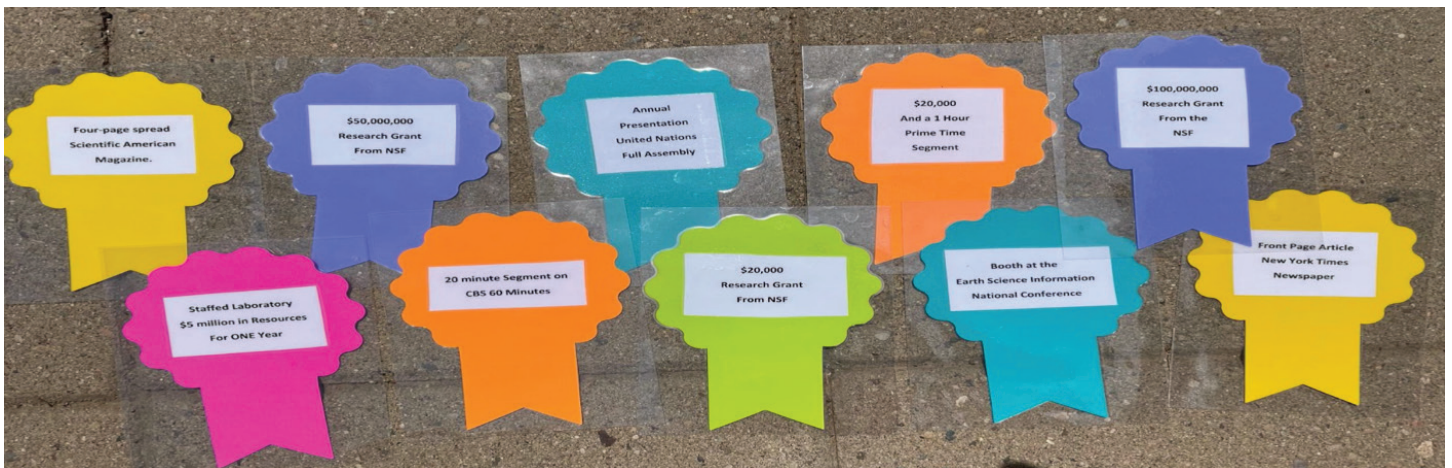
The participants consider themselves as a panel for an environmental organization whose job is to award climate justice projects with meaningful prizes including funding. Each participant is given either a labeled image or a description of a project at the start of the lesson. Assigning cards can be done randomly or intentionally. The first task is for the participants to organize themselves into pairs by matching the project description to the illustrated title. Once they are in pairs, they discuss the project, its scope, and why it would be beneficial in addressing climate injustice. This lesson is designed to work with any level of background knowledge and the cards contain all the information that the students will need for their discussions. The matching photographs are used to represent what might otherwise be challenging vocabulary. Once the pair feels they understand the project, they review the possible awards and try to decide which one would best help move the project forward. Depending on the involvement of the group they may become animated as they negotiate with other groups for a mutually desired award. The last step in the lesson is that the groups join in a whole class discussion where they are tasked with presenting the project that they are responsible for and give justification for giving it the award they chose. If excess time remains, the participants could conduct research to understand the scope of the projects even more. The time frame will vary significantly for this last phase depending on the size of the class.

In preparation for the lesson, I printed out three things: award labels, project descriptions, and the set of project illustrations. These things are then glued to index cards and/or award certificates, and laminated. For my lesson I prepared 10 possible awards and 10 sets of cards to represent 10 projects. I took the images I used from magazines I had laying around (i.e.,

Smithsonian, Hadassah, AAA Travel Guide, Consumer's Reports, and NEA Today), but it's best to source your own high quality photographic images as they are likely to be brighter and pop more for your lesson. While the descriptions are written for a high school audience, the wording could be changed to match the reading level of the students anywhere from fourth grade to adults. For example, the card for [3rd Millennium Housing](#) is written: *As the population increases, humans will benefit from rethinking house/shelter design to use more Earth friendly ways in building/construction practices. This study will generate recommendations humanity around the globe can use to reduce the carbon footprint and conserve scarce resources.* It could be adapted to something like: *Today we know we should make houses that are more friendly to the Earth. This project will figure out how to do this.*

## Final Thoughts

The lesson was so many things all at once—an ice breaker, a community builder, an introduction to the complex reality of climate change, and an uplifting affirmation that while people got us into this mess, we have the power to get ourselves out of this mess. Outside it was a cool day and the sea mist wafting through the fragrant red pines reiterated that active hope lives and there's still time to inspire our students, this critical frontline generation, to act in the holy battle for our Earthly ecosystem. I hope this lesson opens the windows of imagination for you and your students as successfully as it did for my summer cohort in the cool mists of Maine and my students in the dry heat of New Mexico.



Awards to be matched with projects.

## Appendix

### Project Titles

Award #1	Award #2	Award #3	Award #4	Award #5
Presentation before the Full Assembly United Nations annual meeting	\$100,000,000 Research grant from the NSA	\$20,000 and a 1-hour prime time segment on CBS	Staffed laboratory and \$5,000,000 in resources for ONE year	30-minute segment on CBS 60 Minutes
Award #6	Award #7	Award #8	Award #9	Award #10
Four-page spread in <i>Scientific American Magazine</i>	\$50,000,000 Research grant from the NSF	\$20,000 Research grant from NSF	Booth at the Earth Science Information National meeting	Front page article in the Sunday edition of the <i>New York Times</i>

## Project Descriptions

(more or fewer projects are used per class or group size)

Fossil fuels and other non-renewable sources of energy are problematic for continued life on Earth, as they are the largest contributors of climate change. This research proposes to step up the pace for mass scale global alternatives of clean fuel sources.

A massive contributor to climate change is the byproduct of the global shipping industry. Much of this need is fueled by a demand for nutritional sustenance. This research will provide recommendations for communities to produce the bulk of nutritional needs from the immediate surrounding area.

Each inhabitable continent is populated by Natives, those who have been there since before industrialization. This groundbreaking study will call upon Indigenous peoples and owners of first knowledge to inform and publish alternate practices of Earth-sustainable sourcing and habitation.

A research project that will culminate in proposals to install sustainable farming communities inside large urban areas globally. This project suggests significant reduction of transportation costs and includes replacing concrete surfaces with vegetation and reforestation of abandoned roadways.

As the population increases, humans will benefit from rethinking house/shelter design to use more Earth-friendly ways in building and construction practices. This study will generate recommendations for people around the globe to reduce the carbon footprint and conserve scarce resources.

A large contributor to climate change is carbon released from the transportation industry. This study will culminate with a strategic plan to retool the transportation industry to 3rd Millennium standards in line with an initiative for global best practices.

Humanity has irreparably outgrown, used up, and spoiled the resources on planet earth. We are a consuming species and this research will focus on sustainable, long-term space travel so that a select few of us are able to cross the universe until we find new worlds to inhabit.

In the near future due to climate change, there will be mass migration of humans from coastal regions that are no longer hospitable. Billions of people will need to relocate in short order. This is a plan to coordinate an international treaty to lay a foundation for this unfortunate but certain event.

Much of the Earth's forests and open spaces have been stripped of vegetation due to human development, mining, deforestation, and wildfires. This project will culminate with an international plan that identifies bare areas of the Earth to plant with indigenous species of flora.

Most of the Earth's surface is under the ocean. This water is salinized and of limited use as a resource for land life. This project will develop global solutions for mass-scale desalination. Fresh water will be sourced in environmentally safe ways for consumption and other water uses.

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