Design, Technology, and Research (DTR)

Annual Letter, 2025

Dear members of the DTR family,

As DTR's *keeper*, I'm committed to sharing our culture and practice, and my reflections on learning, growth, and mentoring. This letter is for anyone who learns, aspires, and grows; and for anyone who fosters that in others. If that's you, welcome to our family.

In this year's letter, I share more about how we care for the person in DTR. I try to be more open about what we *actually* do for students, and why that matters.

In particular, I highlight the outsized role that DTR plays in helping our students grow in ways that universities often overlook. Universities expect students to acquire new information and build new skills, but not to challenge deep-rooted patterns and beliefs that limit them. Then at commencement, graduates are told that they are ready to tackle problems out in the world, and that they'll find professional success and personal fulfillment. This seems lofty to me without supporting students to look at themselves more honestly, and to build the capacity for shifting how they perceive and respond to difficult situations. This year's letter focuses on how we work with that, in our own way, in DTR.

Celebrating Success

Success can mean different things to different people, but our primary criterion for success in DTR has always centered on student learning and growth. Over the years, the learning and growth I have come to value most is change in the person: how students come to see themselves differently, and how that in turn, transforms the way they approach their research work and their lives outside of DTR. Said differently, it is the connection between the person and how they approach work and life that I recognize as central, and that I see as the greatest success we can achieve through DTR.

Here are a few of our success stories this year, with pseudonyms chosen alphabetically. These stories share the learning and growth that my students had, *and* that they have come to recognize in themselves:

- Annie, who initially produced work without understanding as a way to appear competent, learned to slow down and take time to understand what she doesn't understand. Later, facing her fears of incompetence—which told her that she better not attempt a study lest she fails (very scary)—Annie mapped out the steps involved in conducting a study, assessed if she was capable of making progress on each step, and took those steps forward. She learned that she was more capable than she was preventing herself from being, and that she can allow herself to have the experience of going further than her fears told her she could.
- Bella learned to be okay with herself. Instead of over-relying on her project partner, panicking and doing something convoluted while pretending to know, and getting so upset at herself when I pointed out issues in her work, Bella learned to take more responsibility for her own learning and growth by first giving herself grace. She learned to breathe, to remind herself that she is doing okay, and that she can take steps to make things clearer for herself, so that she can proceed on more solid ground. More than anything, Bella learned to stop tormenting herself. She learned that her worth wasn't predicated on getting somewhere, but in simply existing. This deep knowing helped Bella to open up, to find her own voice, to assess her work more honestly, and to bring more of herself to challenges that arise.
- Carol learned to "not attribute all problems to myself right away", and "to communicate when something is frustrating me [or when I am] feeling hurt." Last quarter, she worked up the courage to tell me that "low-key, I am a little bit upset at you" (translation: she was fucking pissed!). This made me so happy, because instead of swallowing her feelings, playing nice, or blaming herself, she shared what was truly in *her*, which led to a heartwarming and productive encounter. Carol also learned to "stick with something even if it's really ambiguous." She realized "how fun [it] was to be navigating ambiguity and feel like I am at a place where I am intellectually challenged," and that "joyfully working doesn't mean that I have to be perfect or have all the right answers."
- Daniela, who was reluctant to share her designs with me until she knew they worked, learned to let go of perfection and to seek feedback for the sake of her own learning. She learned that asking for feedback is not a sign of weakness, and that trying to be the perfect student is not a weight that she has to carry. At the same time, she is learning to accurately assess her project risks, and to align her work with the riskiest risks that she finds. In other words, she is learning to embrace

imperfection, *while* also committing to being effective. Doing both is hard, but that's the stuff!

- Elle, who has a knack for doing things that she is really good at and running away from things that she is less comfortable with, learned to face her fears and work with not knowing. She learned to slow down, to build on what she knows, and to stick with what's risky and important for her project. This helped her to realize that she is capable of working with not knowing, and that hiding in the comfort of what she is good at was keeping her from doing what she wanted to do.
- Fiona, a deep thinker who often sees nuanced flaws in her own arguments and plans (a real skill!), learned to not be overly critical of herself and her work and to just do *something* to make progress on *some* aspect of her project. Through doing, Fiona learned that she doesn't need to be beholden to her worries (even the insightful ones). She can let things work themselves out, as she trusts herself and her process of doing, more.

These heartwarming stories illustrate how students' changing pictures of themselves fundamentally changed the *selves* that they brought into their research, and how fundamental changes in how they engaged with their research transformed the way they see themselves. What DTR students learn is deeply personal, *and* it is this personal transformation that enables (and is enabled by) their finding new and effective ways of engaging in challenging situations, whether that is in research, in work, or in life. Personal growth allows for a deeper engagement in research, which in turn, serves as a vehicle for personal growth.

Across our cohort, I witnessed more personal growth in DTR students this year than I myself thought possible in a year's time (and my expectations are very high!). I couldn't be more proud. Of course, I am also proud of all the practical successes my students achieved this year—winning 9 undergraduate research grants (!), being accepted to masters and PhD programs at top schools (Stanford x2), completing a dissertation defense, and working and interning at prestigious tech companies (Microsoft, Amazon, Tesla, and so on) and promising startups. I myself am thrilled to be awarded an NSF award from the Research on Innovative Technologies for Enhanced Learning (RITEL) program to develop computational tools and systems to support coaches and students learning to self-direct and innovate in DTR and beyond. Still, what I am proudest of is the immense personal learning and growth that happened in DTR this year. That's our north star.

While celebrating success, I want to share a brief update on three alums of ours. A year and a half ago, we organized a career panel in which we invited three alums—Meg Grasse, Katherine Lin, and Kalina Silverman—to share their work experiences and how their time in DTR plays into their careers. Instead of talking about "how to get a job," these alums shared how they grew as people and how they pursued their passions through their work. It was a heartwarming event that gave our students far more hope about what life after school could look like than whatever "desirable paths" had been laid out for them.

Well, I am happy to share that since the event, Kalina has continued to find success in Big Talk (which she started in college; see www.makebigtalk.com); Meg has transitioned from leading an engineering team at Apple to studying sustainability engineering at Imperial College London; and Katherine has begun her dream internship at the Whale and Dolphin Conservation. How cool is that? I am thrilled to see our alums continue a lifelong pursuit of their passions, to find the courage and strength to go where that takes them, and to keep going. This is what I want to be available for all my students, and I believe the kind of personal growth that I highlighted prior is crucial for building the kind of life that these and other DTR alums are building for themselves.

A College Education

These days there are many questions about the value of a college education. The days when we all agreed on the value of a liberal arts education are behind us, and even the promise of landing a well-paying STEM job seems to be on shaky ground. AI is coming. Anxiety is high.

Many people are concerned about the value of a college education in economic terms: whether its costs are justified by the potential increase in future earnings and job outcomes. Increasingly, I hear from students who worry about the financial strain their education is putting on their families, and whether their eventual jobs will justify the investment in them. Moreover, with AI threatening to replace human workers at every turn, even the technical knowledge and skills that students spend years acquiring and honing may provide little safety net. One DTR student asked: "Will I be worth anything at all?"

A separate concern is whether college delivers on the transformative personal learning and growth that it promises. Imagine you are at a bookstore, and that you want to read about people who have gone through tremendous learning and growth. Would you look for a book on college education? Probably not. Instead, you may be drawn to memoirs and

travelogues, or perhaps to the self-help section. Does this mean that, despite all the hopes that we place on college being a transformative learning experience, we don't actually think of colleges as places where deep, transformative learning happens?

As a college educator, I take both concerns seriously. It's important to me that students are well-prepared for the workplace (my external-focus), and that they grow deeply as people (my internal-focus). DTR does a good job of both. What about the rest of the college?

For years now, I have been trying to understand how DTR differs from other college classrooms, particularly those in my fields of computer science and design. There are many surface similarities (we do projects; they do projects. we coach; they coach), but **one major difference is that we attend to the person far more in DTR than in other college classrooms**. By attending to the person, I mean that we see our students, build relationships with their persons, and help them work with the person inside them, as they learn. Rarely are traditional classrooms set up for this, and in this regard, colleges and college professors are truly asleep at the wheel.

Unfortunately, this lack of attention to the person isn't trivial—it is a critical barrier to achieving the job preparation and personal growth outcomes that DTR routinely fosters. Below, I illustrate how failures to attend to the person can get in the way of students acquiring foundational skills, and developing the deeper professional and personal capacities that help them to self-direct their own learning, and to innovate.

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Let's start with lecture-based classrooms. Critiquing large, lecture-based courses for not delivering deep personal transformation (spend 10 weeks with 100–200 students, transform their lives!) is silly, yet even their intended goal of imparting content knowledge and helping students build foundational skills is challenged when we do not attend to the person. Over the last five years, my research with Nell O'Rourke and our students in introductory computer science classrooms has found that students in these classes struggle with a wide range of limiting beliefs, emotions, and strategic behaviors that get in the way of their learning, yet little is done to address this in the classroom. Encountering an error in their code, a student can quickly go from "this code isn't working" to "I won't be able to finish this assignment" to "I am a terrible student" to "I am a terrible person." Feeling the fear, frustration, and shame of their perceived inadequacy, students freeze up, forgo effective problem solving strategies, and give up altogether. Eventually—after not being able to look at their assignment for a few days—they go to office hours, but not to learn

more effective strategies so they can learn to solve the problems on their own. Instead they often go to get answers, get their code fixed, get their assignment finished, get a good grade, and move on (from all that fear, frustration, and shame). From a learning and growth perspective, this system is quite broken.

Despite these significant problems and plenty of interest in improving computer science education, not enough research or practical efforts focus on attending to the persons in these classrooms. Efforts largely go toward improving how we teach computer science content, even though what often gets in the way of students learning the content is personal. This point illustrates how our external concerns (jobs, earnings) and internal ones (personal learning and growth) are far more connected than they may at first appear: when we fail to attend to the person, we miss both the opportunity to help students build their persons (unlearn damaging self-beliefs; work with difficult emotions; develop effective strategies for tackling challenges), and for that self-work to empower them to learn the knowledge and skills needed for their eventual careers.

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You might hope that smaller, studio-based classrooms for project-based learning—where students work on unstructured problems with unknown solutions and receive direct coaching and more personal attention—deliver on the professional development and personal growth that we are seeking. On the external side, it's reasonable to believe that the ability to self-direct complex work, innovate, and collaborate well with others will all still be valued in the future. While routine work (even skilled tasks) may be increasingly automated, knowing how to recognize, define, and tackle new problems will become more valued (if not expected or required). On the internal side, one benefit of working on difficult problems with many unknowns is that they challenge us. We are bound to struggle at times, and these struggles can provide valuable opportunities for looking inward and for growing as people.

Unfortunately, project-based learning classrooms are rarely set up for the kind of learning I am describing. Intuitively, we understand that simply giving students problems with unknown solutions doesn't mean that they learn how to work on them *effectively*, nor that they will become aware of their own work practices and improve how they regulate their work and learning across cognitive, metacognitive, emotional, and strategic dimensions. Students need experienced coaches who can not only help resolve issues with products and processes, but more importantly, diagnose and address underlying *regulation gaps* that underpin behavior. But in practice, coaches focus predominantly on responding to

observed challenges in products and processes than on understanding (the unobserved) obstacles in how students work on their problems, and much less the struggles they face within their person.

Initial findings from my students' research in project-based learning classrooms (and that of my Delta Lab co-directors Matt Easterday and Liz Gerber) suggest that coaches rarely gain enough visibility into students' way of working and of their persons to be able to recognize and address gaps in their ways of regulating their own learning. More often than not, coaches help students overcome project obstacles so they can progress (no cakewalk), but this often scaffolds past the regulation gaps that prevented students from making effective progress on their own in the first place. Moreover, coaches share effective strategies but rarely understand why students are struggling to adopt them. Similar to the focus on content in introductory computer science classrooms, the focus on product and process in project-based learning classrooms is largely blind to what's happening inside the person. But how can we expect deep, transformative growth in the person, when we don't try to see what's happening inside our students?

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While there are a plethora of practical challenges in actually attending to a person, my suspicion is that even before we get to them, many educators already drew a line in the sand that says that they will not welcome the person into the college classroom. They "decided" that classrooms are places that value learning the content over personal growth and vulnerability (have you seen a classroom that rewards students for rethinking their relationship with failure?). They "decided" that, if they can avoid it, they would rather not hear what students are truly feeling or see what they are actually struggling with and attend to it. By drawing the boundaries of their responsibility to include only the subject matter at hand, they remain uncurious about their students and risk leaving their persons out of the learning entirely.

When the learning goal is not just content knowledge but students' ability to self-direct their work and learning in effective ways when facing challenges (which I have shown is the case even for learning foundational skills), we need spaces and relationships that are strong enough to support students looking inward and working with their deep-rooted patterns and beliefs. Yet educators remain uncurious about students as people and largely avoid building deep relationships with them in the classroom. This is a mistake.

DTR students all have enough neurons, but what they need still is a space in which they belong and relationships in which they are seen—as they work on hard problems that surface their *actual* struggles. When educators do not create such spaces nor build strong relationships, their students' beliefs, emotions, and patterns are more likely to get in the way of their learning and growth. By being neglectful, educators miss the opportunity for important learning to take place.

I see myself as doing enough, but I am also part of a system that "chooses" not to see our students. Still, I have no desire to tell other educators what to do in their classrooms (no more than I would entertain having anyone else dictate what I do in DTR), nor do I think any of the problems I mentioned have easy solutions. But as long as DTR exists, I will maintain a space in which my students can be seen. I will build relationships with them that allow us to talk not only about the subject matter, but about how their emotions, patterns, beliefs, and persons impact their work and their becoming the person they wish to be. When I do this, I feel like I am doing my part to provide a worthwhile college education, and that DTR is a story that belongs with the memoirs and travelogues. Let's keep it there, and hope that more college programs will belong there, too.[1]

Movement

In DTR, the research process is a vehicle for shifting patterns. I see the developmental process within DTR as one of finding a greater range of *movement*. Movements may manifest as changing attitudes toward oneself or as adopting new strategies in similar, pattern-triggering situations. These movements may in turn lead to more effective actions, and surprises of the "huh, I didn't know I could do that" or "that worked way better than I expected" variety. These experiences become the fuel for further shifts in the person, and for moving the research in new directions that previously held patterns would not allow.

Routine (and well-crafted) research activities can reveal a range of patterned responses, that once examined, can give way to new possibilities. For instance, when I asked a student to come up with a few proof-of-concept examples to show that her solution works,

[1] I am grateful to have colleagues who also care deeply about seeing our students and helping them grow, and who create space for this to happen. See for examples: Joe Holtgreive and Bruce Ankenman's work on the Personal Development StudioLab, a space in which (engineering!) students can create and practice their life approaches; Mike Raab and the team at the Garage, for providing a space for student entrepreneurs to aspire and develop as people; and Elizabeth Lenaghan and the Writing Place, for recognizing that even technical writing is personal and that it helps to attend to the writer as much as the writing.

she presented me with examples that she herself knew would not work. When I pointed this out, she jumped onto ChatGPT rather than trying again on her own. When I told her to not, she went off to do something else entirely. She was stuck, and was looking for every way out. Instead of forging a new path *through*, she continued down the patterned paths that she had long carved out for herself, but that led her nowhere.

In moments when we are challenged but feel inadequate and scared, it is easy to default to the patterns we know than to find new movement. But in doing so, we not only run away from the challenge in front of us, but also our innate capacity to analyze and tackle challenges. By creating space to look at the ineffective paths that we continue to go down, and to develop strategies for making new paths forward (e.g., start with what we know, make the problem smaller, experiment with different approaches, and so on)—we give ourselves a chance to find a new direction of travel. These experiences in turn expand (our belief of) the range of movements available to us.

To make new movement feel safe for students, I offer my presence and stay attuned to them as they look for new direction. I can suggest areas and ways to explore, but cannot do the work of searching for them. Nor can I abandon them. So I stay present, and remind them (loudly) to search elsewhere when they circle back onto patterned paths. I encourage them to apply "right effort," to focus on progress over perfection. I remind them that I don't care if our attempts fail. We stay searching, until new movement comes.

Our patterns—particularly those rooted in deeply held beliefs about ourselves and our abilities—freeze us in place. Obstacles we face in the research process become reminders of our inabilities, inadequacies, and insecurities. When things don't work out, these voices grow louder, and research becomes a reminder of all the ways that we are no good. Movement, on the contrary, reminds us that these voices are merely voices. It connects us to a deeper knowing: that within each of us rests a tremendous capacity for movement, and that each obstacle presents an opportunity for new movements to emerge.

Wild Geese

Both inside and out, DTR looks like a space for getting better, for improving oneself. I imagine that some students are drawn to its rigor in part because it meshes with their desire to "correct" the less desirable parts of themselves, so that they can finally like themselves. This thought has always scared me.

Personally, I don't think I could have gotten to where I am now without pushing myself to become better than I was. But my path was filled with self-inflicted wounds and damaging self-beliefs that I am not keen to repeat, let alone impart onto the next generation. Moreover, the violent work of remaking ourselves can trap us in old patterns that we are bound to repeat, which can ultimately lead us astray despite how focused and energized by them we might be. Eventually we get tired, and wonder what all our work was for.

Over the last decade I have come to see the value of self-acceptance, both for its intrinsic good and for the power that comes from accepting all the parts of myself. My experiences of self-acceptance left me with many questions, but also helped me learn to just be. These days I feel more comfortable in my own skin, more willing to "let [my] jagged edges meet the light" ("What It Sounds Like," *K-Pop Demon Hunters*, Netflix, 2025).

Fall quarter, I challenged my students to be awake to their instinctual selves. I shared this excerpt from Peter Levine's insightful book, *Waking the Tiger: Healing Trauma*:

> Without easy access to the resources of this primitive, instinctual self, humans alienate their bodies from their souls. Most of us don't think of or experience ourselves as animals. Yet, by not living through our instincts and natural reactions, we aren't fully human either. Existing in a limbo in which we are neither animal nor fully human can cause a number of problems, one of which is being susceptible to trauma.
>
> In order to stay healthy, our nervous systems and psyches need to face challenges and to succeed in meeting those challenges. When this need is not met, or when we are challenged and cannot triumph, we end up lacking vitality and are unable to fully engage in life.

All quarter, I presented my students with challenge after challenge, setting a pace that demanded their acting on whatever challenge was in front of them. I kept creating opportunities for such doing, by offering macro-level feedback that asked my students to reconsider their direction of travel and to move in more effective ways, but without dwelling on micro-level details. This led my students to experience how they react to difficulties that are put in front of them, as they tried to move past being frozen in place and being stuck in their own pattern. It also opened the door for them to look at their instinctual reactions and their self-judgments, in the midst of confusion and action.

Come winter, I opened up space for examining the idea of having to be good. I shared my favorite poem, "Wild Geese" from Mary Oliver:

> You do not have to be good.
> You do not have to walk on your knees
> for a hundred miles through the desert repenting.
> You only have to let the soft animal of your body
> love what it loves.
> Tell me about despair, yours, and I will tell you mine.
> Meanwhile the world goes on.
> Meanwhile the sun and the clear pebbles of the rain
> are moving across the landscapes,
> over the prairies and the deep trees,
> the mountains and the rivers.
> Meanwhile the wild geese, high in the clean blue air,
> are heading home again.
> Whoever you are, no matter how lonely,
> the world offers itself to your imagination,
> calls to you like the wild geese, harsh and exciting—
> over and over announcing your place
> in the family of things.

The idea of not having to be good is not an easy one for my students to accept. We played with the poem all quarter during circle time, with students often having trouble getting past the first line. But we kept at it, and as the quarter went on, students shared more and more moments in which they accepted where they were at with their research, and let go (just a little) of having to be good. I celebrated each of these moments, recognizing that a huge shift was already underway in their persons.

At the end of the quarter during an exit meeting, one student, who always pushes herself so hard, told me about how she has been reflecting on how hard she is on herself, and has started to let go of her expectations of having to be good and better. In a non-sequitur, she told me that she started painting again after not having done it for *years*. Instead of beating herself up over whether she was good at it, she allowed the paint to become her voice, *harsh and exciting*, announcing her place in the family of things. Instead of pushing herself to be good, she began to let the soft animal of her body, love what it loves.

By spring, as my students all gained *some* willingness to look at themselves with kinder eyes, I wondered if they may be willing to finally let go of some of their need for self-improvement. Not having to be good (right now) is acceptable—their thought goes—but

only if they are allowed to work hard on making themselves good for the future. Fighting back, I hit them with this quote from Pema Chödrön's book, *Start Where You Are: A Guide to Compassionate Living*:

> There is no need for self-improvement. All these trips that we lay on ourselves—the heavy-duty fearing that we're bad and hoping that we're good, the identities that we so dearly cling to, the rage, the jealousy and the addictions of all kinds—never touch our basic wealth. They are like clouds that temporarily block the sun. But all the time our warmth and brilliance are right here. This is who we really are. We are one blink of an eye away from being fully awake."

One student pleaded: "but wanting self-improvement is okay, right? It's not *bad*, right?" Other students wondered: is it really okay to let go of the identities they have worked so hard to create to protect themselves? These questions, like clouds that temporarily block the sun, eventually gave way to my students softening into a deeper acceptance of themselves, for *who they are*. My students began to question the ways in which they had worked so hard to shield themselves, so that they can be bulletproof to any attacks that trigger feeling like they are not enough. By sharing the painful feelings of having worked so hard and still not feeling nearly enough, my students began to let go of their stories of needing to become someone else. They let out cries to acknowledge the people they are, and all the work they are already doing. These moments of self-acceptance sowed the seeds for further shifts in their persons, shifts that, clinging to self-improvement can never provide.

Take a Break

On studio days in DTR, I always call for a break after students work at the whiteboards for an hour (okay fine, more like an hour and a half). It's been like this, but more recently I noticed that my students would often keep working, or at least, linger next to their boards. I would yell: "take a mandatory break!" and they would ignore me. They never ignore me (actually they do all the time). What gives?

I realized after a while that, I never take a break myself when I call for a break. Instead I would head over to whichever students I didn't get to during the coaching session, or whoever I felt may benefit from a check-in. They should take a break. But I keep going.

Actions speak louder than words. Students notice *how we are*.

I can't expect my students to give themselves a break when I don't give myself a break. Since I want them to, I will have to, too. And since I want it for them, a part of me must want it for myself. I was just denying myself what I want (them; my inner child) to have.

Thanks for being my mirror, kids. Everything I want you to have, I will work on giving myself, by first, taking a break.

Interruption, Discord, and Drama

Don't interrupt people. Don't create discord. Don't be dramatic.

These are not rules that I live by. Perhaps it is because interruption, discord, and drama are all I have ever known. But applied *skillfully*, interruption, discord, and drama can all be important tools for helping students work out their patterns, and to come to see themselves and their research work in ways that they are otherwise blind to.

When I coach students, I use interruptions to pause unhelpful automatic behaviors—ignoring key project risks, sloppy thinking, over-fixation, excessive self-critique, and so on—so that these behaviors do not continue unabated and unchallenged. I also use interruptions to bring awareness to patterns of behavior and thought, so that we can look at them more closely and examine how they may be getting in our way. Said differently, I use interruptions as both a tool for resetting our focus and correcting course within a deliberate practice, and for pausing, bringing attention to, and examining patterns and behaviors, so that we can understand them and shift them.

Discord can mean many things, but here I mean telling students that *I* have a problem with how *they* are approaching their research. I let students know when their way of handling a situation is bound to lead to problems. I make it clear that something that *they* do not see as an issue, *I* see as a major problem. In a way I am creating beef, and I am doing it so that the student may feel some kind of way about it, and rethink their approach.

When students get what I am saying, more often than not they see its value and try new strategies and approaches that better serve them and their work. But whether they do or not, they can become frustrated with themselves and with me. This I very much welcome, because it gives us a chance to talk about their feelings and to try to separate out the work issue (i.e., how the student is approaching their research) and their self-critical voice (i.e., what they hear me as saying about their person, which I am not saying). In these tender moments, I make space to listen to the student and to be with them as they untangle their

unpleasant feelings from the actual feedback (since I created the beef, it is only fair). These important conversations help me and the student to re-establish our alliance and commitment to working together, in service of both learning to advance the research and to quiet the harsh, self-critical voice that the beef triggered.

Drama is the amplifier. To help make my points *real*, I add emphasis, tell stories, make jokes, provoke. I make a big deal out of whatever it is we are talking about, whatever amps it up and drives the point home. This helps me get a student's attention, and helps them see the significance of something that was opaque to them and kind of like a "whatever." My students seem to have noticed my use of drama, as they recently awarded me a Drama Queen sticker with my face on it.

Interruptions, discord, and drama are all jarring, in part because they intentionally *problematize*, or "provoke learners to devote resources to issues they might not otherwise address."[2] Moreover, when students are barely used to talking to their professors in their other classes, the idea of having me in their face is unexpected, and a lot (I am scary!). I don't expect these interactions to all be enjoyable, even when students can speak to their benefits after the fact.

It is critical that students understand that interruptions, discord, and drama are not out of disrespect or disapproval of them, and that my care for their persons and for their learning and growth is unwavering. Only then can we experience their benefits: new ways of approaching problems, an overall sense of clarity, and humor toward and acceptance of ourselves. I can only hope that students understand my intentions, and that we stay in contact and dialogue even when they don't. While I can't be sure, I hold on to the belief that as long as I am there for my students every step of the way, they will stick around and work things out, both with me and within themselves.

My students in DTR place an incredible amount of trust in me, in knowing that I not only have their best intentions at heart but that I will not neglect them. They know also, that we have a community in which they can talk about their struggles and about difficult feelings, both in private and in community. It is only upon the strong foundation of interpersonal

[2] See Brian Reiser, "Scaffolding Complex Learning: The Mechanisms of Structuring and Problematizing Student Work," The Journal of the Learning Sciences, 2004. While Reiser's account focuses on problematizing the subject matter, my work with DTR students extends beyond the subject matter into how students approach problems and look at themselves. In my work (and perhaps elsewhere), problematizing is not merely cognitive, but also personal and emotional.

warmth and loving-kindness that we have built that interruption, discord, and drama have their role in supporting our students' learning and growth.

Even with such a strong foundation, too many interruptions can feel insulting, too much discord can damage relationships, and too much drama can be draining. It helps to remember that we are all human, vulnerable to being hurt by those we open up to. The learning in DTR is personal, but can never be rooted in personal attacks. To mitigate these risks, I contextualize my feedback to the situation at hand, and continually check in with myself to assess whether my efforts are actually helping my students learn and grow.

That being said, I cannot fold at the slightest sign of a student feeling challenged or uncomfortable. My job is to hold a space in which real clarity can emerge and change can happen. The whole point of problematizing is to make room for students to look at something that is challenging and uncomfortable to look at, and to be there for them as they work through it. If I am gonna interrupt, beef, and drama, I better be ready to hold the space for what comes after. So when a student tells me they are upset, or that they are scared, I listen, I empathize, but I do not fold. We stay in relationship, and keep at it.

As someone who is extremely sensitive, it is hard for me to see my students struggle. At times, in response to my provocations, I feel their fear and shame burning in my own body. Sometimes I get confused, and see myself as a horrible person who just wants to make their lives miserable and add to their pain. It takes real work for me to remember that this is *my* shame talking, and that it is by releasing the feelings that keep us stuck that we can finally move forward. I remind myself that I am just doing my job, and that I am damn good at it.

Exit Meetings

For as long as I can remember we have held exit meetings in DTR. At the end of each quarter I meet with every student 1-on-1, not to talk about project progress but about their learning and growth. Students complete a lengthy self-assessment prior to the meeting, which helps them to reflect and to think about what they'd like to discuss with me. I ask a few structured questions, and the conversation unfolds in whichever direction it takes us.

I always start exit meetings by asking each student to share what went well, what they learned, and ways they feel they have grown. I listen intently, and make sure we both recognize the learning and growth that the student and I see in them. I amplify their voices, so that they know it's more than okay to celebrate their learning and growth. When

a student tries to jump to what they could have done better, I interrupt them and recenter our conversation on what they did well. After all, what they are doing well is *exactly* what we'd like to see continue. Nothing good gets overlooked.

Eventually the conversation shifts to what the student found challenging and to their *metablocker*, or, what they see as getting in the way of their learning and growth. Students share stories about their fear of imperfection; their need to please others; their reluctance to seek help; moments of freezing; and so on. I offer my perspectives and interpretations, and I contextualize their experience. More than anything, I listen intently and offer my presence, so that my students know that I am right there with them.

Some DTR students see exit meetings as a therapy-like space, even though, I am quick to remind them that I am no therapist. Still, it is common for these conversations to land on challenging self-beliefs and patterns. In discussing difficult struggles, students often focus on what they can do to improve. Sometimes I agree, and may even offer a few suggestions of my own. Still, I see my primary role as helping students to see their struggles more clearly, and under a softer, more self-affirming light. The learning and growth they desire will be there for them; there is no need to beat themselves up on their way there.

Exit meetings reaffirm our value that in DTR, the person always comes first. It is a space in which students can talk about their triumphs and struggles with less shame, and be heard on that. It is a space that normalizes introspection and sharing. Practically speaking, exit meetings help my students see how much they have learned and grown, which often isn't obvious week-to-week but becomes impossible to miss with just a little bit of zooming out and kind attention.

Beyond Production

As the years have gone by—and yes having tenure helps—I have increasingly questioned the production-oriented culture within academia that is driving our students and faculty mad. Metrics of quantity and impact (e.g., h-index) are highlighted as measures of research success, and mistakenly in my view, used as proxies for research quality. This manifests in obsessing over the length of a CV (easy to assess without needing any real expertise or effort of understanding) rather than examining a research product for its depth of thought and the new understanding it provides. Whereas some fields may focus on just a singular product for jobs and promotions (e.g., a job market paper in economics), my field may find *any* student with fewer than 5 publications at top conferences to be unworthy of

looking at for a job (no interview for you). Lest I protest, someone will say: "But there are so many candidates with more publications!" I mean yes, but have you read any of them?

While I hope that we eventually come to our senses and reprioritize thoughtfulness over productivity, I won't be holding my breath. Still, I continue to question what seems to me arbitrary, and refuse to optimize for it. I remain on my search for what is truly valuable and enduring, both in the research work and in what we bring to our students (our dual role as faculty). **What goods does the activity of research make available to us that we can come into contact with?** As a researcher and educator, my focus is on engaging with research in light of such goods, and allowing what my students and I produce to be a by-product of our deep engagement.

In last year's letter I wrote about the good in "dancing with not knowing," which remains for me an important value that deep engagement in research can bring (see "The Good" in the 2024 letter). Here I share three other goods that I find beautiful that we also value in DTR. All three goods are rooted in the practice of *re-examination*, which we can direct outward, inward, and non-dualistically.

Re-examining outward

Research is about re-examining a phenomenon intensely. It is through the process of looking at and continually reinterpreting a situation that we come to see it differently, and through which we build new understanding. It's not so much about following a set of "scientific steps" as a means of producing something, as it is about looking at something repeatedly with unrelenting curiosity that eventually allows new understanding to emerge. This involves continually challenging and rethinking our methods of experimentation and analysis, while keeping in mind the question: "what is *really* going on here?"

Taken seriously, deeply engaging in research in this manner requires a lot of patience and perseverance. To help young researchers develop the willingness to repeatedly re-examine a phenomenon with fresh eyes, we need to encourage them to slow down, to think carefully, and to look beyond production as a way to prove their worth. We have to help them to not feel so bad about every setback, and to value the process of *continually* pursuing new understanding. Beyond willingness, developing young researchers' capacity for thinking critically (e.g., making sound arguments, questioning assumptions, evaluating alternative interpretations) is essential.

Re-examining inward

Research is about challenging ideas that we (individually and collectively) hold to be true. It's about loosening the grip on an idea that is so ingrained in our psyche that, letting it go constitutes a real sense of danger (think Darwin, think Galileo). Instead of arguing for and promoting what we already believe in, we can re-examine our deeply held beliefs, feelings, and metaphysics, and try to understand how they shape the arguments we make and the ideas we promote. We come to understand the value of questioning our own thinking, over trying to convince others that we are right.

Re-examining inward requires a great deal of introspection, and a willingness to see the world from perspectives that are foreign to our current selves. We can help young researchers understand their own minds, so that they can better examine how their beliefs and patterns shape their research, and their ways of working on it. Beyond personal beliefs and patterns, we can help young researchers see beyond the worldviews of their fields of study (and of their advisors!) and of society at large that they may have internalized. This requires helping them to develop an immense supply of open-mindedness, and the ability to reason critically from vastly different viewpoints.

Re-examining non-dualistically

Research is about connecting theoretical ideas to practical ones, connecting thinking to feeling, and connecting the metaphysical to the physical. Seen this way, research is about coming to see the wholeness of seemingly disparate ideas and ways of knowing, allowing for "and"s over "or"s. Instead of emphasizing the value of one approach versus another, we come to recognize and integrate multiple ways of knowing and engaging in research.

Re-examining non-dualistically challenges us to bring all of our ways of knowing into the research process. We can help young researchers learn to do this by connecting deep thinking to their felt sense, for instance by encouraging them to attend to their feelings than to ignore them, and to transform what they intuitively feel into coherent frameworks and arguments to be validated. We can also help them learn to build theoretical understanding and practical solutions concurrently, and to see them as two sides of the same coin than as independent inquiries. Moreover, we can help them to forge connections across fields of study and modes of thinking, which can help them to recognize how seemingly disparate phenomena may be interconnected in ways that transform our understanding of them (e.g., think spacetime and $e=mc^2$).

Each of the above ways of engaging in research presents a real challenge, and may be "out of sight, out of mind" for many researchers. Be that as it may, it is my belief that pursuing research in light of these and other goods is time well spent. As I have come to prioritize approaching research and training young researchers in these ways over emphasizing production, my students and I have found immense joy and meaning, and have established a deeper connection to the academic tradition. While we may be a bit slower to publish at times, I have no qualms about our searching for and acting on the beauty that research as an activity provides.

For me, the price of engaging in research as we do isn't the slower pace of publication, but the insufferable sense of loneliness that I sometimes feel that can overshadow my joy for discovery. I get scared that I am all alone, and that no one else cares to look beyond production. Still I sail out into the deep seas, amidst the dark waves of indifference. I remind myself that my students and my thoughtful colleagues are with me. I remind myself that if I hold up my light against the darkness, others may hold up their lights as well. I try my best to make peace with the quiet…knowing that even as I sail into the dark, the sun still rises, and it is beautiful.

Single Representation

In DTR I teach students representations for thinking about the research and design process (see "How We Coach and Teach Design Research" in the 2022 letter, and "Teaching Models for Thinking" in the 2023 letter). These representations help my students to approach their research thoughtfully, and to recognize and attend to gaps in their understanding. Students practice with them both in studio, and on their own.

While in the early years I worked to expand the set of representations available to students for thinking about the various facets of their research (e.g., design argument, conceptual diagram, approach tree, study design, study findings, etc.), this year I focused less on teaching a set of representations and instead have been facilitating repeated practice with a *single* representation. For instance, in fall we (as a studio) focused on coming up with an illustrative example of the problem or solution; in winter we focused on refining our conceptual contribution and diagram; and in spring we focused on articulating our "cool idea, and cool finding." We would work with the same general prompt week in and week out, each week working to recognize any gaps in our understanding, and to refine our approach for addressing such gaps.

More than sharing the details of these representations (many of which, I left open-ended anyways), I want to highlight some of the benefits of repeatedly working with a single representation, particularly for coming to clarity and coming to see the value of a new way of thinking or approaching research work. When we repeatedly use the same representation, the representation becomes a *dialectical constant* through which we can deepen our understanding and better observe subtle differences in our thinking and in ourselves.[3] Instead of jumping from representation to representation, working through a single representation challenges us to stick with it, and to see ourselves and our (lack of) understanding more clearly through its mirror. Instead of trying to move on, we learn to use the space that it continues to hold to come to see our task and our way of approaching it from a renewed perspective each time. We learn to show up for the challenge that is in front of us, rather than to run away from it.

A representation that makes for a good dialectical constant is one that is central to the research, and whose continual refinement can only happen through a deepening of understanding and engagement in the research. Students stick to a single task, but the details of the task can be infinitely tailored and refined. The basic form of the representation should be easy for students to grasp so that getting started is straightforward, and for coaches to decipher so that gaps in students' thinking and approach are apparent. To deepen the practice, a supportive coach (me) works with each student to extend, refine, and adjust their representations to highlight new and existing gaps in their thinking, and to renew focus on seeing and acting on some *good* that the student has yet to grasp. This may include: recognizing that a good example of a user problem should highlight *why* existing solutions do not work and make visceral the user's pain; coming to see the value of adding helpful structures for thinking prior to jumping into risks; and learning to let go of imperfection and to produce something quickly so we can discuss it; and so on. Repeated engagement with a single representation (and its tailored variations) thus helps students to deepen their connection to disciplinary ways of thinking and valuable ways of engaging as a researcher, while also grounding their practice in the particular challenges that they face and that their research project presents.

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[3] I use the term dialectical constant to refer to a consistent structure whose repeated use can promote a deepening of engagement in *dialectical activities* such as research. For more on dialectical activities, see my CHI 2024 paper titled "Searching for the Non-Consequential: Dialectical Activities in HCI and the Limits of Computers," and also Talbot Brewer's book, *The Retrieval of Ethics*.

My ideas about dialectical constants are informed by my (former) Ashtanga yoga practice, in which the same sequence of poses is practiced regularly. Challenging poses are never skipped, and thus offer repeated opportunities to deepen my practice while learning to see myself and (my reactions to) challenge differently.

As we practiced with a single representation across weeks, we made time during every studio session to talk about how we worked with it, and what it evoked in us. Students shared their personal experiences and struggles that they assumed must be unique to them, but that other students were quick to resonate with who then shared their own stories. With my students working in small 1-2 person teams across different projects, this sharing helped to make apparent that our studio was a communal space for a shared practice. This in turn helped my students see themselves as members of a community of practice in which they belonged, and in which sharing experiences of their personal and shared learning journeys is normal. As the year progressed, it became typical for us to spend 30 minutes or so of circle time reflecting on and discussing our practice together. These conversations were often intimate and vulnerable, as students shared not only what they did, but their working through difficult patterns and self-beliefs that surfaced amid their practice. Students also shared how they have come to see research and their research practice differently, and how that in turn helped them see themselves differently.

I see the use of a single representation as a helpful way to promote a deepening of practice that eschews the view that representations for thinking are merely a means for progress-making. Instead, students saw their repeated engagement with a single representation as helping them to progressively see more clearly and to engage more deeply in their research. For many of my students, the deepening of engagement helped them to see themselves as *actual researchers*—ones who were not there just to "follow a method," "code up some data," and "produce some results," but who were engaging in the modes of thinking, questioning, and creating that good researchers engage in (but not college students!). For many students, this made research *much* more appealing and interesting ("I didn't know that research could be like *this*"). Their experiences taught them that there is some real value behind this research thing, that concerned not only their research work but that informed how they wish to approach their work and life elsewhere.

In summary, sticking with a single representation helped my students to see the value of (and act on) the many goods that are made available through their deepening engagement with their research. Whatever the practical benefits of having many representations for thinking may be (and there are many), it helps me to remember the immense amount of learning and growth that is available to us through using just a single representation. When we create the space for engaging deeply and repeatedly, so much can be gained by polishing and looking through a single mirror.

HCI Studio

DTR is a unique learning space that, in many ways, is difficult to replicate. Still, I have long wondered to what extent its values and practices can be brought into a typical quarter-long class, where there are more students and not much time to build the kind of community that we have in DTR.

Since 2021, I have been designing and iterating on HCI Studio—a new intro course in Human-Computer Interaction (HCI) for up to 50 students. Unlike typical intro HCI courses that focus on HCI knowledge and the design process, HCI Studio focuses on HCI and design *practice*. Teaching a practice (which we do in DTR) is fundamentally different than teaching knowledge and process, and I wish to highlight some of these differences here.

When we teach process, we focus on giving students methods to follow and processes to use. In HCI, this may mean learning different methods for understanding user needs (interviews, surveys, contextual inquiry), and learning to carry out the iterative design process (needfinding, design, prototyping, testing). But I wondered: how come so many students learn these methods and processes, but still aren't good HCI practitioners and designers? What are students not learning about designing well?

We identified two gaps in typical HCI classes: *critical thinking* and *design sensibilities*. Critical thinking refers to how students approach design problems, make arguments, and derive new understanding. Learning to think critically is not reducible to a process (although, process guides can be helpful), but instead requires building a practice in which students assess risks in their understanding, plan and perform work, and reflect on what they have learned. Instead of following a set process, students learn to self-direct by critically assessing their current state of understanding, and in each situation, finding paths forward that would best advance it.

Students also need to develop their *design sensibilities*. Good designers are empathetic, humble, and curious. They embrace their fear of imperfection, monitor their reactions to failure, and find paths forward despite the unknowns. No amount of book knowledge and critical thinking can replace effective mindsets for approaching design with a felt sense. Developing this felt sense requires us to challenge our preconceived notions about not only design, but how we are with other people and more importantly, with ourselves.

I think most HCI and human-centered design instructors would agree that these two areas are important, and that, they do want students to think more critically and to embody the

various design sensibilities that I have highlighted. But there is a difference between agreeing with these values, and actually creating a learning space in which students can build a personal practice that aligns with these values. Creating this learning space requires a fundamental shift in the classroom towards a *practice orientation*, in which students are responsible for developing their practice and in which instructors facilitate effective practice and help students to deepen their engagement.

For starters, to teach critically thinking, we exported from DTR various tools that help students practice learning to understand their design problem, evaluate risks, form feasible plans, and update their understanding. These tools ask students to assess what they know and don't know, to make better arguments for their designs, and to come up with next steps that may best advance their understanding. Every week, students complete a design sprint that challenges them to practice identifying at any moment what is most risky, and to take effective steps toward addressing that risk.

To teach design sensibilities, we developed exercises that help students to *feel* the difference in approach. For example, in the first week of class, instead of going through the textbook needfinding methods (students read about them on their own time), we make time for empathic listening exercises in which students experience what it's like to truly listen to another human being. To *just listen* and not add their own interpretation. Our thinking was simple: how could you be good at learning about people's needs, if you can't even hear what they are saying? So students practice listening and repeating without adding words of their own. Reversing roles, they also experience being truly listened to.

These tools and exercises call on students to *engage*: to not only follow a script but to be fully present in their doing. But practice is hard, and of course students fall into their patterns. Sloppy thinking persists, and tools that guide thinking become more boxes to fill out than an invitation for thoughtful engagement. Fear of failure and of imperfection overwhelm, and the willingness to try a different approach wanes with every setback.

Instead of letting such patterns persist, we brought them into the open and supported students in looking at them. So they could actually build a practice, be thoughtful, and feel. Like in DTR, we worked with individual students and teams to understand how they were practicing, and how their way of working was getting in the way of their practice. We coached students by not telling them what to do, but by helping them understand their patterns and reactions so that they can find better ways to approach their work. We made space for reflecting on their practice, and normalized talking about it and about the obstacles to practicing well. My teaching assistant (first Kapil Garg and later Evey Huang—

both of whom developed into *fantastic* coaches) and I used our meetings not to plan out our curriculum, but to share our understanding of how each student team was practicing, what was getting in the way of their practice, and how we can shape the learning space to better facilitate their practice. We talked incessantly about students and how they were practicing, because that mattered to us more than anything else.

We emphasized the importance of doing what is most effective at *any* moment—even if that disagreed with what students thought they should do (e.g., build a shiny, high-fidelity prototype to appear competent) or what we had suggested (e.g., consider usability issues in the interface model). We emphasized that we valued their developing a practice over all else. For final presentations, we asked students to focus not on the outputs of their designs, but to show how they developed their practice over time, and how that in turn affected their HCI and design work. These presentations became a space for students to celebrate their failures and ineffective behaviors (and eventual triumphs), rather than to hide them.

In all, we created a terrifyingly liberating learning space. When students became more willing to look at what they don't know, they got better at identifying what their risks were. When they became willing to try a new approach than to continue following their existing patterns, they saw how they were not only okay, but *moving*. When they stopped running away from what they didn't know and embraced not knowing, they recognized how new understanding can emerge from that, and that they were making it happen.

Many students embraced our learning space, and were amazed to be in a class that was dedicated to their getting better and becoming more effective as they developed a practice for themselves. One student said: "I would say that this was the class in which I learned the most, since there was a lot of encouragement for self–reflection and critical thinking. The focus on practice rather than perfection was what really helped me prioritize learning over getting an A, which was something I really appreciated." Another student said: "Haoqi and Evey did a fantastic job of facilitating a type of learning that you cannot get in other CS courses. They value learning, which involves failure and reflection, over simply producing a 'correct' answer at all costs, which is not indicative of true learning."

Some students found the learning space challenging. They didn't like how so much of the learning was on them, and how I wouldn't just tell them how to fix their designs. They saw doing the same activity multiple times as repetitive, instead of as an opportunity to engage more deeply. They didn't like how my critique of their designs (as some saw it, of *them*) made them feel. Said differently, these students did not perceive (or receive) the value of being asked to re-examine their ways of thinking and doing, and of building a practice.

While I understand where these feelings are coming from, they do not dampen my enthusiasm for creating learning spaces for building a self-directed practice. But if students won't fully engage, they cannot do the important and often-times difficult work of shifting their patterns. One student said: "the feedback you get from Haoqi can be pretty difficult to process and adapt to, but in looking back, it was very valuable." While I appreciate this student's willingness to work through it, it helps me also to appreciate just how difficult what I am asking for is. For some students, all they can hear from my critiques of their designs and of their practice is that they are no good. In DTR, we can often work with this dissonance, and use it to advance our understanding and our relationship. I have no such luxury in HCI Studio, so more gentleness and patience may help.

A smaller set of students want an easy class, and have no intention of building a practice. One student just wanted to learn some design tools, and was disappointed that the class "turned out to be a 'how to solve problems' type of class." I don't know why this student took the class, but I wish I could tell them that people who know how to use design tools are a dime a dozen, but that very few people are good problem solvers. But saying that doesn't change how the student feels, right? Students have their own frames of reference, and it helps me to remember not to take it personally when theirs differ from mine.

I am incredibly proud of what we have created in HCI Studio, *and* remain humbled by how difficult it is to create the kind of learning space I want, outside of the conditions that DTR provides. I will keep experimenting and learning, but will not waver on my commitment to helping students build a practice for themselves.

Why DTR exists

For all that DTR is, the *reason* that DTR exists is personal. DTR emphasizes self-direction and belonging because these values are important to *me*, and they are important to me because I have lived through the pain of not leading a life that feels like my own, and of not feeling like I belong. As a non-English speaking immigrant who came to the US just before I turned 10, I did not find it easy to fit in. As a teenager who found writing as my refuge, I was not living my best life after I acquiesced to my parents pressing me to study anything but creative writing. Whatever reasons I may provide for why we should value self-direction and belonging, DTR is a space that embraces these values largely because I transformed my pain into a healing space for me and my students. I want my students to have what I didn't have: the strength and power to lead their own lives, to advocate for themselves, and to be so good at learning and growing that they can pursue their passions

and become successful at them. I also want my students to know that they belong: DTR gives them a community that sees them, and a space that they can always come home to.

It continues to astound me how so much good can come from so much pain, and how pain from so long ago can still linger, serving as both fuel for and distraction from living the life that's in front of me. Would I care as much about my students' learning and growth, had I not experienced the life that I have experienced? If not for my own pain, would I relate to students in the ways that I do? Would self-direction and belonging still be core to DTR? Would DTR exist at all?

I see the ways that DTR reflects my past, *and* how it continues to transform as I learn and grow. Perhaps there was a time when I felt compelled to be there for my students above all else, as if they were the upset child and teenager I once was. I still do that to some extent, but I value also their growing into their adult selves. While not ignoring their inner child, I want my students to become young adults who recognize their growing agency, inner strength, and resourcefulness. This growth period is bound to include moments of triumph and disappointment, and today's DTR provides an accepting space for their growing selves and growing pains. As I and my students grow, we are bound to come in touch with other values, that will enrich our program and supplement our continuing commitment to self-direction and belonging. DTR exists because of my past, but its shape will continue to evolve to reflect the selves that we are becoming.

An Invitation

This is my fourth year writing a DTR annual letter. If my letter makes you feel some kind of way, whether we know each other personally or not, I invite you to share your thoughts and feelings with me via email to hq@northwestern.edu, or via snail mail to Mudd Library, Room 3531, 2233 Tech Dr, Evanston, IL 60208. I look forward to hearing from you.

For those less familiar with DTR but would like to learn more, I invite you to watch the DTR documentary, available at http://forward.movie. I encourage you also to read the other annual letters, available at http://dtr.northwestern.edu/letters.

If you are interested in adapting our model for running your lab back home, see Agile Research University (http://agileresearch.io) for resources and possible workshops and visits. The resources we share are helpful, but unfortunately, have not been kept up-to-date. If there is something you are curious about but cannot find much information on, please write me directly.

Junior faculty interested in joining our support group this fall can find more information at http://haoqizhang.com/group. Please apply to join soon; spots are limited. Who knows, you may say something that surprises you.

I continue to enjoy the announced and unannounced visits of our DTR alums. Do come visit (and tell me you are visiting ahead of time, or…not). We welcome you.

I leave you with one small story. While toasting the table at the DTR end-of-year dinner, I shared a message I read online that disturbed me. It said that the coming decade will be short on serotonin, community, and mindfulness, and long on dopamine, loneliness, and distraction. I am concerned about this, and about how the current state of the world and of universities may affect our program and our students. But when I look at the space we have created for ourselves, and the ways that DTR students, our alums, and I show up for ourselves and for one another, I cannot help but feel hopeful and courageous. We are who we are, and we do what we do. Seasons change. We carry on.

Cheers,

Haoqi Zhang
Director and Founder, DTR
August 13th, 2025