



Nat:

Welcome back to another episode of Reach. Teach. Talk. We are moving into August, and we are now anticipating the beginning of a school year, which for many of us is going to require opening up a remote classroom, teaching remotely, teaching through the screens. And as you learned last spring, it is a completely different experience to be teaching in real life, in a real brick and mortar classroom, a classroom where you're sharing space together. You can sense the biorhythms. You can walk over to a student's desk where a student might be spacing out and just tap the desk and just get that student back to paying attention. You look at the body language. You can just see which students are engaged, which students aren't. On Zoom, when we're talking about synchronous learning, whether it's Zoom or any other platform, it's more challenging to see that, to sense that, to certainly keep the barometer of the classroom in one scope as a teacher.

Nat:

So we are anticipating, and teachers, we are rightfully trepidatious about moving into this new school year in a remote fashion. Yet all hope should not be lost. There are plus sides to this idea of starting remotely. Plus sides that go beyond the obvious safety concerns, which are why we are starting school remotely for many of us. But the trepidation is warranted as well. And I have two guests today that I'm just so incredibly excited to introduce and to glean their wisdom from because their work focuses on the connection between emotions and cognition in learning. And I bet those of you out there who are teachers might be thinking to yourselves, "Yeah. I might be able to come up with an incredible lesson plan that might work even asynchronously and for students who are motivated, they might be able to really just do the work and do school. And I'm not worried about those students. What I'm worried about is how am I going to connect with them emotionally? How am I going to get them to emotionally invest themselves in my class?"

Nat:

For example, 25% of LEUSD students last spring were not showing up for school. Now there are many reasons behind this, and we can have a whole other episode. In fact, we had an episode earlier with Dr. Tyrone Howard talking about the inequality, the gap that's been recognized by this move to remote because frankly not every student's got access to technology, not every student is working in an environment where they are alone and safe to really learn. Many students have parents who are not at home or who are working from home. Younger siblings to watch over. So all of these factors. Or just don't even have the hardware to begin with.

Nat:

Here, we're talking about this is going to be an episode that's going to be focused on teachers who are teaching students remotely. It's not going to be about the economic gap, the achievement gap. It's going to be instead about how we can work with our students in a remote way, taking advantage of the neuroscience that confirms that learning is cognitive and emotional. And the guest that we have today, Dr. Mary Helen Immordino-Yang from the University of Southern California. She's a social effective

neuroscientist and human development psychologist who studies social, emotional and self awareness across cultures, social, emotional connections to cognition to resilience to morality and their implications for education. She has been for a while now a professor of education psychology and neuroscience at the University of Southern California.

Nat:

Her book, by the way, Emotions Learning The Brain, five-six years ago, had such a huge effect on my work in relational teaching and working with schools on strengthening the student-teacher connection and the collegial connection amongst schools. This idea that learning is informed by both emotion and cognition has just stuck with me, and I think it sticks with all of us educators on an intuitive level, yet Mary Helen's work has been able to confirm the science behind it, and we are, all of us, just so incredibly grateful for it.

Nat:

And then my second guest is Dr. Rebecca Gottlieb who is just published her or is just finished her dissertation. It's titled A Biocycle Social Investigation of Adolescents Social Emotional Meaning Making. And Dr. Gottlieb was working with Dr. Immordino-Yang at USC, and she is absolutely somebody... Well, I'm just going to break the secret here. Rebecca was also a student of mine back when she was in eighth grade. So when we're talking about emotions and cognition, Rebecca, feel free to share any anecdotes you might remember that might've worked or not worked with you when you were a student in my class or otherwise. But it's such a pleasure to have you as well on the show. It's a pleasure to have both of you.

Nat:

So welcome to Reach. Teach. Talk. And I'm looking forward to a discussion about how we can use the remote teaching platform here in a way that doesn't restrict the emotional component of learning. Basically what do we know about the connection of emotions and cognition, just a simple 101 as it pertains to learning thanks to science and thanks to your research.

Mary Helen:

I'll jump in. Well, thank you, Nat, for inviting me and Rebecca, and congratulations again, Rebecca, on successfully defending your dissertation a few weeks ago. It's so exciting.

Mary Helen:

Yeah. I mean, I think what our work has been showing and other people's work as well is that it's impossible for the brain to think about anything deeply or to really remember things that are not connected to each other about what you've had no emotional reaction. But the way the nervous system has been evolved to function basically capitalizes on efficiency. You want to remember and think about things that matter and not notice or remember or think about things that don't. So you don't use up your cognitive capacity on stuff that's irrelevant. And yet our education system so often forgets that the reason we think at all and the reason we remember things is actually because we care about them.

Mary Helen:

We come to understand them in a way that actually has emotional meaning for us and that connects somehow to who we are, to how we think about the world, to the ways we understand things that makes us feel powerful like we understand and can analyze something and see something that isn't obvious when you first look. And that is the purpose of education, being able to engage in deeper analysis, deeper understanding prediction synthesis of what you've already seen and making

connections across different domains that you've noticed. That's what really feels so motivating to people when they're learning, and so it really speaks fundamentally to the close interconnection between emotion and cognition.

Mary Helen:

The way we often think about this is that emotion and cognition are, from a scientific perspective, separate, and you can examine them separately as different dimensions of the thought process. But in a real person, they're not separate things. They're completely intertwined with one another. They're two dimensions of the thought process, and they always co-occur in normal health, and you'd never split them apart. The reason we don't often understand them that way is because we think about, "Well, what is cognition capable of when emotion is held constant? And what is emotion do when cognition is held constant?" But that's a scientific exercise in controlling the way things are being looked at. That's really not reflective of the dynamic ways in which people think cognitively and emotionally all the time in our daily lives and around which our complete neurological health are organized.

Nat:

It's fascinating that it's concurrent, cognition and emotions are concurrent is what you're saying here, right? If you really think about it, I'm looking outside on a view here, I'm looking at a river above my screen here, and looking at some boats going by on the river. And as you're talking right now, I'm totally 100% focused on what you're saying. But I'm also thinking to myself as I'm really tracking my narrative, "Wow. That's a really pretty boat out there." Or, "Wow, leaves are looking really green now. It must be July turning into August. It was more brown here before." So there is always this running, it seems like this running subjective interpretation of the world around us, and what we're trying to do in effective teaching is to apply those thoughts into a sense of ownership around what we're learning, around the content. Is that right?

Mary Helen:

Yeah, that's right. Ownership and also the really makes a big difference to what you bother to notice so to speak neurologically. You're noticing the boats going by and the leaves outside. You weren't noticing the handle on the window opener or the paint on the edge of the sill or something like that, which isn't very interesting. But if your goal were different, if you were trying to think about maintenance of your house right now, then those might've been the things you notice. And you completely forget about the trees on the outside because our thinking is motivated. We only think about things that we have a reason to think about.

Nat:

Things you have a reason to think about. So Rebecca, feel free to jump into this because I'm wondering if this is moving into this idea of making meaning from the things you're thinking about. This idea of having both a cognitive and an emotional connection to what the content is being learned.

Rebecca:

Yeah. Absolutely. Thanks, Nat. I think that's definitely the case. When we're thinking about how in this new climate we're going to build emotional connections with our students, I think that what Mary Helen's saying about this intimate intwinement between emotion and cognition suggests that the personal connections that we need to build with students aren't separate from the process of helping them learn the content that we want them to learn. These two things go together and that should feel a little bit freeing for teachers as we think about how to connect in this new and remote space. So it's not necessarily the case that we need time that's just devoted to fun, get to know you stuff. Getting to connect and know and build relationships with students can actually happen, especially effectively when

we do that in the context of engaging with them around content that we notice captures their interest or creating opportunities for them to really dive deep into content areas that they want to explore that feel relevant and timely.

Nat:

That's great, Rebecca. So going a little bit deeper on this, this idea of making meaning or as Mary Helen coins the term, meaning making, and that's also part of your dissertation here, Rebecca. It's almost a teacher's job or maybe an art of an excellent, gifted teacher to be able to provide space for every student individually to find meaning in the content that they are learning. Taking a step back from that, it seems to also imply that teachers... It is more important to make those connections with your students from day one to really learn what makes each individual student tick, and then be able to use that. I'm remembering back when I was teaching, part of the fun actually of being a teacher was finding ways to make the, in my case I was teaching literature, make the literature connect with each student individually knowing that they're not all the same.

Nat:

So I guess let's move into that. Another question I have then for either of you is as you move into the remote world, what can you both share about the difference between teaching through a screen? Is this possible because we're missing so much, but are we missing everything? Is this meaning making and is this ability of a teacher to make meaningful the content through knowing students individually possible in the remote classroom? And if yes, how would you suggest the teachers do this?

Rebecca:

I can get us started. I think what's important to keep in mind is that, just like you were saying about having this narrative that's going on behind the screen while listening to the conversation we're having, it's important to bear in mind that the meaning making process is always ongoing. That whether or not teachers are taking an active hand in structuring that process, young people are always dynamically and subjectively building interpretations of the experiences that they're having, and they can do so in a more or less adaptive way. So our goal in person or remotely is to help shape that process so that it's going to occur in a way that's really adaptive for young people.

Rebecca:

So you ask about how we do that in a remote context, and certainly there are challenges as we transition this way. For one with screens, there's this constant temptation to flit from one app to the next and move back and forth and not fully focus on what's going on in front of you. And that can be a problem because that means maybe less opportunity to step back and reflect. Going back to eighth grade literature class with you, to quote Harper Lee, "To climb into the skin of someone else and move around in it." When we're engaging in this more a flitting from one thing to the next way, it's harder to have opportunities for that reflection. So as we think about transitioning remotely, one move maybe to create space and structured ways to help young people understand how to still engage in this reflective process maybe when they stepped away from the screen. So we provide opportunities in front of the screen and then provide structure for how they might do that separate from us, asynchronously.

Nat:

Just before we move onto another question, a followup here. I love that. You just gave such a beautiful rationalization for why teachers on day one would want to make it very clear to their students to not allow themselves to be distracted by the temptation of... I always used to joke that when we started with laptops in the classroom and internet connectivity in the classroom, I would say, "I still can't quite get over the idea that we basically put a television with a billion channels on it in front of every single

student at their desk and expect them to pull out *To Kill a Mockingbird* and read about... To focus when right there in front of you is the world." And yet it's so important to find a way to have the focus be on the one task at hand, and also that helps to bond the class together as well, I would imagine is if we know that we're all focused on the content and we're not flitting around, then we can build a classroom ethos based on the content. Does that seem to make sense?

Rebecca:

Yeah. Absolutely.

Nat:

And then moving on, I'm curious about, and maybe Mary Helen, you can pick up on this. This idea of space and time that we've been talking about, is there any advice you would give toward a framing of how teachers... If teachers could look at time in the remote classroom perhaps differently than they look at the concept of time in the brick and mortar classroom. And what I'm getting at is there seems to be an advocacy towards project based learning, more project based learning, more broader assignments, broader themes that lend themselves better to meaning making in this remote classroom. Is there anything you might be able to say about perhaps how teachers could use this remote teaching and the concept of time?

Mary Helen:

That's a really interesting question, Nat. And I think this push toward project based learning, it can be done well or less well. But I think what people are recognizing there is that effective learning is not about memorizing and recalling curated information that somebody else gave you. So this speaks to a lot of what teachers have been hearing about from the "science" of learning or learning sciences, which is mostly about how to help people effectively recall stuff after they've "learned" it. And what you're really getting at and what Rebecca's work really gets at is that effective learning is about constructing narratives in your mind about what stuff means and how it goes together and what it means for you and what kinds of dispositions it helps you develop toward thinking as you go forth and engage with other kinds of activities in the world that aren't *To Kill A Mockingbird*, which I also loved reading in eighth grade.

Mary Helen:

So I think with relation to time, what we need to understand is in the brain, and this makes sense when you think about it. But you can almost think about the brain as... The big networks of the brain, the big modes of thinking as like a seesaw where you've got the pivot of the seesaw in the middle is what we call sailing. It's the detection. It's what matters to me right now and what can I notice in the world. And of course you develop skills for learning how to notice, and that's a big piece of what education does. It's teaching you. An effective teacher is helping you engage in certain hypothetical thoughts where you're climbing into the skin of somebody else and moving around in it as a way to learn how to notice what matters in that person's life, so that you're making a more nuanced and differentiated ability to start to discern the things that you ought to be paying attention to that you might before have missed, that may not be directly visible under your nose.

Mary Helen:

And we think of that as the impotence for thinking. It's the driver that gets you to ramp up your physiological state and attentional state, and then you can shift that attentional state in two big modes that trade off with one another. One is this deep dive into a task oriented focus where you really shift your attention and in our cultural, context narrow your attention, but that's not true everywhere. There's other kinds of cultural context like Indigenous Mayan people where they... These things are very

culturally shaped this is to say. They show a much lighter touch attention, but in our culture, we really privilege this narrow focused laser attention on one task and on completing that task in an organized way without disruption, without distraction. And you can then when you notice you need to, and this is about self regulation and executive capacity and meta-awareness, which you want your students to be developing through their learning opportunities.

Mary Helen:

You can decide or notice that it's maybe time to step back and shift into a more reflective integrative mode where you construct this broader meaning, the kind of meaning that Rebecca's been studying, where you start to build a story out of all of this and apply it to other things and feel it on the sub straight on your more internal conscious self, like the psychological implications of it and not just the direct physical world implications or action oriented implications of things. And that side of education we often traditionally have underprivileged because we value the task oriented focus that gets things done, gets things recalled on cue quickly, and now we're recognizing that in fact the mind and the brain aren't well served by a hyper focus on productivity like that. That the purpose of education is really to develop the whole person, not just to "learn" stuff.

Mary Helen:

So we want as teachers to really be mindful about helping students effectively move themselves, appropriately move themselves from a task oriented focus... to noticing that they need to task oriented focus. They should dig in and work. To noticing when, "Oh, maybe there's something deeper here. Maybe my essay topic is going in a wonky direction. Maybe there's another idea I had. Maybe I should show it to somebody else. Maybe my math problem, I'm on the wrong track. I need to step back and think like, 'Wait, wait a minute. What kind of math equation is this really? Oh, it's the same thing as this other. It's adding a negative. Same thing as subtracting.'" Whatever that is for your developmental level. When you're noticing the bigger pattern, you need to pull yourself back for a moment and think. And people tend to over their eyes, close their eyes. They make all these faces that look like somebody "thinking". That has been celebrated by artists for lots of time.

Mary Helen:

So this is a little bit harder to do intuitively I think in an online platform when we're not used it. First of all because one of the ways that we trigger task focus versus a more inward focused meaning making mode is through subtle patterns of eye gaze, and you don't have the benefit of those on a Zoom platform, for example. You don't make direct eye contact with people. So that makes it more difficult. Teachers can... It's exhausting, but I've been working on doing this. My sister's a psychiatrist who's been doing telehealth, and she's been working on staring at the little white light because that feels to the person like you're looking straight at them, which is encouraging of them engaging deeply with you. So that's one thing you can do.

Mary Helen:

And another thing is that it's okay to have moments of silence where people are reflecting or thinking or stopping to reorient themselves to the problem space, and that might be more comfortable or intuitive in an in person setting. Although even there oftentimes teachers feel like they need to fill the time, which is the point of these big project oriented focus is that you let kids fill the time as compared to you directing the time in this ping pong, back and forth answers and questions mode.

Mary Helen:

So letting people sit and establishing a culture of online interaction with your class where it's okay to step back and think for a moment and not every moment needs to be filled with somebody saying something is another sort of like, "Oh yeah. Well, that's obvious." But people don't always think of it.

Mary Helen:

And then another thing is just to recognize the physical demands, the perceptual demands that an online platform makes on the nervous system and on your eyes and your visual system. It's exhausting to look at a screen for too long. And so it's really important in that sense we attend to time and keep things manageable just in terms of the perceptual demands for having to stare at a screen at a particular distance for so long. That's difficult to do.

Mary Helen:

So I think in some ways you're looking for opportunities here. I think one of the opportunities is for us as teachers to become more aware of and more strategic about the ways in which we manage the time we have together with our classes so that we utilize the direct time together interacting in a way that promotes the kinds of things that you can build better by ramping off each other's thinking and reflecting on each other's assertions and building on one another so that you build that social cohesion. But then leaving people, the students, with some kind of salient prompt that drives them to want to then step back and spend their off screen time engaging deeply and reflecting on something, and then coming to some kind of understanding or conceptualization or narrative about it, which might be a question. Coming to be aware of, "Well, the fundamental issue for me is X, and I hadn't really thought about X before." And then bringing this class back together around then presenting and sharing those things. So that you let people eyes rest when the task is to reflect, and use the on screen time for active discussion where people are engaging and making meaning with one another and taking turns in the conversation.

Mary Helen:

So just to say be mindful of the amount of time that you keep people directly engaged with the screen, and that means being really strategic about what the face-to-face time is good for and what kids can be actively encouraged to do if you set them up when they're off screen. So leaving them with something interesting to read or think about or a conversation starter that they really need to reflect on in order to be able to come back and share what they think with their classmates and build something bigger than they could do alone together.

Nat:

Dr. Immordino-Yang, yeah. You are manipulating time and space in that response beautifully, and there's so much hope in that depiction of how we can actually use this remote teaching platform as a way to actually be quiet, to be reflective, to listen. I just did a three-part series about listening and the difference between listening and hearing, and how to truly listen is an energy. It requires a strength, a strength of focus, and a comfort with quiet, a comfort with just... And it could be easier. It could be easier in this way. I love what you were saying about start the class with the dialogue and the conversation and bring the class together through some thoughtful discussion, have it be okay that a student's not looking at the screen all the time. My gosh, that is exhausting. Let them do the thinker pose. Just have it be listen, and then you have a prompt that they can then on their own time work on individually or in partners or whatever, online. But just have it be this not so much of a rush-rush focus.

Nat:

In my mind, quantitatively, I'm think about a standard 45 minute periods, nine periods a day, boom, boom, boom, boom, boom that we have in a traditional school. If schools can be creative and flexible with this time and space to maybe have a whole bunch of 90 minute periods where only the first 15 or 20 are synchronous like this. But then you could go off and do your individual work, and then come back to the class at the end with some sort of synthesis focused realignment before going to the other class.

Nat:

There's so much that I love about that depiction, and I think that that is a way to mold the possibility of what school can be-

Mary Helen:

Yeah, for sure. And don't forget the simple tools that we have on these devices. I mean, I know a lot of kids don't have devices, don't have internet. That's another level of problem. But if your kids do and they do have a quiet place to try to work, I think using the devices to really focus on their own experiences now in the pandemic or their experiences of a novel or something like that can be really powerful. So there's no reason why we all have to be looking at each other together for your reflection. Maybe one assignment is to go off and think about what you want to say and then record an audio recording of your reflection for your classmates, and then you share those with one another. And you listen to them on your own time quietly and then you come back. You know what I mean? So you're saving people's eyes but you're also teaching them how to listen. So you're thinking about how you can train up people to be able to effectively use this medium and to also develop the disposition to use what you've got here and now and to notice, to be mindful of the way things are right now as a really interesting time, period, and condition.

Mary Helen:

I mean, people have been... I was just reading about a scientist who's making these Soundscape recordings all over the US right now during the pandemic, and the kinds of birds, the kinds of things that you can hear that are going on, even the children playing in the background or whatever. And making those as a project that just teaches you how to listen and notice. If you notice, for example, that your kids are having a hard time really tuning in, then teach them to tune into their world with a project that actually starts to make connections between the conditions of the pandemic say and the ways things sounds around them. And then you're both teaching them to analyze and to notice and to present things in a way that they can share with other people.

Mary Helen:

Those kinds of interesting assignments can I think really present opportunities for kids to develop the habit of thinking about what is here and now that's interesting? What is here and now that I could use my scholarly skills to understand better or to give insight into? How could I help? What could I do that would help others understand or that would help others feel better or do better during this difficult time? And trying to shift your curriculum so that you can have an element of that active, "Here's what I see, and here's something I think I could do that would help shed light on that or would just help people notice what I notice or would help people feel better or be better than they would've been without me here." I think is a really important disposition to build in our students and to use our classroom content, our traditional disciplinary content and skills that we want kids to develop in these...



Mary Helen:

To actually make sense of what's going on now is a really great lesson for students also about how real scientists, real historians, real writers and authors think about the world. They don't wait for something interesting to happen so they can write a novel. They notice what's interesting in what is already happening that other people may not have seen the way they did, and they present that. So I think teaching kids that that's the disposition to build as a scholar is a really great lesson that this pandemic is offering us.

Nat:

Before I get to Rebecca, a final question. I'm just thinking about a conversation I had with this brilliant dance teacher yesterday. She's a middle school and high school dance teacher, and she told me, "You know what my first lesson's going to be for my kids?" And I was like, "What?" I'm just picturing her film yourself dancing in front of your garage. No. She said, "My first assignment is going to be have them film just a 15 second clip of dance. Observe dance in the natural world." I was like, "What do you mean?" She was like, "No. Just look at the leaves outside or look at the ripples of water on the lake. Dance could be found in all different ways. Your dog running outside, letting a dog out. Where do we see dance in the real world?" And I was like, "That is brilliant." It reflects everything that you just shared I think, Mary Helen. This-

Mary Helen:

For sure.

Nat:

Right?

Mary Helen:

Mm-hmm (affirmative). Yeah, what is dance for? Why do you learn dance? That's way more important than actually being able to dance. You can't really learn how to dance well until you understand what dance does for you, what kind of tool it is, and she's helping them notice that first and then they're motivated to actually learn how to move or whatever. I'm not a dancer, so I'm not an expert in that. But why would you bother working on how to move unless you actually had some intuitive sense of what it accomplishes to do it this way?

Nat:

Exactly. Brilliant. Rebecca, final question as we wrap this up is... Well, first of all, anything you might want to add first of all about what Mary Helen has been sharing about meaning making in the remote classroom? And also I just found a really interesting part of your dissertation where you mentioned Viktor Frankl and his search for meaning, and I didn't know if there's any way you can weave that into a final statement about giving hope toward this teaching in the remote classroom.

Rebecca:

Yeah, absolutely. Thanks for asking. I have been very effected by Dr. Frankl's work. I just first in response to what Mary Helen's saying, I wanted to draw out a few of the benefits that I heard really stand out in her comments. First this idea that this gives us an opportunity to address this junk draw problem that we've had in our curriculum for so long. So we just put stuff in and in and in, and we add. We want people to learn more and more, but then you end up with a drawer fill of junk where you can't find anything or know how to use it. You have that old key and you don't know what it opens.

Nat:

Sorry to interrupt. Mary Helen talks about squirrels collecting their nuts. Just collecting and collecting, and then suddenly I have so many. What am I going to do with this?

Rebecca:

Exactly. So what she's saying gives us an opportunity to then address that issue and instead pull out a few select challenges or ideas, issues that can really appeal to students and allow them to dive deeply in a way that's meaningful and in a way that can be personalized and individualized. So we create a broad space, and then allow students to take it in a direction that's appropriate and interesting for them and in a way where they'll be able to make meaning of it, not only in terms of how they understand the content but also in how they understand what it means for them and for their society and who they want to be and where they want things to go in their communities.

Rebecca:

So it's this more focused approach, this more individualized approach, and then also I think what we heard and what Mary Helen was saying is that this opportunity to loosen the reins a bit and think differently with kids having more space to make their learning their own also allows us to think in a more interdisciplinary way. So she's talking about or your example with dance, this combination of studying dance but also looking in the natural world, for example. Or Mary Helen's example with creating notes about things that you're observing related to other problems. It allows us to think about problems across disciplines. In so doing, we're addressing them in a way that's more authentic, that's aligned with how these problems actually exist in the real world and that's something we haven't always done well in school. Things have been so divided by topic area, but that's not consistent with the way that we need young people to address those problems, the futures we want to prepare them for.

Rebecca:

So when we let kids take these projects in the directions that interest them, I think we'll see a natural move towards thinking about them in more interdisciplinary ways to a really great effect. I think we've seen recently so many inspiring examples of young people who have really made change and been able to address major societal issues, and right now as we're staring down the barrel of at least two huge issues in our society right now, giving kids opportunities to authentically engage with those and make progress towards them and be a voice for change. Like we've seen other people like Greta Thunberg and Gonzalez and Malala do, can create a really great opportunity for those young people learning but actually for all of us to benefit in society.

Rebecca:

So to relate back to what you were saying, you brought up Viktor Frankl. I think this connects so well. Viktor Frankl said... I'm paraphrasing. I think he says approximately, "People can survive any what if they have a why." And so we're all facing a new what right now, and we're all facing a new environment. And of course there are big differences in what that means for people inequities and in who and how we're effected by this crisis. And not only in terms of our physical circumstance but also in terms of how we make meaning of it. But the way that we get through this new what is by focusing on the possible why's. So if we can help our young people imagine the ways that they can contribute in their communities and in society right now, that can be one step towards helping their learning but more importantly helping build a holistic sense of who I am in this world and how I can be fulfilled in it and contribute to others to make it better.

Nat:

Beautifully said. Thank you, Dr. Gottlieb. And Dr. Immordino-Yang, any final statements about this?

Mary Helen:

Yeah. I mean, I think one, what's great what you said, Rebecca, and I think just one question you can ask yourself for any lesson that you're teaching, we always should be doing this but now even more, is how does this lesson, how does this activity, how does this assignment, how does this content and engaging with this content in this way develop my students? How does it develop them as people? What kinds of capacities is it helping them grow? And if you can't answer that question, then you really need to think hard about what kind of content and why you're teaching it that way because any content that's worth learning, engaging with it is teaching you how to think in particular ways or what to notice in particular ways that is really growing your capacity as a thinker and as a human being and as a citizen. If you don't understand how it's doing that, then you're not teaching it in a way that's going to be effectively growing your students.

Mary Helen:

And we really need to stop and deconstruct the junk drawer metaphor. I love that. What goes in there and why because you could probably build some really great stuff out of the stuff that's in that drawer, but if the curriculum's all about just putting it in and taking it back out again, that doesn't facilitate you making an invention that's actually going to be useful.

Nat:

Meaning making, capacity, capability, purpose. This idea of a narrative of creating your narrative of having space to know thyself, to find the why and the what, to really use open school year looking at the remote as an opportunity to reflect and to really shine a spotlight on the purpose of reflection and learning, the purpose of making meaning, the purpose of connecting emotionally to the content and knowing that cognitive and emotion is concurrent. It's not one or the other, which is what your research has been confirming for a while now.

Nat:

I want to thank both of you so much for being on the show, Dr. Mary Helen Immordino-Yang, Dr. Rebecca Gottlieb. As I've been speaking with you, the river in front of me has actually... It's fascinating. It's just absolutely gone to there's no ripples. There hasn't been a single boat in the past 10 minutes. So it is a clear mirror, and it is reflecting the trees, reflecting the marsh land out here. And it's just so symbolic of this conversation and the time after this conversation that I'm going to use to reflect on what we've talked about today.

Nat:

So let's all encourage teachers, teachers out there listening take the time, if your school allows you, please capitalize on that. Take the time for reflection. Take the time for allowing for meta cognition. And really allow your students to construct their own narrative around what they're learning. It takes time. It takes space. But look at the possibilities that can come out of that based on this discussion. Thank you both so much for being on the show today.

Mary Helen:

Thank you.

Rebecca:

You're welcome.

Mary Helen:

Thank you for having us.