

Mind, Brain and Education: Research, Policy and Practice Collaboratory

Monday, October 9th 2017

DESIGN THINKING TABLES

The design thinking tables are the highlight of the day!
We will all come to the table as experts to address burning issues in education.

Each table will be structured in the following way:

<p>Introduction: ~15 min</p>	<p><u>Understand:</u></p> <ol style="list-style-type: none"> 1. Share your host statement (setting context and problem) 2. Say what your expert contribution (donation) is to the table <ul style="list-style-type: none"> • Knowledge • Beliefs • Skills 3. Ask "opt in" table participants to share their expert contribution (donation) <p><u>Define:</u></p> <ol style="list-style-type: none"> 4. What issue would you like to address 5. What outcomes would you like from the session (long and short term)
<p>Ideate (Design Thinking Process): ~60 min</p>	<p><u>Generate:</u> A range of crazy creative ideas!</p>
<p>Represent: ~15 min</p>	<p><u>Create:</u> A tactile representation for a range of your ideas that can be shared with others at <i>Gallery Walk</i></p>

Each design thinking round table has a host. All hosts have been very carefully chosen for their diversity in knowledge, beliefs and skills. There are teachers, researchers, policy influencers and parent advocates. Hosts have spent significant time working with the co-directors on crafting their host statements. Host statements are meant to set the context of the design thinking session.

Host(s)	Host Statement(s)
<p>Table #1: Joshua Aronson and Barry Cohen</p>	<p>Mindfulness This is how we currently see the world of mindfulness in schools: Teaching mindfulness and meditation to children in difficult places is something we are willing to fail at as we devote the remainder of our career to it. Nothing in our teaching or research career has been sweeter than teaching young, stressed out children living in a cruel world, to close their eyes and find more peace and beauty in it when they open them. Helping children become happier, smarter, and nicer is what we're willing to fail at until we cannot work anymore. We are learning that, like any subject, how well it works depends on the context, but unlike mathematics, it will be jettisoned from the school day if it doesn't produce results. We are fascinated by the possibility of creating school environments where the important work—how to be mentally calm, clear, and strong, and nice—is at center stage, rather than marginalized.</p> <p>But the issue that we feel compelled to invest in is to explore what mindful awareness practices are developmentally appropriate for students at each grade level and how to integrate these practices into the school day so that they support academic work, rather than add to the teachers' already demanding schedules.</p> <p>So we do this in our work; we engage with schools that either want to explore mindful awareness practices and work with them to better understand how best to integrate them into the school day. But I want to do more, and need support to understand the barriers schools face that interfere with their adoption of such practices.</p>
<p>Table #2: Joanna Christodoulou</p>	<p>Toward Responsive and Personalized Reading Instruction: Barriers and Potential <i>Currently</i>, educators who work with struggling readers can draw from existing exemplary practices as well as informative research to determine how to best support and instruct this population. However, it is challenging to decide how to translate research findings about a group of students or practices that have been effective with other students to an individual student. <i>I am fascinated by</i> the potential to harness individual differences to support all students in a way that is feasible, practical, evidence-based, and affordable. <i>The issue that I feel compelled to invest in is</i> understanding the challenges practitioners face in making decisions for instructional, curricular, or technological modifications for struggling learners (i.e., personalizing learning). Our research has been exploring reading intervention program response rate to better understand what factors predict outcomes to ultimately address the question <i>for whom should we do what?</i> To advance our understanding of this topic, <i>I would like</i> (1) to learn more from teachers, leaders, administrators, and parents about the challenges they face in making instructional decisions for struggling students and (2) to identify the gaps in available resources and knowledge that could support this process.</p>
<p>Table #3: Kelsey Finkel</p>	<p>Developing an actionable lens of excellence for education grant making <i>This is how I currently see the world:</i> Among and throughout efforts to improve the quality of learning and educational opportunities for all students, I currently see well-intentioned, committed individuals working tirelessly on particular issues and interventions within incoherent systems.</p> <p><i>I am fascinated by:</i> The application of systems-thinking both 1) to improve the quality and performance of schools and networks of schools, and 2) to identify, capture and translate the essence of exemplary school models for the benefit of as many students as possible.</p> <p><i>But the issue that I feel compelled to invest in is:</i> The allocation, use and accountability of private dollars to support these objectives: systemic school improvement and building models of translation.</p> <p>So I work for the Robertson Foundation to examine and to advance understandings of how private dollars might best be coordinated with non-financial resources to improve schools and to translate excellence.</p> <p><i>But I want to do more and need:</i> Support with broadening and deepening our understandings and views on education excellence.</p>
<p>Table #4: Nina Hood</p>	<p>Bridging the research-practice divide: the possibilities and complexities of knowledge translation in education</p>

	<p><i>This is how I see the world:</i> I see the world through the lens of a high school teacher and a university researcher.</p> <p><i>I am fascinated by:</i> The abundance of knowledge in that exists in education, developed by both researchers and practitioners, but our current limited capacity to utilize it effectively.</p> <p><i>So, the issue that I feel compelled to invest in is:</i> The absence of (but utter need for) a built-for-purpose system that supports the generation, dissemination and application of usable knowledge to foster system-wide innovation and improvement in our schools.</p> <p><i>So I do this in my work:</i> I recently launched The Education Hub, which has a mission to bridge the gap between research and practice in education and support the dissemination of research and educators' practical knowledge. Currently, we are grappling with the complexities of knowledge translation work in education, and I need support answering the following questions: how to build capacity among educators to actively use and adapt information; how to identify and learn from our most effective teachers; and how to create networks that bring together researchers and practitioners in authentic, meaningful and mutually beneficial relationships?</p>
<p>Table #5: Tish Jennings</p>	<p>Boosting the Effectiveness of Trauma-Informed Approaches in Schools</p> <p><i>This is how I currently see the world:</i> A growing number of school districts are rolling out trauma-informed educational practices to provide guidance to teachers regarding how to support students who have been exposed to trauma. We now know that trauma can impact a student's social, emotional and cognitive development in ways that can interfere with learning and can result in behavior that can be challenging and confusing, and can interfere with a teacher's primary instructional mandate.</p> <p><i>This is an issue that I feel compelled to invest in,</i> for the sake of both the teachers and their students. Teachers have great potential to transform the lives of these students.</p> <p>However, in order to do this, they will likely need additional supports to provide the necessary emotional and instructional support to these students. <i>So, this is my work,</i> to address ways to provide teachers with the skills they need, which may include strategies, dispositions, and social and emotional competencies, to help students exposed to trauma recover and flourish, socially, emotionally and academically.</p> <p><i>But to do this,</i> I need the help of teachers, administrators, clinicians and researchers to explore how best to support these students and teachers who are currently facing these challenges.</p>
<p>Table #6: Ian Kelleher</p>	<p>The fascinating vision (and challenge) of bringing effective PD to teachers anywhere in the world</p> <p><i>This is how I currently see the world:</i> I see a disconnect between teachers and school leaders who are seeking ways to do the best for their kids, and the wealth of existing research from mind, brain and education science on what strategies do and do not help learning.</p> <p><i>I am fascinated by:</i> How to bridge the gap between research and practice. And not only for the early adopters, but also for the bulk of the bell curve that exists in all our schools and school systems.</p> <p><i>But, the issue I feel compelled to invest myself in:</i> The sad irony of how bad we typically are at teaching teachers. The bar that we tend to set for teacher professional development, both in content and delivery, would be wholly unacceptable for how we teach our students.</p> <p><i>So, I work on ways of:</i> Create and deliver programming that helps teachers and school leaders translate research into practice, the education equivalent of bench to bedside.</p> <p><i>But, I want to do more and need help with:</i> How do we do this effectively? What research informed strategies do we include? What does high quality PD look like? How do we gauge impact?</p>

<p>Table #7: Bryan Mascio</p>	<p>What I want researchers to know about my classroom and teaching</p> <p><i>This is how I currently see the world:</i> The relationship between research and practice in education.</p> <p><i>I am fascinated by:</i> The possibilities if we create a true reciprocal partnership, rather than the hierarchical flow of information from researcher to practitioner.</p> <p><i>But the issue that I feel compelled to invest in is:</i> Identifying and sharing information that emanates from practitioner expertise, in order to share with researchers.</p> <p><i>So I do this in my work:</i> I share my own practitioner knowledge and insights, as well as those from practitioners I interact with.</p> <p><i>But I want to do more and need support with:</i> Gathering more varied voices from the classroom – I need more teachers to help identify what stands in their way of utilizing research, and what knowledge of theirs could help researchers better support our practice.</p>
<p>Table #8: Kimberly Noble and Natalie Brito</p>	<p>Socioeconomic Inequality and Children’s Brain Development</p> <p><i>This is how I currently see the world:</i> There are tremendous disparities in children’s cognitive development and academic achievement, which can be explained by a range of factors.</p> <p><i>I am deeply concerned by</i> these disparities, and, in particular, the factors contributing to the links between cognitive development and academic achievement which can be modified.</p> <p><i>But the issue that I feel compelled to invest in</i> is how we determine whether, and if so, to what extent economic disadvantage is <i>causing</i> (as opposed to being merely correlated with) detrimental outcomes.</p> <p><i>Therefore I do my work</i> as part of a team planning the first study to test causal connections between poverty reduction and brain development. We are recruiting low-income mothers from across the country, and then randomizing the amount of a monthly income supplement: large or nominal. We will then measure children’s cognitive, emotional and brain development over the first three years of life, when the developing brain is malleable to experience.</p> <p><i>But I want to do more and need</i> support in communicating the significance of this study to potential funders and other stakeholders, like educators and parents.</p>
<p>Table #9: Marc Schwartz and Debbie Cockerham</p>	<p>Using MBE tools to support learning in diverse educational setting</p> <p><i>This is how we currently see the world:</i> Our world is changing faster than ever before. As humans, we live in increasingly complex and dynamic social networks through which individual actions impact others and wider collectives. Accordingly, social interactions and relationships are of primary importance, and educational practices should reflect these priorities.</p> <p><i>We are fascinated by:</i> How people change, including the relevant intricacies of communication and socioemotional learning, as illustrative of the importance of relationships in education and beyond.</p> <p><i>But the issue that we feel compelled to invest in is that:</i> A plurality of voices adds multiple layers to conversations attempting to understand and reform education. While this often requires more communication to build shared understandings towards shared visions, collaboration within and between education contexts and disciplines remains essential for building educational opportunities.</p> <p><i>So in our work:</i> We collaborate and develop mechanisms to foster collaboration within and across education settings. I, Marc, create and test organizational structures in the MBE community as well as between universities and school districts and with other educational partners to address educational challenges in collaborative networks. I, Debbie, train researchers on effective communication skills, integrate MBE tools and strategies, and work to make relevant connections between researchers and museum guests.</p> <p><i>But we want to do more and need more support with:</i> 1) Identifying and learning from rich examples of collaboration for research insights, and 2) implementing MBE tools and strategies that build collaborations and enhance communication.</p>

<p>Table #10: Carolyn Strom</p>	<p>Cortex2Classroom: Building Bridges between What We Do and What We Know About Early Reading Instruction</p> <p><i>This is how I currently see the world:</i> The world of Education is saturated with scientific research on how to effectively teach early reading skills.</p> <p><i>I am fascinated by:</i> The neurological triple backflip that the brain must do in order to read words effortlessly, as well as by the ways in which different students navigate early reading processes.</p> <p><i>But, the issue I feel compelled to invest myself in:</i> Revolves around the <i>pervasive gaps in understanding between reading researchers, reading teachers, parents, and students.</i></p> <p><i>So, I work on ways of:</i> Translating reading research into actionable frameworks. In conjunction, I work on developing methods through which elementary classrooms function as <i>reading laboratories, where teachers' feedback and findings on early reading processes, strategies, and tools</i> are highly valued.</p> <p><i>But, I want to do more and need:</i> Support with building more innovative partnerships between teachers, universities, and parents.</p>
<p>Table #11: Kimberly Tanner</p>	<p>What Does Teaching Sound Like?</p> <p><i>This is how I currently see the world:</i> What proportion of STEM (science, technology, engineering, and math) instructors in both K-12 and higher education regularly use teaching strategies beyond lecture?</p> <p><i>I am fascinated by:</i> Asking what is the probability that STEM students in higher education would have the opportunity to speak, write, or discuss their ideas about science with peers in every class session?</p> <p><i>So I do this in my work:</i> My laboratory has recently made a discovery that could be transformational in gaining insights into the extent to which evidence-based teaching practices are used in classrooms all over the world. In brief, our technological innovation – the DART: Decibel Analysis for Research in Teaching tool – is a machine which can analyze audio recordings quickly, with minimal costs, and without need for human observers (PNAS, 2017). DART could enable us to “listen” for active learning. We envision DART as a tool that can give immediate feedback to individual instructors, departments and institutions in higher education which has historically utilized lecture as a significant form of teaching. It can assess, compare, and demonstrate the added educational value by capturing “the sound” of instructor employing effective practices.</p> <p><i>But I want to do more and need support with:</i> Learning from colleagues like you what your reaction is to the DART tool and how it might be used appropriated to support you in your own professional efforts.</p>
<p>Table #12: Joan Walker</p>	<p>The two sides of empathy: How does cognitive perspective-taking interact with emotional feelings to shape interpersonal communication?</p> <p><i>This is how I currently see the world:</i> I see the MBE world through the lenses of developmental psychology, learning sciences, cognitive science and neuroscience.</p> <p><i>I am fascinated by:</i> The intersection between thinking and feeling. How do these twin aspects of our humanity function separately and in concert? For example, empathy has two distinct aspects—the cognitive ability to see a situation from someone else’s point of view and the affective ability to connect with another person’s feelings about a situation—and each aspect is processed in different parts of the brain. This issue has tremendous practical and humanistic value. For example, a hallmark of effective teachers, health care providers and counselors is the ability to simultaneously validate others’ feelings while focusing on problem-scoping and problem-solving.</p> <p><i>The issue I feel compelled to invest myself in is:</i> How do experts ‘toggle’ between the affective and cognitive dimensions of empathy? Can these dual aspects of empathy be taught and learned?</p> <p><i>So, I work on ways of:</i> Exploring the nature of expertise and its development, using a range of simulations to teach novice</p>

	<p>teachers about one professional situation that is complex, common and often invisible in teachers' professional training: parent-teacher conferences.</p> <p><i>I need support with:</i></p> <p>Imagining ways we can understand what's happening "under the hood" when novices and experts engage in complex professional social tasks. The question, "what's happening under the hood?" cuts across professions/contexts that demand empathy.</p> <p>It would be great fun for me to kick around ideas about:</p> <ul style="list-style-type: none"> · the kinds of things one might measure, · how one would capture the data, · how to integrate and interpret an array of data sources <p>The methodological aspects of this are what I need to know most. However, the construct of empathy is also fascinating and a conversation about how folks define it, work with it, assess it, etc. would also be helpful and fun.</p>
<p>Table #13: Marsha Wallace</p>	<p>Building Science Capital in NYC Schools</p> <p>In our increasingly complex world, there is a need for people who can tackle tough problems, gather and evaluate data and develop innovative solutions. These skills can be learned through studying Science and STEM subjects yet many students lack access to quality education in these areas. Females and minorities are especially underrepresented in STEM careers. While the NYC Department of Education is currently working on helping teachers understand and develop the capacity for high quality STEM education in schools; it is important for teachers, parents and other stakeholders to help increase science capital (science related resources and experiences) for our students. Students with higher levels of science capital are more likely to go on to science and STEM related studies and careers. How can we help science educators improve science capital especially for girls and students with low cultural capital?</p>
<p>Table #14: Yana Weinstein</p>	<p>Communicating the Science of Learning</p> <p><i>This is how I currently see the world:</i></p> <p>Very few teacher education textbooks and courses in the US cover principles from cognitive psychology related to effective learning, suggesting that these strategies are not systematically making their way into the learning experience in the classroom.</p> <p><i>I am fascinated by:</i></p> <p>The gap between learners' intuitions about learning, and reality. That is, people tend to engage in learning strategies that are not the most effective, instead of those that are.</p> <p><i>But the issue that I feel compelled to invest in is:</i></p> <p>How strategies for effective learning based in cognitive psychology can be communicated more effectively. I believe that a dialogue between researchers and teachers on the science of learning research and its practical implications is paramount.</p> <p><i>So I work on ways of:</i></p> <p>Making scientific research on learning more accessible to students, teachers, and other educators. I do this as part of the Learning Scientists project that I co-founded with Dr. Megan Sumeracki at Rhode Island College. We are offering open access materials for students and teachers, giving workshops on the science of learning, and communicating with teachers and students via social media.</p> <p><i>But I want to do more and need:</i></p> <p>the perspectives of teachers for the creation, dissemination, and evaluation of open-access science of learning resources. I believe that multiple perspectives are fundamental to the development, usability, and impact of these resources.</p>