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12. DRAWING ATTENTION

Notes from the Field

ABSTRACT

For teachers, contemplation and silence are in short supply in school environments. Natural history museum dioramas lend themselves for looking and contemplating. This article investigates the use of silent sketching as a contemplative practice with new science teachers involved in the new teacher induction program at the American Museum of Natural History.

Keywords: informal learning environments, mindfulness, science teacher induction, museum education, sketching

I am drenched in sweat as I take the subway to the last stop in the Bronx – 242nd street – to participate in a drawing and nature hike in Van Cortlandt Park. It is one of the hottest nights of the summer of 2016. The weather conditions are far from ideal, but I feel compelled to go, to be a participant and an observer in a nature and meditation drawing event.

At the park, the group is small (nine people) but diverse: a mix of parents with children ages 7 to 9 years old, a mom and her teenage daughter, and a few women together. After walking into the woods, we end up at a section of Tibbets Brook that opens to a pond. We gather on a bridge over a marshy area and are told to draw what we want for 15 minutes or so. It is liberating to have the freedom to draw what I want and at the same time scary to try and figure out where to focus my attention. I notice the tall green weeds (phragmites) gently moving in the distance against the soup green pond; the light is quickly changing; the sounds of nature come into focus; and in the far distance a Snowy Egret stands still on a branch and a Blue Heron stands close by on the shoreline. I take the pencil and tell my hand to relax and I let the pencil make a long stretched out S shape to capture the curve in the head and the neck of the shore birds. I am starting to enjoy being in the moment.

For the past several years, as a manager for science teacher professional development, I have engaged science teachers in sketching, thinking, and talking in front of dioramas at the American Museum of Natural History. Initially, I facilitated professional development activities using Visual Thinking Strategy (Housen, 1999), a structured discussion protocol originally developed for use in art museums.

I noticed teachers were reserved about sharing their observations. I modified the protocol, adding an interval of silent sketching before asking participants to share what they had observed. This addition of silent sketching contributed to a shift in my thinking about the dioramas and their generative potential for contemplation. I started to see the dioramas as places for meditation, and for supporting mindfulness practices.

In education, there has been burgeoning interest in applications of mindfulness since the turn of the 21st century (Schonert-Reichl & Roeser, 2016). It is increasingly common for educators in school settings to engage both students and teachers in mindfulness exercises (Impedovo & Malik, 2015). One example of this, the New York City Department of Education's Move to Improve program, has trained 8,000 elementary teachers in mindfulness and stretching activities (Harris, 2015). This represents approximately 1 out of 11 teachers in the Department of Education. In addition, many middle and high schools are using breathing meditation as a mindfulness exercise throughout the school day.

A common refrain from my work with new teachers is the need to maximize learning and minimize stress in the classroom. Research suggests that teachers' engagement in mindfulness practices and contemplative interventions support effective classroom environments (Bernay, 2014). The research on the emotional environment of classrooms (Richie et al., 2011) makes a strong case for preparing teachers to use mindfulness interventions. The benefits of mindfulness strategies, such as an increased attention, self-regulation of emotions and creativity (Azarin, 2016) are well suited to supporting school communities. It is not surprising that contemplative practices and mindfulness programs are being considered for teacher education curriculum programs (Impedovo & Malik, 2015).

My work using the museum as a site for contemplation with first year science teachers took shape in the context of my exposure to ideas about mindfulness. My doctoral courses at the Graduate Center of the City University of New York, (in particular, courses with Professors Kenneth Tobin, Gillian Bayne, and David Forbes) influenced me to incorporate mindfulness in my professional development work with science teachers. On the first day of the course with Professor Tobin, I was pleasantly surprised to engage in five minutes of breathing meditation. It was liberating and inspiring to do this in a doctoral course. In addition, Graduate Center colleagues introduced breathing meditation and heuristics as interventions for raising one's awareness of degrees of mindfulness when speaking and listening (Powietrzynska et al., 2015). I started to see the diorama as an intervention or a heuristic to focus attention for contemplation, reflection, and meditation. I began to notice teachers' experience in the museum with dioramas at a macro and meso level and applied different sociocultural theories and my own framework – illuminating some aspects of what I am seeing while obscuring others (Tobin, 2008).

My research stance is guided by the authenticity criterion developed by Egon Guba and Yvonna Lincoln (1989) and elaborated by Kenneth Tobin (2015). This

work with the dioramas has been guided to understand what is happening for new teachers engaging with the phenomenon of sketching as a mindfulness exercise. For me, the value of engaging in this work is to support first year teachers' reflections on teaching and learning. Along the way, my ontology is changing in relation to how I value contemplation in my work and seek to increase opportunities for teachers to engage, and finally, to strengthen my ability to do this in other environments outside of the museum.

The activity of sketching and looking at dioramas is a way to examine reality and say what is happening in a complex scene. It is a close proximate of reality and when this activity is done with other people (sketching and looking and talking) participants' plural realities and experiences can be shared and the group can create together knowledge of sensory perception and its interpreted meanings. These notes from the field are an attempt to describe what I am seeing and how teacher contemplative experiences in the museum can alleviate some of the tensions and contractions new teachers face in the classroom.

Mindfulness has its origins in Eastern religious Buddhist traditions and, starting in the 1970s, began to appear in psychology literature (Renshaw et al., 2015). There are varying ways mindfulness is conceptualized (Bishop et al., 2004). For the purposes of my work, I draw primarily on definitions of mindfulness proposed by Jon Kabat-Zin (2009) and Marsha Linehan (1993). Kabat-Zin provides a succinct description: "mindfulness is awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally" (p. 107). Linehan's definition emphasizes paying attention in the moment; observing thoughts, facts and feelings non-judgmentally; and participating with awareness. Contemplation, is closely related to mindfulness, but is not the same. In his work on contemplation in schools, Tobin Hart refers to contemplation as: "the act to shift the habitual chatter of the mind to cultivate a capacity for deepened awareness, concentration and insight" (2004, p. 29). For teachers, contemplation and silence are in short supply in school environments. Natural history museum environments lend themselves for looking and contemplating.

DRAWING WITH DIORAMAS IN THE AMERICAN MUSEUM OF NATURAL HISTORY

Dioramas recreate visual phenomena of the natural world and provide vistas for looking. Natural history dioramas, termed "windows on nature," by Steve Quinn at the American Museum of Natural History (2006) are scientifically accurate three-dimensional displays of animals in their habitats that include fabricated real or artificial elements (Kamcke & Hutterer, 2015). The dioramas hold in them rich science content and concepts, which could support learning for teachers and students. In his book *Ways of Seeing*, John Berger (1972) comments that seeing comes before words. The dioramas are a rich backdrop for seeing and sketching before talking.

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As mentioned, my work with sketching and mindfulness with science teachers began with a modification of Visual Thinking Strategy (Housen, 1999) – a well-known facilitated protocol for observation and discussion, originally developed for use in art museums. The protocol poses three questions: “What is going on in this picture?” “What do you see that makes you say that?” and “What more can we find?” My initial intent, in modifying the protocol to include sketching, was to give participants time to look before verbalizing observations and inferences. Over time these activities with first year science teachers have evolved to become a mindfulness exercise and provide a space for contemplation.

TEACHERS’ RESPONSES TO DRAWING DREW MY ATTENTION

One of my first experiences facilitating group discussion occurred after silent sketching took place with science teachers in front of the mountain lion diorama in the iconic hall of North American Mammals. What impressed me was that the hall roared with teachers’ voices. Teachers shared what they had noticed and where they had focused their attention. To illuminate this experience, Randall Collins’ (2004) theory of interaction ritual chains describes the characteristics of how a group functions. First, there was proximity of individuals to one another, which was evident in the intimacy of participants gathering in front of the diorama. Second, the shared focus of looking at the diorama and the full engagement of looking attentively with the group. Synchrony was visible in the group’s shared focus looking intently and sketching the diorama; the teachers displayed positive emotions; laughter, engaging and listening to each other and a feeling of generosity to share their sketches. Over the years, I have done this activity with hundreds of science teachers and the response is generally similar. Teachers appreciate the silence followed by the engagement of having a shared experience of discussing where they put their focus in the diorama. The drawing is about focusing attention to detail and not about the actual sketch. I wondered if the diorama is a catalyst for group cohesion.

What was clear from the beginning was that it did not matter if the activity occurred during a one-day or weeklong workshop; this relatively brief activity of looking, sketching and talking for 15 minutes was consistently noticed and commented on in evaluations. When asked about their impressions of the day, teachers commented how much they appreciated it. “Using visual learning, drawing allowed me to focus attention,” commented a high school science teacher. This was a common refrain in evaluations. Shannon Murphy (2016), in her work with children and art and meditation in a NYC art museum, also saw a similar pattern – the meditation or focused attention of looking resonated strongly with participants.

Below are examples of science teachers’ four-minute sketches of the Cougar (mountain lion) diorama at the American Museum of Natural History which highlight the multiple perspectives and plurality of attention to detail evoked by silent sketching in a group.

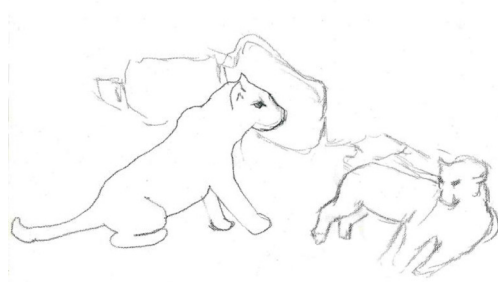


Figure 12.1.



Figure 12.2.



Figure 12.3.

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Figure 12.4.

I include a photograph of the Mountain Lion diorama so the reader can see where four different teachers put their attention.



Figure 12.5.

I chose these sketches because they demonstrate commonalities and differences of how teachers view the diorama and where they put their attention. The two mountain lions are prominent in the foreground with a detailed landscape of the

Grand Canyon in the background. In Figure 12.1, the teacher kept his attention on sketching the outline of the two lions with detail on a boulder behind them. In Figure 12.2, the teacher focused on one mountain lion with detail to fur texture and the head region – whiskers, eyes and nose. In Figure 12.3, the sketch captures the mountain lion’s focus and stance as well as noticing an often-missed detail – vertebrae bones on the ground. In Figure 12.4, the teacher focuses her attention on the rock overhang, the plants, and the horizon. These sketches are examples of polyphonia. A core principle of authentic inquiry is that there are many truths, perspectives, and multiple interpretations and learning from difference is valued (Tobin, 2015). This also parallels a characteristic of mindfulness, which is the ability to identify several perspectives of a situation. The images are four different views and together they create another perspective, which highlights the aspects of the diorama.

DRAWING ATTENTION: SKETCHING AS A MINDFULNESS EXERCISE WITH SCIENCE TEACHERS

In looking at the diorama, with its focus on phenomena of the natural world, the viewer is looking and thinking, and is in the position of a discoverer, rather than a passive recipient of knowledge transmitted by others. This was evident with the level of engagement, the questions, the ideas generated and the curiosity for wanting to learn more among the teachers with whom I worked. The natural history dioramas are complex environments that generated observation, multiple perspectives, and reflection.

The museum presents affordance for contemplative practices. The idea of affordances described by James Gibson (1977) is that objects in the environment present possibilities for taking action. The natural history diorama is an object that is complex, layered with science concepts and history, ideas about representation, and values about nature (Haraway, 1984). The diorama offers visitors possibilities to take actions of learning and contemplation. In addition, the diorama is generative. The idea that objects and words can be generative is prominently situated in the work of Paulo Freire (1993). For Freire, generative themes or words elicit – or generate – new thoughts, ideas and observations.

The natural history diorama is a facsimile for nature. Research suggests that people’s cortisol levels lower with exposure to nature. For many teachers, the museum setting is a refuge from the realities of public schools. The museum is also a vehicle for developing teacher identity and agency (Adams & Gupta, 2015). The context, the atmosphere, and exhibits make it an ideal environment for reflective learning. A contemplative space, the museum can engage new science teachers in reflection and dialogue about classroom practices and culture.

Contemplative practice provides an immersion in reflection with a focus and an awareness of the present moment (Impedovo & Malik, 2015).

As a new teacher, it was great to run a successful activity that was not strenuous
... VTS allows you to take some of the stress away from planning the trips,

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since the goal is to have students think and construct their own understanding, as opposed to looking for a correct answer. It is beautiful to see students thinking and constructing for themselves! ... (Maryann, a first year middle school teacher)

Here a first-year teacher reflects on using a sketching and visual thinking strategy and how her students construct their understanding by first quiet sketching and looking and talking with others. The teacher's comment of various student perspectives in the quote above highlights what Ellen Langer (2016) refers to as mindful learning. In earlier work done in the seventies, Langer defines mindful learning as "the continuous creation of new categories, openness to new information, and an implicit awareness of more than one perspective" (Langer, 2016, p. 4). This teacher also acknowledges that the activity lowered her stress levels, which in turn contributed to her students' engagement in a mindful learning experience.

Like meditation, it required focus, but was enjoyable. It was meaningful to pay attention to small details that would normally go overlooked. (Maryann, a first-year middle school teacher)

My work with first-year science teachers in new teacher induction is part of the Master of Arts in Teaching program at the American Museum of Natural History. During monthly induction meetings and other professional development activities, I use the Museum's dioramas to engage new science teachers. The teachers value this time of silence and reflection in front of dioramas. These unforeseen observations, drawn from lived experience, shaped my practice. I can't overstate teachers' appreciation for silence and reflection. The quotes from first and second year teachers encapsulate many teachers' responses to sketching and observing in the Museum. In this context, the sketching activity is a mindfulness exercise that can be used with teachers to reflect on the realities of their classroom. It also has the potential to foster teachers' effectiveness in the classroom.

It created an allotment of time that was reserved for silence and peace. It forced us to have a break from the busy schedule of teaching to relax and focus on detail ... specifically since induction had a lot of discussion on the challenges of teaching, and was the ending of a stressful workweek. (Lani, a second-year high school science teacher)

While most of the science teachers with whom I worked seemed to appreciate silence, not everyone appreciated sketching. For teachers who did not wish to sketch, I provided writing prompts on topics that are specific to new teachers' lives: "What gets in the way with lesson planning?" or, "Write about a student that challenges you" or, "Reflect on how you are making lessons culturally relevant to students," or "Write about what you are learning about yourself in your new role as a teacher." Teachers were asked to find silence (i.e., quieted their minds) and reflect on their teaching while sitting in front of a representation of a natural setting. A few teachers who shared their writing noted that it was cathartic to put their emotions on paper and describe their

struggles in the classroom. The group was sitting in front of the American Bison and Pronghorn diorama and teachers were given a choice of sketching or writing. The teachers who wrote were given a prompt to “Write about where you would put yourself on a graph of the Attitudinal Phases of New Teachers Toward Teaching” (Moir, 1990). Here a second-year teacher’s comments in her third month of teaching:

I feel like I live in survival mode and I am very disillusioned about teaching. I am just trying to make it through the week ... I constantly think that there is no hope for humanity. I feel like I’ve been asked to do more than I should and that my students have been asked to learn more than they realistically can in one year, especially from a first-year teacher, who doesn’t really know what she is doing ... (Diane, a first-year middle school science teacher)

The comment highlights many teachers’ experiences with their daily environment as disquieting and stressful. Mindfulness exercises such as sketching in front of a diorama can be used as an intervention to support reflection and have the potential for supporting teacher wellness.

OUT OF THE DIORAMA AND INTO THE CLASSROOM: EXPLICIT APPLICATION OF MINDFULNESS TO TEACHING

Like the diorama, the classroom is a complex environment that invites observation and multiple perspectives, but – unlike the diorama – the classroom includes people’s emotions, and teachers need to have the capacity to make many choices and take action in an environment that can be over stimulating emotionally. In the first year of teaching, emotions effuse. Many first-year teachers with whom I’ve worked have shared experiences of the smell of their own sweat from being nervous or the salty tears because words could not describe their frustration or not recognizing the sound of their own voice because of anxiety.

Teachers need to navigate through their own and students’ emotions all day. At the end of the day, a new teacher might be able to say, “I did one thing that worked but I was unhappy with 99 percent.” The beginning teachers face an expectation of competence, and as such a high level of public exposure to failure. It is hard for many individuals to take hold of their attention under optimal circumstances, but the classroom, which evokes powerful emotions (Tobin, Ritchie, & Oakley, 2013), presents exceptional challenges, particularly for new teachers. The provision of the museum’s affordances to potentiate teachers’ practice of mindfulness can strengthen their capacity to take hold of their attention in the demanding environment of classroom.

DRAWING WITH THE NON-DOMINANT HAND: FACILITATING NONJUDGMENTAL OBSERVATION AND TEACHING

My work with teachers continues to be emergent and contingent, i.e., to emerge from my lived experience with teachers, and to be contingent on their benefit. In my

mentoring visits to new teachers in their schools, as part of new teacher induction, I have become convinced of the need to support teachers' capacities to focus their attention on what is happening in the classroom, what is happening with their own emotions, what teaching objectives reflect their students' needs, and what behaviors teachers can choose to achieve their objectives.

I am working to use a protocol for helping teachers take hold of attention in order to increase the effectiveness of teaching and learning. Based on work with mindfulness (Linehan, 1993) being conducted with medical residents (Wilkinson & Lobl, 2016), I encourage teachers to: maintain nonjudgmental awareness of what is happening with them and their students (distinguishing among thoughts, facts, and feelings); identify their objective(s) in the moment and for the lesson; and choose behaviors to stay on course with achieving those objectives. The protocol's acronym, HOB (Happening, Objective, and Behaviors), prompts teachers to engage in a reflective cycle repeatedly during the course of the lesson (and especially when things in the lesson are going off course). The prompts have the potential of supporting teacher efficacy and student learning.

- What is happening with my students and me right now? (Identify facts, thoughts and feelings, without judging.)
- What is my objective? (Consider that one may have multiple objectives, competing objectives, short and long-term objectives.)
- What could I say and do (behaviors) to achieve my objective? (And how could I say or do it?)

I decided to introduce this protocol to new science teachers with a sketching exercise to illustrate the non-judgmental qualities of mindfulness. Drawing with the non-dominant hand liberates the sketcher from judgment and attachment to a product. The activity of drawing with the non-dominant hand refocuses attention on the experience of seeing. In her chapter in this book, Kiat Hui Khng (2017) comments that there is a tendency to being on autopilot or doing something without awareness, which prevents a full engagement. The use of the non-dominant hand reduces expectation to get it right or be "perfect." The possibility of failure is eliminated. The protocol for the activity supports noticing without judging. Teachers were given 4 minutes to focus attention on noticing and sketching an object using their non-dominant hand.

The fear of failure reduces participation and receptivity to an experience. It is prevalent in classrooms, in both teachers and students. Fear of failure can cause avoidance and withdrawal, which interfere with the focus and attention on experience. Eliminating the possibility of failure can free attention for learning. It promotes a core component of mindfulness, which is awareness without judgment.

Drawing with my non-dominant hand, I knew I didn't stand a chance of creating a satisfactory drawing ... I did not judge myself because I had low expectations that I probably would not be good and this felt good ... (Kristen, a first-year high school science teacher)

By drawing with my non-dominant hand, I was forced to draw more slowly if I wanted to keep the proportions. So, it forced me to practice being patient, which helps in keeping focus. (Simon, a first-year high school science teacher)

How is it that just asking someone to do something for which she has no evaluative standard or expectations – sketching with a non-dominant hand for 4 minutes could elicit strong responses? The experience left me wondering how to incorporate non-dominant ways of doing things to focus attention and remove judgment. This could be a potential intervention to support a deeper understanding of what it means to do something without judgment. In an early study on peoples’ perception of drawing and mindfulness, by Adam Grant and colleagues (2004), the authors concluded that drawing is a way to increase mindfulness. In a letter to his brother in 1883, van Gogh wrote, “Drawing is at the root of everything” (Kulkarni, 2015). And maybe this is what we need to support others to do – to create spaces in parks, museums and schools to support environments that minimize judgment and help individuals draw attention.

NEXT STEPS: OUT OF THE CLASSROOM AND INTO THE CITY

I have highlighted how the environment of a museum provides affordances for teachers to practice contemplation and sketching. There is no single way to take hold of attention with awareness, and notice without judgment. The museum’s dioramas provide a contemplative site for teachers to engage in sketching. The act of putting pencil to paper in this setting can be a meditative experience, inviting the participant to be present in the moment, notice different views and recognize that there is always more to see and understand.

Over the past three years, I have grown in my conviction of how important it is to support teacher wellness by developing ways to hold attention. Although the sketching activity has been my primary method, I am beginning to take opportunities to use breathing meditation and mindfulness heuristics (Tobin, Alexakos, & Powietrzynska, 2015). For the teachers, there is a genuine desire to engage and build an appreciation for creating these experiences within new teacher induction. In monthly meetings with the teachers it is becoming a norm to include breathing meditation. Teachers are interested in maintaining their wellness and appreciate that it is woven into their development as a teacher – new teacher induction. I will continue to do this work and hope one day to exhibit the drawings and teachers’ comments and reflections to inspire others to create spaces for silent sketching for drawing attention as well as a way to honor teacher wellness. I am interested in continuing this work with teachers, as well as to work in public informal learning environments beyond the museum. I am interested to engage the public in drawing their attention and working with others to continue to support wellness using urban environments.

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