Cultivating a Culture of Thinking in Museums

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Abstract During the brief time students come together for a group tour, museum educators have the opportunity to create a culture of thinking: a place where the group's collective as well as individual thinking is valued, made visible, and actively promoted as part of the ongoing experience of all group members. Creating such a culture is facilitated by understanding the dynamic context of group learning and the ways in which groups enculturate students into patterns of thinking. This article describes eight cultural forces found to shape the culture of group learning in classroom settings, applies this framework to tour observations conducted at three different museums, and explores ways that museum educators might best leverage these forces to cultivate a culture of thinking when conducting school group tours.

Every day, students step into museums they have never before visited ready to begin a new learning experience shaped largely by museum educators. In doing so, students are not merely embarking on a tour; they are entering into the formation of a unique, if transitory, microculture within which they not only become enculturated to the museum itself, but also to ways of thinking within museums. From a sociocultural perspective, it is within this group context that learning unfolds and patterns of thinking are nurtured, making attention to the context of instruction as important as the formal, explicit instruction itself.[1] For museum educators interested in cultivating students' thinking, understanding the nature of this microculture, how it is formed and how it acts as an instructional influence, can provide a potentially useful tool for shaping group visits.

In this article, I present a set of eight cultural forces that shape group learning. This framework emerges from my primary area of research: under-

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standing the effective teaching of thinking in school contexts.[2] While no museums have directly used this framework to date, I draw on my own experience as a museum docent at the Denver Art Museum, my work as an educational consultant for museums, and my observations of school-group museum tours to show how these cultural forces can potentially be useful to museum educators interested in promoting students' thinking dispositions and understanding the dynamic context of group learning. Where possible, I make links between this framework and existing research in museum education.

A DISPOSITIONAL PERSPECTIVE ON THINKING

Over the past decade, I have worked with colleagues at Harvard University's Project Zero to understand how thinking can be nurtured in schools, museums, and businesses. In our work, we take a dispositional approach to the teaching of thinking, meaning that we seek to foster not only the *ability* to think but also the *disposition* to think, to develop patterns of thinking and habits of mind students not only *can* use but that they *do* use.[3] From a dispositional standpoint, ability alone is insufficient for good thinking; one also must have the inclination to use that ability along with the awareness of opportunities for its use.[4] This perspective on thinking, grounded in the philosophy of John Dewey and Gilbert Ryle, is exemplified by a disposition like curiosity.[5] We readily recognize the dispositional nature of curiosity, acknowledging that having a set of skills alone, such as being able to ask questions or pose wonderings, does not make someone curious. It is an individual's awareness of occasions for applying those skills and being inclined and motivated to use his or her abilities that leads us to call a person curious.

Good thinking—that is, thinking that is productive in achieving its purposes or goals—depends on actively and appropriately using one's abilities on the fly within the informal experiences of daily life, or "in the wild."[6] In nurturing and assessing thinking dispositions, we must look beyond what students can do when prompted to uncover what they do independently. A good example of this is the "Untour" developed by the Institute for Learning Innovation and used in the *Thinking Through Art* project at the Isabella Stewart Gardner Museum.[7] In this methodology, students' conversations are recorded as they move freely about the museum in small groups without an accompanying adult. The kinds of thinking captured in those conversations can be said to be not only a representation of students' skills, but also of their dispositions.

Although the gap between ability and application is well documented in the literature on thinking, it is an issue that is not widely addressed in efforts to improve thinking.[8] Unlike skills, dispositions cannot be directly taught; they must be enculturated.[9] Given the challenge of nurturing dispositions, and the time they take to fully develop, one might ask why museums should concern themselves with them. One reason is that museums offer students contextualized and sensory-rich experiences that can link both formal and informal ways of learning.[10] In museums, students are interacting with and trying to make sense of new objects and experiences and must think to do so. Specifically, they must: look closely; wonder and question; make interpretations and form hypotheses based on evidence; make connections to things they already know; consider different perspectives and viewpoints; delve below the surface to uncover complexity; and form conclusions.[11] Museum educators are not so much teaching these skills, since most students have them to some degree, as helping students to spot occasions for their use and highlighting their value, thus nurturing their awareness of and inclination for thinking. Finally, museums offer a setting in which cognition, affect, social context, and the environment are fully integrated, making them ideal places for thinking in the wild.[12]

FORCES SHAPING GROUP CULTURE

When students come together for a tour, museum educators have the opening for creating a culture of thinking, that is, a place in which the group's collective as well as individual thinking is *valued, visible,* and *actively promoted* as part of the ongoing experience of all group members. Based on my research in classrooms, I identify eight forces that shape group culture and require attention in creating a productive context for dispositional learning. These forces are:

1. The *expectations* that are communicated;
2. The *opportunities* that are created;
3. The way *time* is allocated;
4. The *modeling* of the group leader;
5. The *routines and structures* put in place;
6. The way *language and conversation* are used;
7. The way the *environment* is set up and utilized; and
8. The *interactions and relationships* that unfold.

To understand better how these cultural forces can potentially help museum educators in making group tours cultures of thinking, I observed a number of school-group museum tours to see where and how museum educators might be using these constructs implicitly or explicitly in their work. I chose to observe various grade levels at different kinds of museums to provide a diverse set of grounded practices that might exemplify the cultural forces. Although all of the forces were present in every tour I observed, some were attended to more directly and effectively in some settings than in others. Since my intent is not to compare the tours, I have chosen here to highlight only strong examples of each cultural force at work. However, readers should keep in mind that it is the interaction of all of the forces that contributes to the overall dynamic and experience of the group.

Expectations

Even before arrival, museum visitors have expectations for their visit that significantly shape their experiences and learning.[13] For students, expectations are mediated by the classroom teacher and museum educator, both of whom orient students to the trip's organization and purpose. Although studies show that field trips that are well integrated with the classroom curriculum through rich pre- and post-visit connections offer students the strongest opportunities for learning, teachers do not always attend to these connections or set clear learning expectations for field trips.[14] In addition, teachers frequently focus on the extrinsic motivational aspects of field trips and may see planning the museum experience as the responsibility of museum educators.[15]

In creating a culture of thinking, setting expectations for learning and the types of thinking one will be asked to do is foundational. At the outset of his tour of the Solomon R. Guggenheim Museum, educator Ben Moore tells his group of second graders, "As we walk through the museum, I want you to think about what kind of museum you want to create yourself when you go into the studio later." Here Ben is articulating an expectation that students will make personal connections to what they see. In addressing her group of seventh and eighth graders at the Museum of Modern Art (MoMA) in New York, educator Dara Cohen frames students' experience: "We're going to be thinking about one thing today: identity . . . We're going to think about how artists communicate ideas about identity, either their own or someone else's . . . We're going to see four works of art and then use these ideas and what we

Figure 1: Third-grade students on a tour of the Guggenheim Museum. *Photo by Tanya Ahmed, courtesy of the Solomon R. Guggenheim Museum.*

have learned to do some printmaking about your identity." Here Dara presents a focus in the form of a big, generative idea: identity. She then signals that students' thinking will center on the methods of portraying that identity. At the San Francisco Museum of Modern Art, educators took a different approach to setting expectations for group visits by instituting a set of throughlines or overarching questions that could be used to direct visitors' learning. Their three questions—(1) Where do ideas for making art come from? (2) How does art connect us to the artist? Ourselves? Each other? The World? and (3) How can we find meaning in a work of art?—provide a framework for group learning.[16] In all three of these instances, a strong and clear focus for learning is established; something research has shown enhances museum learning.[17]

Opportunities

Whereas expectations provide the focus for what students will think about and how they will think about it, opportunities allow students to realize those ex-

pectations. Dara Cohen's tour at MoMA is a good example of this connection. Having identified "identity" as a focus for her tour, she then thought about which works of art would provide students the opportunity to investigate the issue of identity as well as the different ways in which artists convey aspects of identity. One particularly rich opportunity for students' thinking was afforded by the placement of James Rosenquist's *Marilyn Monroe, I* adjacent to Andy Warhol's *Gold Marilyn Monroe* in the gallery. As Dara sits students down in front of the two paintings, she asks them to think about the differences they notice in these two works of art and how they each convey different aspects of the subject's identity. Students remark on the isolation of the image in the Warhol print versus the disembodied nature of the face in Rosenquist's painting. They comment on the difference in focus between the works: "Here [Rosenquist] it highlights the lips, but in this one [Warhol] I'm drawn to the eyes." Dara directs students' attention to the lettering in the Rosenquist work and a discussion ensues about celebrity, icons, and pop references with one student noting, "Coke is bubbly and explosive. Maybe that was like her personality." Before moving on, Dara takes advantage of one more opportunity the Warhol provides, the chance to talk about print making—the activity students will do after the tour. She points out that the repetition of print making and the mass-produced quality it can take on might also convey something about the identity of Marilyn Monroe and the way in which Warhol saw her.

At the Lower East Side Tenement Museum, educator Lokki Chan uses the restored tenement to provide the fifth graders on his tour an opportunity to empathize with and make connections with the past. Having discussed the Rogarshevsky's family move to America from Eastern Europe in the early 1900s, and the thriving garment industry of that time, he has students gather in the combination living/kitchen/bathing/work room of the apartment and imagine what it would have felt like to be in that room in 1918: the heat from the stove, the dim light, the workers and residents side-by-side, the lack of circulating air, etc. To push students to think about how different the living conditions of the family were from their own, he asks them to imagine having to go to the toilet in the night. "What would you do?" A student suggests, "Go to the restroom downstairs." Lokki explains it was not present at the time. "Go over to a friend's." Lokki suggests that they would not have a toilet in their apartment either. "Go outside?" a student offers. Lokki then paints a picture of the small backyard filled with outhouses on a pitch-black night. By asking students to address an everyday need, rather than simply giving information, Lokki gives students the opportunity to contrast their

Figure 2: The Rogarshevsky family's apartment at the Lower East Side Tenement Museum. *Photo courtesy of Battman Studios.*

own lives with that of the tenement's residents and to look at daily life from a different perspective. Like Dara, Lokki considered the unique opportunities afforded by the museum collection, and then considered what kinds of questions and experiences would allow students to think and take full advantage of these opportunities.

Time

Whether in the classroom or the museum, thinking requires time.[18] Without the time to engage properly with an object or idea, an opportunity for thinking can feel hollow. It is only through extended inquiry that conjectures can be made, perspectives can be examined, theories weighed, and new understandings developed. Even in unstructured museum visits, time correlates highly with interactions and subsequent recall.[19] Abigail Housen and Philip Yenawine suggest that engaging with an artwork requires at least twelve to fifteen minutes.[20] This creates a real dilemma for museum educators who typically see groups for just an hour. However, if the goal of a museum experience is to foster students' thinking, museum educators must make hard choices regarding which objects students will visit in that hour.

In the Guggenheim rotunda, Ben Moore gathers his group of second graders on the floor, asking them to look up. He gives them time to take in what they see before he asks, "What does that (the roof and skylight) remind you of?" As students respond, Ben probes their answers: "Which part reminds you of a spider web?" Once several responses have been shared, he pushes further: "What other things does this remind you of?" By taking ten minutes at the beginning of his tour to give students time to think, probing for elaboration and clarification, and then asking for a second round of thinking, Ben has helped students to go beyond easy answers. He has also sent the message that their thinking is valued and worth the time it takes. In addition, Ben has established the groundwork that will later help students make connections between Vasily Kandinsky's *Composition 8* and the museum architecture.

These careful choices of where to spend time and how to build on students' experiences are mirrored in Dara Cohen's tour at MoMA, in which she planned just four stops to examine five different works of art, and in Lokki Chan's tour focusing on just two tenement rooms. Nonetheless, all of these tours did at times still feel rushed to me, a common experience of museumgoers.[21] In part, this was a factor of the logistics of moving a group of students through the spaces. However, a contributing factor was also the brief time educators waited after asking questions and the short amount of time students were given to look closely at an artwork or a setting before being asked to discuss it. The long silence that is necessary for sustained looking, and the potential for discipline problems and outbursts, often makes educators uncomfortable. In addition, knowing what one still has to cover during the tour creates pressure. Nevertheless, if one of the dispositions educators want to develop in students is that of looking closely and noticing, educators must model it and provide time for it.

Modeling

Lev Vygotsky wrote, "children grow into the intellectual life of those around them."[22] To the extent this is true, models of thinking and learning are important for students to see as they strive to take on new ways of thinking and being in the world. When learning is focused solely on facts, skills, and knowledge, students are given a very impoverished model of what it means to learn.[23] So, too, when museum visits are limited to showing off the collection, students' opportunities to see how adults are engaged by and with museums are curtailed. Studies have shown that observing models of how

adults actually use and interact with museum objects positively affects children's own interactions.[24] Consequently, museum educators might look for ways to discuss or model their own thinking, learning, and use of museums by sharing what personally engages them, how their thinking and appreciation of items in the collection has changed over time, or how they use the museum to advance their own learning. In doing so, the learning and thinking students do becomes situated in a community of practice, that of active museumgoers.[25]

For example, at the Guggenheim, Ben's group sits in front of Vincent Van Gogh's *Landscape in the Snow*. Students share their observations, noticing the person and dog, the village in the background, the trail in the snow, and the grass. Ben draws the group's attention to the colors of the painting and the way Van Gogh used unusual colors in his representation of grass. Then Ben adds, "I'm a painter. I have a studio and I paint with oils. When I paint, I sometimes look at paintings like Vincent Van Gogh's. Why do you think I would do that?" The students are instantly engaged with the painting and with Ben. "To get inspiration," a student calls out. "To study how he does it," suggests another. "Maybe you want to be like him, and you like how he paints," offers a third. By sharing something of his own use of museums, Ben invites students to see themselves and the museum in a new way: not just as a collection of art, but as a potential personal resource.

Routines and Structures

Routines are patterns of behavior that structure our activity. The most familiar routines museum educators use are behavioral routines that establish movement, order, physical interactions with the collection, and speech throughout the museum. Lokki tells students that it's important not to touch the walls of the tenement. Dara tells students to remain together when moving between galleries. Ben reminds students to talk in normal voices. Routines for thinking and learning are useful in much the same way. They too provide a structure for interacting with a collection, mentally rather than physically. As enculturating tools, thinking routines can help foster students' long-term appreciation and understanding of how to look at objects and get the most out of museum visits. For example, thinking routines can help museum educators structure close observation and interpretation within the tour. As mentioned under the discussion of time, by starting each discussion of an object with time for close looking, a simple but effective routine

can be established. Beginning discussions with a Think-Pair-Share routine in which students turn to a partner and share their ideas allows everyone in the group to participate while using less time than whole group discussions.[26]

The following interchange between Dara Cohen and the seventh and eighth graders on her tour shows a nascent thinking routine that could be formalized. As students look at Pablo Picasso's *Girl Before the Mirror*, Dara opens the discussion by asking, "Does anyone want to take a guess at what's going on in this painting?" A student offers a broad overview of the work: "It is a lady looking in a mirror." Dara follows up by asking the group, "What else do you notice?" The discussion deepens:

Student:	The woman's face is split. Maybe it is showing that you have two sides to your personality.
Dara:	Okay, where are you looking? *[Student points]*
Dara:	Anyone else want to elaborate on that idea?
Student:	Maybe she is looking into herself in the mirror.
Dara:	Okay. Since you brought up that idea, let's talk about how these two sides are different.
Student:	One is light and one is dark.
Dara:	Say more.
Student:	The two faces. It looks like night and day. One has a sun on it.
Student:	One is more abstract
Dara:	Abstract. What makes you say that? Can you explain?
Student:	There are more shapes on the darker side.

Dara's questioning guides students through interpretation with elaboration by asking for evidence and details, a pattern that will be familiar to many museum educators. A similar pattern of questioning used by the Queensland University of Technology Museums Collaborative in their multi-visit museum program focuses discussion in four stages: description, analysis, interpretation, and judgment.[27] These patterns of questioning can become routines if they are made explicit and used repeatedly so that they become familiar to the students as well as the educator. By making instructional patterns explicit, the process of looking at and thinking about art is demystified and becomes something that students can do independently.

The Visual Thinking Strategies (VTS) developed by Housen and Yenawine are an example of a thinking routine with which many museum educators

are familiar.[28] By using a set of well-crafted questions—"What's going on in this picture?" "What makes you say that?" and "What more can you find?"—students come to know what to expect and begin to think in terms of automatically providing evidence. This particular routine focuses on the learner's own interpretation and analysis without the addition of information from the tour guide, a stance that is not without controversy in museum education.[29] However, routines do not necessarily need to be content free, nor do they need to be used exclusively and without flexibility. For example, many classroom teachers have found that asking "What makes you say that?" is a useful routine in many situations and can easily be used in the moment to push students to provide evidence.[30]

Two routines that offer the chance to move beyond the viewers' own interpretations are See-Think-Wonder (STW) and Connect-Extend-Challenge (CEC).[31] In STW, students are asked: What do you see? What do you think about that? What does it cause you to wonder? Students' wonderings provide an avenue for museum educators to offer information and background that directly addresses students' interests. In the CEC routine, learners are asked to make connections with what they already know or have learned, identify how their learning has been extended in new directions by the learning experience, and to consider challenges, puzzles, and questions that arise from the experience. Here the challenges and puzzles offer another entry point for providing information. CEC might be used at the outset of a tour to provide a loose template for the group learning during the tour.

By having a set of core questions or a simple structure to guide students' looking, museum educators establish a pattern of interacting with the collection that students can use throughout their visit. More importantly, it provides a way of interacting with a museum's collection that students can carry with them into future learning situations. Although routines might work best in multi-visit programs, I believe they can also play a role in shorter visits.

Language

Language is a crucial mediator of our experiences. Vygotsky wrote, "The child begins to perceive the world not only through its eyes but also through its speech. And later it is not just seeing but acting that becomes informed by words."[32] Museums help students not only to develop their perception but also to develop their language for talking about that perception.[33] Ben Moore

does just this for his second graders looking at Robert Delaunay's *Eiffel Tower* when he says, "I want to teach you a new word, 'abstract.' . . . Abstract is the opposite of realistic. What does that mean?" Although the second graders struggle to define these words, the vocabulary itself remains important because it allows students to crystallize ideas by attaching them to words. Within their tour they will have many opportunities to see examples of abstract art and internalize its qualities. This crystallization of ideas and words applies to thinking as well. Students need a language to both guide and talk about their thinking: interpretation, analysis, comparison, theory, conjecture, wondering, and so on. Ellin Keene sums up this connection when she says, "before students can control a process they must be able to name it."[34]

To the extent that students are stepping into disciplinary worlds when they enter museums (e.g., art, science, history, anthropology), learning to navigate and feel connected to those worlds depends on language for describing and discussing what one sees.[35] The focus of the second graders' tour at the Guggenheim was architecture. As such, it provided an opportunity for Ben to use the language of architecture. Throughout the tour, as well as in the subsequent studio experience, the language of architecture and construction (the building was undergoing a restoration) was used. The words rotunda, scaffolding, form, site, gallery, and so on were woven in naturally.

In addition to using thinking and disciplinary language, educators need to encourage student conversations. Gaea Leinhardt and Kevin Crowley have put forth the idea of museum learning as "conversational elaboration" in which greater detail, connections, and explanations emerge in the group talk of visitors as a result of their experience in the museum.[36] Dara Cohen nurtures this conversational process throughout her tour, moving from whole group discussion to pairs and, finally, when the group reaches the last work of art on the tour, Mona Hatoum's *+ and –*, she has students form small groups to discuss the work and how it conveys identity. Attending to these conversations and how they deepen over the course of the time can provide educators with a deeper understanding and appreciation of students' learning.[37]

Environment

There is an extensive literature on how the design and layout of museums and exhibitions influence museumgoers' experiences, from the pattern of

their movement to their allocation of time to their interactions with objects.[38] In addition, research on visitors' experiences in museums has increasingly stressed the overlap between the personal, social, and physical contexts in shaping that experience.[39] While this research informs the larger enterprise of the museum, it is the decisions museum educators make within the galleries about how to use the space, how to facilitate interactions with the collection and the group, and how to document students' thinking that contribute to the culture of thinking being created on the tour.

When Ben Moore asks his group of second graders to sit in a circle in the middle of the Guggenheim rotunda he is signaling that the experience will be interactive; by sitting down with the students he joins them as a learner; by leaning back and gazing up he is modeling ways of interacting with the environment; and by bringing photographs that he can show he is extending what is on view in the environment in much the same way a classroom teacher does when he or she decides what to put up on the classroom walls.

In trying to document students' thinking and make it visible in a way that facilitates the ongoing use of ideas, museum educators are at a disadvantage when compared to classroom teachers, who can easily create their own displays of student work or capture conversations on white boards. Although modest, Dara Cohen's solution for documenting students' ideas about identity is, nonetheless, effective. After students define identity as "how you define yourself," Dara asks, "What are some of the major characteristics or ways we define ourselves?" Students begin shouting out attributes: character, culture, looks, style, personality, your environment, language, beliefs, and ideals. Dara records each of these comments in red on a large sheet of white construction paper she has brought for this purpose. Before putting the paper back into her bag and starting the tour, she holds it up and tells students, "We'll come back to this and see what other things we can add after we've looked at some of the art today." Later, when looking at Picasso's, *Girl Before the Mirror,* she pulls the list out, displays it, and asks, "Which of our characteristics about identity would you say are internal and which external?" By documenting students' thinking and keeping it visible as needed throughout the tour, Dara is creating her own moveable classroom environment.

Relationships and Interactions

Learning is fundamentally a social endeavor. As such, the relationships and interactions between group leaders and learners and among groups of

learners are a crucial component of any learning situation. In museums, collaborative learning has been shown to enhance the meaning students make of objects in museums.[40] Jane Marie Litwak calls on museums to capitalize on visitors' social agendas to facilitate shared interpretive experiences, while Ben Gammon specifically identifies the lack of social interactions as a barrier to learning in museums.[41] However, the short time of school tours makes developing relationships difficult. Rapport must quickly be established between guides and students through simple gestures like using nametags so that students can be called by name, and talking with students informally while walking between galleries. Pre-trip visits to the classroom by museum educators can give a jump-start to building a relationship, helping students to see the museum and the museum educator as less foreign.[42]

Perhaps most important, though, is showing a genuine interest in students' ideas and thoughts during the tour. When interest is shown by following up on responses and probing them for clarification, students begin to give more elaborate and thoughtful responses. During Ben Moore's discussion of the meaning of "abstract," a student comments on the Delaunay painting, "If you turn it, it is still a picture." Ben remarks, "That's a very interesting comment," and asks him to elaborate. Instantly, students are turning their heads and looking at the picture from the side or upside down as the student explains that the picture has a sense of motion to it that allows viewing from different angles. Ben advances the discussion by directing students to a nearby painting by Braque. "I have a book with this painting in it, but it is upside down in the book. It's hard to tell. Do you think it is good to hang it this way?" This unplanned interchange in which Ben picks up on a student comment shows his own interest in it, invites others to elaborate, and further legitimizes it for students by recalling his own related experience, is a good example of how educators create a community of learners through social interactions and exchanges that link students and adults in reciprocal discussions.

CONCLUSION

In this article, I have stressed the interrelationship between cognition, affect, physical environment, and social context, placing the teaching of thinking in a sociocultural context rather than a didactic one. I have also argued that the effective teaching of thinking must attend to the development of thinking dispositions and not merely skills. Good thinking depends on spotting occasions for thinking in the wild and having the inclination to pursue them,

not just possessing the ability. It is my hope that by considering school group tours as opportunities to enculturate students into ways of thinking in and about museums, museum educators might think in new ways about the experience they create for students. While museum visits are often short, they nonetheless provide the opportunity to create a culture of thinking by leveraging the eight cultural forces in such a way that they promote and support thinking.

NOTES

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