



Visual Understanding in Education
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Theory into Practice: The Visual Thinking Strategies

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Since entering the profession of museum education in the late 1960s, I have focused on a single goal: enabling people to connect to art in ways that are meaningful, lasting, and pleasurable to them. This has been more a mission than a job for me. I believe having art in our lives is necessary for us to be fully human; art has played an essential role in diverse cultures for as long as we know. Until recently, that is.

Modern life has relegated art to a marginal, often privileged position, to such a degree that most people encounter it infrequently. In turn, most no longer have the skills to “use” art in the ways it has so consistently enriched humanity for millennia: communicating ideas and information critical for people to participate in their society, and often providing passage to the spiritual and connection to their gods. Through most of time, art has been central to culture, even when it was not called art by the people making and presenting it. Now we collect and exhibit a vast array of objects and media under the rubrics of the arts, storing and presenting them in institutions of various sorts, separate from the arenas of everyday or ritual activity. This reflects the construction of contemporary society as distinct from those of past times—our culture today is global, mobile, and eclectic, for example. The way we live now does not, however, diminish our need for art and its power to make us think and feel, and to engage with and reflect on ideas and phenomena that take us beyond the ordinary.

Museums are the primary sites for interacting with visual art in most communities. Unfortunately, they are usually special, rarefied environments. I have nevertheless seen them as places to redress the disconnection of people from art. Through all manners of teaching, writing and activities, I have observed that I could engage people with diverse art, capturing and keeping their attention. But certain questions kept nagging at me, leaving me feeling frustrated at the end of many days. Did I enable my audience: did I help museum visitors operate independently and move toward self-sufficient viewing? Did I increase their capacities to find meaning in a range of art without my guidance? Or did I simply share my own insights and information, directing their experience through tools available to me because of my expertise but still remote

from them? Was I modeling behaviors that could not be adopted by those with less experience?

Despite my professional doubts, I was offended in the mid 1980s when the Getty Trust published “The Uncertain Profession,” a report that called museum educators failures. The report asserted that, as a group, we were not producing concerted, coherent programming for museum visitors, and unlike our curatorial colleagues who were acknowledged participants in the study and recording of art history, we could not be considered serious players in education. The message of the report stung because it carried a ring of truth. To rectify this inadequacy, its authors recommended that we establish the teaching of art history as the operating premise of museum education but this struck me as illogical. My experience indicated that the language and concepts of art history were beyond the interests and capacities of the people I taught—and at the time, I was working at New York’s Museum of Modern Art. Even there, with as sophisticated an audience as any museum attracts, the education staff recognized the need to address more basic stages of visual literacy. Nevertheless, we struggled: if art history was not the discipline most relevant to our audiences, then what was?

Knowing of my dilemma, Howard Gardner (author of a theory of multiple intelligence) introduced me to Abigail Housen who ultimately taught me to appreciate theory through her characteristically indirect style. Up to that point, I was very much a pragmatist and a doer. I thought I could attain full understanding through reflecting upon my experience and talking to other practitioners. As I interacted with Abigail, however, I not only came to understand *her* theory but also to see how theory—carefully constructed ways of explaining phenomena and behaviors—can in general provide a rationale for decision-making more interesting and valid than those based on experience and instinct alone.

As I see it, theories of education come in several forms, among them:

- those that result from a long period of thought, observation, reading, and experience—in other words, applied intelligence;

- those that begin with a hypothesis which is then proved by experimentation or by other methods of collecting data; and
- those that develop from open-ended research that eventually reveals a phenomenon in the absence of an a priori hypothesis.

All of these methods have yielded prominent theories, several of which are widely used today. For example, John Dewey, a primary voice in all discussions of sound education, based his resonant advice in vast experience and astute observation and thinking about how successful learning occurs. His writing exemplifies the first type of theory, as does that of Howard Gardner. Judith Rich Harris is a theorist of the second type. She is currently known for her theory that peers exert greater influence than parents on the shaping of young people's characters and personalities; she describes a "eureka" moment of insight into why adolescents behave as they do. She then spent four years combing the relevant literature to find credible data to prove her point. Jean Piagetⁱ is an exemplar of the last type of theorist—he did not know what he would find when he started minutely observing infant behavior, but he ultimately posited a developmental theory built on empirical data; Abigail Housenⁱⁱ has worked in a similar manner.

Intrigued as I became by all sorts of theories of cognition, the last type—theory that emerged from empirical data—proved to be most cogent and prescriptive. Particularly, I found that carefully collected and controlled data on how, why, and when the growth of intelligence and understanding occurs provides a practical blueprint for how, what, and when to teach. What follows is a brief discussion of various empirically-derived theories as they informed my practice as a museum educator.

Piaget's observations led him to conclude that, through interactions with people and their environment, children slowly evolve a series of ways of understanding what they perceive. These "ways" occur in stages which are different from each other although coherent within themselves, and each persists for a period of time. Each stage is dominated by a pattern of thinking and operating, and each is a step in a sequential arc, all equally important. Piaget

observed that growth is limited by age—mental as well as physical maturation takes time—and development is not automatic. One stage will gradually supplant an earlier one when, exposed to new experience and information, the existing stage no longer serves the child's expanding needs.

Lev Vygotskyⁱⁱⁱ, a Russian contemporary of Piaget, unfortunately died in the midst of much productive work, but, like Piaget, he observed through experiment the nature of specific cognitive operations—precisely what behaviors occur and what factors appear to cause and influence them. Both scientists cited evidence that learning results from interactions with the environment, including other people. Understanding is never passive, but involves active construction through exploration and reflection. Both were convinced by their observations that learning only occurs when learners are ready; people internalize, remember and use only what makes sense to them. They rarely make leaps in understanding, but rather move ahead in small increments, incorporating only what they are on the verge of understanding. An intervention, or even an activity like cramming for a test, can temporarily influence behavior, but effective learning—the development of operations that enable an individual continuously to make meaning of new circumstances and appropriately use new information—is a slow process. It requires both motivation and a readiness to incorporate such operations into existing patterns and knowledge.

Working with others to apply these concepts, I began to consider the difference between what these theories suggested—teaching based on what people can naturally do at a given moment—and what I had been doing up until that time—teaching based on modeling behaviors which learners could use only when I was there to help them. As I stated earlier, my goal had always been to help people become self-sufficient viewers, motivated and empowered to find meaning in a wide variety of art without my help. I finally understood why I had so often felt unsatisfied: my audience was not ready for what I tried to teach. They could take it in but not use it themselves.

Given what various theorists, including Housen (whose work I shall turn to momentarily), were explaining, I decided that I wanted only to employ teaching strategies that were appropriate given the existing capacities of those I

taught. I would operate on two levels: first, I would help learners apply their current meaning making systems (their existing and intrinsic abilities and concerns) to their encounters with art; second, I would help them grow by challenging them with reasonable tasks, not pushing them beyond what they could, with some effort, do on their own. The challenges I would present would change as learners grew. The education world refers to this approach as “student centered.”

Certain specifics might be helpful here. Piaget’s discussion of early developmental stages made clear one reason why the presentation of historical fact—a mainstay of museum teaching—so often proved ineffectual in engaging people before early adolescence. At that early age, viewers make sense of what they encounter concretely as they maneuver through the world. Abstract concepts, such as the concept of time, are of little interest and meaning. History is a vague notion; pre-adolescents often lump all periods of history together as “the olden times.” It is thus illogical to assume that they can understand art as a window into faraway times and places or that information about art, its makers and its contexts provides useful or memorable insight. The problem is not that they reject it, nor that they cannot take it in. It is simply that their grasp of such data is incomplete and often leads to misunderstanding and misuse. Schooling makes the same mistake in asking children to learn history from a factual basis—names, dates, events. Young people can indeed make a kind of sense of the objects left to us by history, but it is from examining them concretely for whatever visual information they can connect to concrete experience from their own lives.

Piaget similarly rationalized for me children’s relationship to abstraction. Given that theirs is a world made meaningful by what is concrete and tangible, when children make art that looks abstract, it is by default; to them, their work is representational of actual experience. When they look at abstract art, they search for things and phenomena that they know, not ideas, sensations or feelings, unless we make them address the latter. The kind of thinking that motivates these aspects of abstract expression is beyond children’s comprehension. This does not mean that they cannot enjoy abstract art, just that they cannot do so

with an understanding of what its makers intend to communicate. Since I want young people to find meaning in the works in terms appropriate to each work itself, I have concluded that I would rather concentrate my scant teaching time with them examining work where it is natural for them to see the way the artists did.

Vygotsky suggested yet another principle, through his studies of speech. He became very interested in how language and the formulation of ideas are connected. In brief, Vygotsky concluded that much thought is actually dependent on speech; thought is born in language, he said. One way to understand this concept is to suggest that the learner talks him or herself into understanding. Grappling with a phenomenon or issue verbally leads to understanding—an underlying principle of most psychotherapy. Vygotsky's theory—and importantly, his evidence—convinced me to make greater use of verbalizing: get people to talk about art, actively constructing meaning from what they see. In this way, they will explore the art they are viewing and, at the same time, practice a process that develops both thinking patterns and concepts related to viewing more generally.

Another line of inquiry led Vygotsky to conclude that much learning takes place with the aid of more capable peers. When someone is attempting to solve a problem or master a task for which he or she is ready, another person can share information or demonstrate behavior that assists the learner in a lasting way. This clearly justifies mentor/learner relationships, but I found Vygotsky's choice of language interesting. "More capable" indicates a greater command of some operations and skills, but the term "peer" suggests equality. This pairing of terms implies that the disparity between the learner and the one more capable need not be great. People of only slightly differing capacities can significantly help each other.

This theory dovetails with the observation of my own that most engaging and expansive discussions result from the following two circumstances: when all participants bring equivalent though different knowledge and experience to the table, and when all feel equally welcome to and capable of participating. These principles are at work when research or creative teams solve problems: a group

of peers combines its expertise and interacts until it arrives at solutions. As parents and teachers know, children learn a great deal of what they know and solve innumerable challenges through interactions with their peers. Most educational reform agendas include “cooperative learning” opportunities to capitalize on this. Both independence and significant growth are stimulated by structured interactions among children who think differently and have different experiences and information to share.

Linking these two theories—the importance of peer interaction and the advantage of teaching viewing through verbalizing—suggested grouping peers together for discussions of works of art. In other words, it can be persuasively argued that structured discussion among peers of art that intrigues them will produce observations, insights and exchanges that spur not only thorough, rigorous examinations of works of art but also significant skill development in individuals.

With this motivation, Housen’s data became most helpful, because she focuses on aesthetic thinking. Like Piaget, Housen’s research has resulted in a stage theory. Her model specifically describes the evolution of thinking about works of art—something that happens only as result of interaction with art over time. Unlike Piaget, she studied a range of ages well into adulthood; significant and extended exposure to art objects occurs only after childhood. Housen’s method involves a non-directive interview as subjects look at different kinds of art. Subjects have ranged not only in age and but also in expertise. The theory that has emerged from the study of thousands of interviews describes five stages of development, each one characterized by a distinctive pattern of thinking.

Listening to the voices she collected, I recognized different kinds of people I encountered in the museum, both children and adults. She shed most light on those I saw most frequently, understood the least, and wanted most to affect: beginner viewers—those for whom the skills to find meaning in a range of art are not yet in place, those lacking in functional, flexible “visual literacy.”

Housen and I decided to collaborate, and together we developed a system for teaching based on her data called the Visual Thinking Strategies (VTS). Given the desire to teach people at their current level of operations, and challenge them

appropriately, her very detailed and nuanced descriptions of beginner's aesthetic cognition told us not only where to begin but also where to direct our efforts to help them grow. To date, the VTS addresses the two early stages of development, getting viewers to the point where art history and other kinds of information becomes their preoccupation.

Always wanting to keep the process active, the VTS centers on questioning. The teacher asks open-ended questions at the start and adds more directive and probing ones later. The later questions consider the artist's intentions as well as formal concerns, such as space, the first formal issue to surface as such in the interviews collected over many years of studying the effects of the VTS. The teacher acts as facilitator throughout the process, encouraging participation by all and making it clear that all responses are valuable. Facilitation stresses that expansive, reflective observation and thought are the desired behaviors, not drawing definitive, right-or-wrong conclusions. The teacher links student's comments, making their interactions obvious and showing how listening and responding to others enriches the conversation and thus the examination of the work.

We decided to concentrate initial lessons on works in which the artist has intentionally depicted narratives. Our reasoning relates to Housen's discoveries about the primary pattern of thinking employed by people in the earliest viewing stage—finding stories of one sort or another in the visual evidence of a work of art. This decision enables viewers to do what they naturally want to do. It also respects the artist's intentions; we want people to be operating in a way that makes sense on many levels. To further legitimize the instincts of the beginner, we open up the viewing process with the question, "What is going on in this picture?" The wording gives tacit approval of story-finding, playing to the beginner's strength. But it also gently suggests that effort be expended, addressing a tendency among beginners to stop their viewing without probing. Both image selection and viewing strategy are thus informed by theory, and designed to satisfy natural urges and to challenge behavior in a productive way. I follow this with a few more examples of how we have used theory to create practice.

Another of Housen's findings reveals that idiosyncrasy is typical of beginning viewers. They tend to understand what they see according to very personal viewpoints that do not necessarily correspond to what others see or what artists intend. Later viewing, as described by Housen, moves away from this initial subjectivity. In teaching beginners, therefore, we want to allow for the personal to emerge, but also to encourage movement toward greater awareness of the objective reality of an image. Again, this information has implications for both image selection and strategy. In terms of images, we first select works full of familiar objects, people, and interactions, so that, as they begin the VTS, viewers describe what they see in their own ways, yet are likely to make observations that others share. In terms of strategy, we group beginning viewers with others and ask them to share observations and opinions which also helps foster openness and growth away from self-involvement. As an additional step, designed to encourage both deductive reasoning and grounding of observations in the work, we ask viewers to provide the visual evidence to support their opinions. The sharing of observations to back up interpretations makes it clear to all why viewers think as they do, no matter how idiosyncratic.

Housen's observations also reveal that beginning viewing is often cursory. At first, the viewer observes a few salient details, then stops. The VTS therefore asks for extended examination with an often-repeated question, "What more can you find?" The impetus for this question is again evidence in Housen's data: extended viewing and increasing numbers of observations are habits that characteristically appear in the next stage. To underscore in a subtle manner this desired behavior, the teacher also continuously points to all observations made, no matter if they have been noticed before. This keeps all eyes focused on the image, and it also calls attention to details seen by one but possibly missed by others. The notion of building interpretations of meaning based on a large number of observations becomes common practice.

Many of the challenges that encourage beginning viewers to develop present themselves through image selection rather than strategy. Early growth comes from additional and ongoing exposure to art, letting the challenges emerge from visual encounter rather than increasingly complex assignments. In

the VTS, images presented gradually increase in complexity. For example, they contain either more information or notably less on which to base interpretation; subjects are less familiar, more complicated; more is implied and less concretely depicted; there are more contradictions; there is more symbolism or more levels of meaning; the works are more ambiguous; they are more taxing stylistically or more specialized in technique; they are narrower in their focus; or they are more culturally distant. In the same way that those teaching children to read carefully select and sequence texts to intrigue and appropriately challenge students, images should progress from the familiar, accessible and simple to the more complex, keeping pace step by step with development. Following Housen's data, especially the micro-changes that emerge as we continue to research all curriculum decisions, we supply images to correspond to new abilities and interests of viewers. Strategies change similarly, though at a slower pace than the image choices.

I actually hope this does not sound simple. Over ten years of research, practice and revision have gone into the development of the VTS which is now used in a number of museums and schools, both in the United States and elsewhere. Part of the challenge for me was unlearning earlier teaching practices. I had to detach myself from old habits and learn a new paradigm, one that put people ahead of art, one that focused on enabling not just engaging people. I had to step back from what I thought people should learn, to create a teaching/learning method that would help them realize their full potential at any given moment. Various theorists, especially Housen, helped me do this.

ⁱ Two Piaget texts are particularly useful in thinking through his implications for the field of museum education:

Piaget, Jean. *The Language and Thought of the Child*. New York: Harcourt Brace, 1926.

Singer, Dorothy G. and Revenson, Tracey A. *A Piaget Primer, How a Child Thinks*. Revised edition. New York: A Plume book, by The Penguin Group, 1996.

ⁱⁱ In addition to a paper included in this compendium, there are several Housen texts that are useful:

DeSantis, Karin and Abigail Housen. *A Brief Guide to Developmental Theory and Aesthetic Development*. New York: Visual Understanding in Education, 1997.

Housen, Abigail. *The Eye of the Beholder: Measuring Aesthetic Development*. Ph.D. Dissertation: Harvard Graduate School of Education, 1983.

Housen, Abigail. "Three Methods for Understanding Museum Audiences." Museum Studies Journal. Vol. 2, #4, pp. 41-49. Spring-Summer, 1987.

Housen, Abigail. "Validating a Measure of Aesthetic Development for Museums and Schools." ILVS (International Laboratory for Visitor Studies) Review, Vol. 2, #2, pp. 213-237. 1992.

Housen, Abigail, Karin DeSantis and Linda Duke. "Report to the Museum of Fine Arts, Boston on Thinking Through Art Program." New York: Visual Understanding in Education, 1997.

ⁱⁱⁱ Useful texts by Vygotsky include the following:

Vygotsky, Lev. *Thought and Language*. Cambridge, MA: MIT Press, 1962.

Vygotsky, Lev. *Mind in Society*. Cambridge, MA: Harvard University Press, 1978.