



Visual Understanding in Education  
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## **Eye of the Beholder: Research, Theory and Practice**

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## **Introduction**

Folk wisdom, poetic declarations, and developments in post-Cartesian philosophy have led to that familiar claim of modern aesthetics that beauty is in some sense "in the eye of the beholder." This focus on the viewer and on the interaction between the object and our perception of it has generated difficult questions that the field of aesthetics is still struggling with today. In this paper I will present an overview of my work over the last twenty-five years, investigations which have attempted to shed light on the following questions. First, "What is the nature of the aesthetic response?" Second, "How can one best study or measure this response?" And third, "Can studying the aesthetic response help us teach or develop it more effectively?"

My research into these challenging questions initially involved an attempt to capture and measure the aesthetic response in the visual arts. Interviews with viewers of all ages as well as diverse backgrounds then led to the crucial task of devising new educational approaches for developing that response. This journey has been one of iterating research, theory and practice. This process has been exciting, and has led to results I could not have anticipated when I began.

## **My Starting Assumptions**

Philosophers have engaged in discussions throughout the centuries about how we experience and understand works of art, how we derive meaning from these works. It is often noted that "how one looks shapes what one sees" but this truism of aesthetics is seldom applied to the field of aesthetics itself. How we look at the questions will surely influence what conclusions we reach. So I shall begin by revealing the presuppositions of my research, the underlying principles that have shaped the way I have approached the questions of aesthetics. My assumptions were originally naive and intuitive; only much later did I come to understand them in a more formal way. Still, my youthful intuitions have shaped my explorations of aesthetic understanding, and informed my discoveries. They have given my work a different point of departure, a different vantage point.

My first assumption has been that the naive or beginner viewer provides an important clue—perhaps the essential key—to understanding aesthetic experience. This insight stems from the fact that as a young girl I derived such enormous enjoyment from viewing art that I had difficulty understanding that many people did not share this passion. Obviously all experienced viewers begin as naive and unsophisticated ones. Therefore the question I continued to ask was: What transpires for some naive viewers that causes them to be so disengaged, so cut off from this most universal form of human expression? Thus my primary interest in understanding the aesthetic experience of the naive viewer differs sharply from the usual fascination with grasping what experts see and then teaching the process of expert viewing to others.

Secondly, I was interested in concrete experience rather than abstract generalizations. Descriptions of aesthetic understanding are generally encoded in one of three ways. Some writers focus on such abstractions as style, harmony, balance, perspective, intentionality, or iconography—the categories of the expert with a trained eye, such as the art historian.<sup>1</sup> Others stress concepts such as empathy, expressiveness, experience, catharsis, contemplation—the categories of the aesthetic philosopher—or brightness, figure ground, personal preference—the categories of the psychologist.<sup>2</sup> The third group discusses recreational hobbies and habits, biographical histories, demographic identities, cultural histories, or educational learning styles—the categories of the researcher and educational theorist.<sup>3</sup>

As a young researcher I concluded that these abstract labels were insufficient. They did not reveal very much, as the concepts clearly meant different things to different people, and meant very little, if anything, to the naive viewer. Further, they did not distinguish beginner from expert viewers. Thinkers often wrote as if the categories were exclusive, while I realized that many categories could co-exist and overlap. By contrast, I wanted to start from the ground up, identifying and understanding the concrete words and ideas of naïve viewers that reflect their experience of art.

Thirdly, I was fascinated by differences in aesthetic experience, in both the macro and micro sense. At the micro level, I was interested in the moment-to-

moment process by which viewers make sense of a work of art. While learning math in school I was struck by teachers who had me keep track of how I generated the answer, not just the answer that I arrived at. They felt that the thinking process revealed more than the conclusion derived. My approach to understanding aesthetic experience has therefore been to ask, “How does one build meaning? What are the moment-to-moment thoughts in the aesthetic experience?”

At the macro level there are numerous reasons for the variability of aesthetic response. Differences can mean different typologies or modalities indicating that one’s way of understanding or operating may differ day to day. Differences, however, are likely to imply developmental differences which entail using an evolving sequence of mental frames for understanding art. In this case, one’s way of understanding has a degree of stability: it is the same day to day. At the same time, clearly one’s way of understanding can evolve and change. For example, in drawing, it is obvious that a child’s natural way of drawing is different from an expert’s. Many studies in the United States report how young children make tadpole-like drawings, day in and day out, until they move on, developing a new way to construct a drawing, and never make a tadpole again. In a similar fashion, the paradigms (the interpretive frameworks) of interest to experts will differ. The art historical emphasis on style, period, material, and provenance are not the mental frameworks of interest to the naïve viewer. Since no beginner does what an expert does, the only way to get to a more advanced level seems to lie on building upon what the beginner does naturally. These beginner mental frames will last until at a certain point for some, they are replaced with another frame for building understanding.

Fourth, is my assumption that a Constructivist and developmental approach is the best guide to aesthetic appreciation. Basically this is an assumption that good teaching is more than imparting pre-digested information which is not relevant to the student. Constructivist teaching allows the student’s mental frame to evolve; student learning occurs when the learner is actively making new constructions, building new kinds of meaning in new kinds of ways. For example, in trying to interpret an image, the learner may begin to realize

that all the marks on the page cohere and together form a meaning that makes sense. With this insight and with time, the learner realizes that this coherence could not have happened by chance; someone planned this connectivity. Once discovered, intentionality becomes a new basis for interpreting a work of art. To discover how to look at things in a new way, the learner must build on his own experience, rather than trying to appropriate the experts' way of seeing.<sup>4</sup>

Finally, I wanted to test my intuitive theories and increase my understanding through the use of empirical research methods. The aesthetic response must first be studied in its natural form, as undisturbed as possible. I decided to intervene as little as possible. Rather than altering what I was attempting to observe with forms and questionnaires, the challenge is to capture the aesthetic response, in so far as possible, in its natural state, as it occurs, unguided and unperturbed. In my studies I decided that the researcher should abandon predetermined notions of what to expect in the aesthetic response. Better to capture raw samples of the aesthetic response in motion, and then hunt for patterns within those responses. One can then be rigorous using good research designs and statistical analysis to validate any pattern that is found.<sup>5</sup>

In summary, my vantage point for examining the aesthetic response involves the following:

- Focus on the novice viewer;
- Look at concrete, moment-to-moment thoughts;
- Search for frames of understanding that may unfold in a sequence;
- Expect learners to learn through active experience;
- Tread lightly in research, trying to disrupt as little as possible, directly capturing the aesthetic response, keeping an open mind about patterns found, but being tough minded in reaching conclusions and attempting to apply data.

### **What is the Aesthetic Response and Can it Be Measured?**

The principal method I use collects data through a non-directive, stream-of-consciousness interview. The stream-of-consciousness technique is really not

an interview, but a direct sampling of the aesthetic response in process. The “interviewer” asks only one question: “What is going on here?” and then fades away as the respondent begins a stream-of-consciousness. The only other intervention made by the “interviewer” is to ask the question, “Is there anything else?” Thus, the process is really a monologue, a thinking-out-loud as the viewer struggles to make sense of the art object. Participants are asked simply to talk about anything they see as they look at a reproduction of a work of art, to say whatever comes into their minds. There are no directed questions, or other prompts to influence the viewer’s process, minimizing researcher biases. Called the Aesthetic Development Interview, or ADI, the open-ended interview method provides a window into a person's thinking processes. Typical sessions average from about 10 to 20 minutes.

Each monologue is transcribed and analyzed by breaking it into thought units, short phrases often only a few words long, which are then examined by comparing them to domains and sub-categories in the Aesthetic Development Coding Manual. The coding manual is a compendium of all thoughts collected from the original sample of interviews, designed to uncover a comprehensive set of Stages from novice to expert. Monologues of participants from the United States, Russia, Kazakhstan and Lithuania have been of varying age, socio-economic status, ethnicity, and educational level.

The coding manual uses two types of distinctions: “thought Domains” that identify broad classes of thoughts and “Categories” that trace qualitative distinctions within those classes. First, we look at the type of remark the viewer has made; s/he may say that “the ball is red”, “the red ball reminds me of a lollipop”, “I like the color red” or “the red is brighter here than here.” Upon analysis it becomes clear that these remarks are fundamentally different from one another even though each remark is about color. I think of these differences in terms of the viewer's mental actions and/or emotional responses which can be distilled into Categories or Domains. In our example above, the Domains are observations, associations, preferences, and comparisons.

Within a single Domain the remarks are further subdivided and then coded. For instance, within the Preference Domain, a viewer who says, "I like

the painting because purple is my favorite color,” is offering a different kind of justification for his/her preference than the viewer who says, “I like the painting because purple is an interesting unifying color.” While we classify first in terms of major domains (such as observations, preferences, associations, evaluations, or comparisons, etc), it is the second level refinements, which fully illustrate the viewer’s reasoning about a work of art. Here, the specific distinctions in an individual’s thinking are the primary lens into aesthetic experience.

Each monologue is examined by one or more trained coders whose manual-based coding score (called an ogive score) is compared to the score assigned by a trained clinical reader. The final score is assigned to a subject when the two independent scores match. We have consistently seen significant inter-rater reliability in these two types of scoring. Validity is supported by the fact that we arrive at the same stage score through two distinct analytic methods.

Using this common framework it has been possible to give a Stage score to the different thought patterns of our subjects from beginner to experienced viewers.

My initial question was whether there were distinct differences in aesthetic response. If there were differences, how did they relate to the supplemental data collected? We referred to various kinds of external variables to corroborate that Stage distinctions were meaningful. For example, we were able to show that when subjects were grouped by Stage, variables in their demographic, art and museum profiles were patterned by Stage. This seemed to offer additional support for thinking that the Aesthetic Stages are a developmental progression of aesthetic understanding.

## **Aesthetic Stages**

Out of this method have emerged five Stages of viewers, which represent different ways of making sense about a work of art.<sup>6</sup> At each Stage, a viewer responds to a work of art in a uniquely characteristic way. That is, the way in which a beginner viewer makes sense about a work of art differs dramatically from that of even a slightly more experienced viewer. While a beginner viewer

will talk about what the painting reminds him/her of, a somewhat more experienced viewer will discuss how the painting was made. The following is a brief summary of the five Aesthetic Stages, interspersed with the voices of viewers looking at Pablo Picasso's "Girl Before a Mirror."

At **Stage I, Accountive** viewers are storytellers. Using their senses and personal associations, they make concrete observations about the work of art that are woven into a narrative. Looking at Picasso's "Girl Before the Mirror," a viewer says, "... Here it is orange, here it is black, here it is blue. Here this girl (points to the right) has some stripes. And there is something, some circle, some green." Here, judgments are based on what the viewers know and like. Emotions color the comments, as the viewers seem to enter the work of art and become part of an unfolding drama. From another viewer: "... I see...two women here... They...are looking at each other...looks like one of the women has a...misfortune. They are upset with something... Well, that one woman, she's ill with something...planet." And, another remarks: "...um, looks like there's a lady right here... looks like she is a man right here and looks like they might be living in a castle, they might be rich or something, and they're all dressed up, they just got back from a party..."

At **Stage II, Constructive** viewers set about building a framework for looking at works of art, using the most logical and accessible tools: their own perceptions; their knowledge of the natural world; and the values of their social, moral and conventional world. A viewer comments: "...A very odd picture. Human faces... There are only faces and no bodies..." If the work does not look the way it is "supposed to"—if craft, skill, technique, hard work, utility, function are not evident—if, e.g., the tree is orange instead of brown, or if the subject seems inappropriate—if themes of motherhood have been transposed into wars about sexuality—then, these viewers judge the work "weird," lacking and of no value. As emotions begin to go underground, this viewer begins to distance himself from the work of art and, simultaneously, develop an interest in the artist's intentions. As the viewer in the following example notes: "...perhaps, it's a mirror... or something...but it's standing as if in some frame...which is decorated with several layers of paint. On that frame...or in that mirror there reflects some man's face

but it's not a full face... One can see the lips, the mouth, chin and half of the face... If you look at this man's face...it's the man from some other planet..."

**At Stage III, Classifying** viewers adopt the analytical and critical stance of the art historian. They want to identify the work as to place, school, style, time and provenance. "I'm looking at, I guess it's a reproduction of a painting that seems to be abstract. I think it's by Picasso..." They decode the surface of the canvas for clues, using their library of facts and figures which they are ready and eager to expand upon. This viewer believes that properly categorized, the work of art's meaning and message can be explained and rationalized. "...um when I look at the painting it seems to have... it seems to have, the artist divides the painting into four, actually, you can also look at it in halves, and it seems to be two different views of a woman of a female form, it, it's somewhat a mirror image but yet seems to be different poses, it shows internal and external..."

**At Stage IV, Interpretive** viewers seek a personal encounter with a work of art. Exploring the canvas, letting the meaning of the work slowly unfold, they appreciate the subtleties of line and shape and color. Now, critical skills are put in the service of feelings and intuitions, as these viewers let the meaning of the work—its symbols—emerge. "...Well, it looks like a symbolic image of the self learning of the person, she seems to discover something, possibly frighten him there, because this image, it is a kind of unusual and incomprehensible..." Each new encounter with a work of art presents a chance for new comparisons, insights, and experiences. Knowing that the work of art's identity and value are subject to re-interpretation, these viewers see their own processes subject to chance and change. "...different colors, represented on this picture—they are likely to represent different experiences of her. Well, the red color—is probably some aggressions, and blue is on the contrary some feeling of rest... it's tension between these two colors... Here...changes, as she discovers something in herself... To my mind the point of this picture is some certain change, some new view, maybe several views of a person towards himself, maybe. Perhaps, there is quite another, absolutely different meaning of this all. Perhaps there is a woman that painted some picture and while painting this picture she gradually learned about herself..."

**At Stage V, Re-Creative viewers, having established a long history of viewing and reflecting about works of art, now “willingly suspend disbelief.”** *“...the first time that I saw this painting...whenever I first look at this, my eyes sort of go to the middle of the compositions for some strange reason... possibly because it’s the one where it’s the least clear about what’s going on...”* **A familiar painting is like an old friend who is known intimately, yet full of surprise, deserving attention on a daily level but also existing on a more elevated plane.** *“...I forget the exact date of the, I don’t know if the daughter’s been born yet... you’re sort of wondering how she feels being part of Picasso’s painting...”* **And at another moment:** *“...my eye...sort of goes...down to her body and then over because of the complementary form... the kind of seed like fig... fecundity imagery in the body...”* **As in all important friendships, time is a key ingredient, allowing Stage V viewers to know the biography of the work—it’s time, its history, its questions, its travels, its intricacies.** *“...I think it would be interesting to...sit and watch Picasso do that because...yo have this fantasy that it was this...this...very continuous, easy, sure, spontaneous...creation of all these forms that one flows right to the other...I wonder...if it was that easy for him... it always seemed to me that he knew exactly what he was doing. It would be interesting to...have been there...”* **Drawing on their own history with the work, in particular, and with viewing in general, these viewers combine a more personal contemplation with one which more broadly encompasses universal concerns. Here, memory infuses the landscape of the painting, intricately combining the personal and the universal.** *“...when you sort of think about what all of this, the mirror image, is supposed to be... this is not playing that moment, it’s not reflecting anything literally but it certainly seems like it’s reflecting a much more emotional state rather than a physical reality of what the glass would actually reflect...”* **And then:** *“...it just sort of really dawned on me that this sort of blue in the reflecting mirror looks like he’s making a kind of Madonna image out of it, married to the altar or maybe it’s sort of like you know the subsidiary of the woman, the wife, the mother, then, sort of the idealized Catholic version of...the wife and the mother in the mirror. I never thought of that before...”*

### **The Voices of Different Stages**

The challenge of my research has been to elicit the natural voice of each Stage, to listen in an open-minded way to these voices and to discover the natural patterns and changes in voice that emerge with development. In this ‘thinking out loud’ process viewers struggle to make sense of a work of art, revealing many naturally occurring differences.

If we go back again to our Stage I viewer, we hear her continue: “...um, looks like there’s a lady right here. Looks like she is hugging a man right here and looks like they might be living in a castle, they might be rich or something, and they’re all dressed up, they just got back from a party it looks like and this guy like colored his hair or something. And it looks like this right here looks like a sword or something that carries stuff in, and um, there, this is some of his clothes down here. Lots of windows behind there, this is the woman’s body, little bubbles, and looks like she may be pregnant, um. Looks like you can’t see the rest of her arm. This looks like a snake, um, that striped stuff looks like it could be around her neck...her face looks like an Indian...”

Note what is going on here, how the mind of this viewer operating. The viewer starts with a random concrete observation: “looks like a lady...” The viewer then immediately interprets the other figure, not as an image in the mirror, but as another persona, a man, who is being hugged. The viewer does not look more closely to see if this really is another person, or if it makes sense that it is a man. From this immediate interpretation, arrived at without any more deliberation and reflection, the viewer launches into storytelling. The image becomes the basis for constructing a narrative, one that has a rather inexact connection to the painting, rooted in the first quick interpretation. This story becomes the experience the viewer is having. It flows forward in an easy and unselfconscious way, spanning from one imaginative association, which is quite idiosyncratic, to another (castles, swords, etc).

Now let’s turn to the voice of the viewer at Stage 2: “...All right I see what looks kind of like a pretty image. I see a face that has, like different dimensions in it. Half looks normal and the other half...looks pretty much um looks in pain, actually. Confusing picture, has a lot of different things in it. Not really a realistic picture. Lot of different colors, um has...don’t have actual, like really normal bodies, they look drawn pretty uhh...sloppily. And it looks like a mirror on the right side that the girl’s looking into...”

*But the reflection she's look at is different. And that's about it...I'm looking at the mirror because she's like, it's like a mirror somehow, but the reflection is different, she's looking at herself... I'm looking at the background, it's like, I don't get it... I don't get it at all [pause]...*"

On the surface, this voice may sound similar to the first in that it, too, is clearly that of a beginner viewer who knows little about the formal properties or language of painting. But a close analysis of each thought (what we call thought units), reveals many differences from Stage I. To begin with, this viewer makes many observations, and they are not simple ones. *"I see a face that has, like different dimensions in it. Half looks normal and the other half...looks pretty much um looks in pain actually..."* These remarks reflect interest in how things are made, how well they are done and whether the rendering fits into the viewer's familiar culture or conventions—which could be their language, art, history, religion or customs. *"...Not really a realistic picture. Lot of different colors, um they don't have actual, like really normal bodies, they look drawn pretty, uh sloppily..."* The observations are linked in a more systematic and detailed way. *"...And it looks like a mirror on the right side that the girl's looking into. But the reflection she's looks at is different..."* Gone are the personal or idiosyncratic stories. This viewer is beginning to be aware of artist intentionality, scanning for hints on how the painting is made, and an effort to come to terms with the reason a painting was made in a particular way. *"...I'm looking at the background, it's like, I don't get it. I don't get it at all..."*

What has shifted between these Stages? We see a movement:

- from storytelling to describing more of the picture's details;
- from personal or idiosyncratic associations to one's own cultural or conventional associations;
- from a few and random observations to more and more linked observations;
- from simple observations to detailed, more complex observations; from simple observations to observations that refer to art making and art viewing;

- from fanciful, personal imagination (egocentric ideas) to an increase in observations with a concrete point of reference which others can see, and refer to;
- from an approach of looking once and imagining to an approach of looking many times, looking more carefully, and puzzling.

These changes may seem arbitrary and trivial. But they are not arbitrary, for we see them repeated in thousands of samples from different parts of the world. To the contrary, I believe that these shifts are natural, and predictable, revealing something fundamental about the human aesthetic response, its mental origins and developmental trajectory. These shifts are extremely important. I believe that they represent the shift from what might be called an imaginatively resourceful and autonomous form of aesthetic response, to a “pre-analytic” mode in which the viewer becomes both capable of and interested in decoding the artist’s intentionality, technique and construction, as well as classifying the work of art within her own culture.

In a sense, this shift (and others that beginner viewers make) are the grand entrance to the world of aesthetics. But the higher Stages of expert viewing can only be arrived at by passing through these necessary initial states, just as crawling naturally precedes walking, which comes before running. To speak metaphorically, if we value the ability and the option of running, we must understand and value crawling and the transition to walking.

There is a critical way in which this metaphor breaks down because nearly all humans learn to run, at early ages and with no explicit instructional help. But not all people evolve a form of aesthetic response like experts, even if they have been instructed. In our studies of aesthetic response in museums and schools, we find the predominance of adult viewers at or near Stage II.

### **Fostering Aesthetic Development**

Clearly we cannot take aesthetic progression for granted. For that reason, about 10 years ago my colleagues and I began studies to determine if one could

assist the development of aesthetic thinking, especially with beginner viewers. We began working with museums and their neighboring schools, conducting programs in the various diverse settings mentioned earlier (such as Boston, Minneapolis, San Antonio, St Petersburg, Russia and Vilnius, Lithuania).

Our initial challenge was, of course, to determine how one might support aesthetic growth. Clearly this is not a matter of studying what experts do, and then instructing children to do the same. This approach to education is a very old one, with a long history of failure. It is reminiscent of 19<sup>th</sup> century American paintings of children who are depicted as adults, only a lot smaller. If the top-down educational approach of instructing beginners to act like experts really worked, everyone would be an expert, and at a very early age too.

Our belief was that the voices we were hearing in the “streams of consciousness” were the product of an active attempt by the viewer to construct meaning. Viewers at each Stage are going about it in a different way, building from what they already know or discovered or constructed. This is an active process of trying things out and discovering new ways to construct and build meaning. Their approach to learning mirrored the Constructivist principal about teaching—that students cannot effectively internalize “pre-packaged” answers. Learners must go beyond the role of a passive receiver of information and experience understandings firsthand. Meanings are discovered and constructed for oneself.

### **Creating a Curriculum**

How does one create, or support, first-hand experience and discovery? We begin by setting up an environment of group discovery. This means providing both a stimulus (an art object or reproduction of one), a way to focus attention (namely, carefully crafted questions) and a process (of dialogue) that keeps attention focused in a desired way and allows a course of puzzling and construction to unfold. In this way the learner gets a lot of “time on task,” plenty of opportunity to try to build meaning one way and then another. He also gets

exposure to the thinking of peers, which can accelerate shifts in his own thinking.<sup>7</sup>

Our curriculum is defined by a sequence of questions posed in conjunction with a series of carefully selected images of art works. The role of the teacher is to pose these open-ended questions, encourage the group members to think out loud, encourage every participant to speak and allow repeated opportunity to share what is seen. The teacher, through asking a sequence of developmentally based questions, keeps the discussion focused on the art work but does not impart information, paraphrases student comments but does not evaluate responses, links diverse remarks, and insures that all are given a chance to speak. Discussions last for 45 minutes to one hour. Teachers are trained in this teaching method.

There are various components of this curriculum and method, but I shall focus only on the goal of devising questions that can promote growth. Our understanding of the mentality of each Stage—what is done naturally and the shifts that occur in moving to the next Stage—gave us a rich set of guidelines for developing the precisely right questions, posed in the optimal sequence. After years of consideration, testing, puzzling, revising and tuning, our curriculum may look deceptively simple and either autocratic or arbitrary. The questions and their sequencing may appear transparently easy, effortless to master and to carry out. It takes some deliberate decoding to uncover the logic and interlocking reasons why the questions we have crafted work.

Let us take a look at our two beginning questions which are intended to produce growth from Stage I to II. What is their “inner logic?” The questions are:

**What is going on here?**

**What do you see that makes you say that?**

Both students and teachers agree that these are good questions. All students can respond to them, but, more importantly, we find in school and after school that all do. In other words, these questions get all students talking, even those who are usually silent. We repeatedly encounter teachers who are amazed that several students who never before spoke up in class had a lot to say, and other students listened to them.

“*What is going on here?*” What makes this a good question? First of all, this question is designed to fit the frame of mind of Stage I. This first question asks students to do something in which they are naturally expert: storytelling. By inviting students to do the thing we know they can already do very well, we draw them into the discussion and get them engaged. Everyone participates because for, perhaps, the first time everyone has something to say. When students remain silent, often it is because they are not sure that they know *the* right answer, which the teacher and some very smart classmates know. Students keep silent to avoid being evaluated; they want to avoid making mistakes and looking foolish. But with art there is no single right answer. There are generally many “right” or valid answers. The key is to bring out and make room for many diverse responses—in our case, here, a Stage I response—and validate that response as a legitimate experience. We do not compare and evaluate the aesthetic response of Stage I relative to other Stages. Instead, we try to stimulate looking at works of art, promote articulation and the sharing of ideas, and, validate that experience in a non-evaluative environment. The first question allows the students to be active and successful in decoding the work of art. It is inclusive and invites—in fact, tempts—participation in the group process.

The second question, “*What do you see that makes you say that?*”, pulls toward Stage II thinking. One of the key traits in Stage I is that the viewer quickly and randomly scans the art work, makes an association, and immediately begins storytelling. In that process the viewer may not spend time or pay close attention to the work of art but rather to some mental picture emerging in his imagination. What the Stage I viewer does not do frequently—and the Stage II viewer does—is to take a second look. Looking again, looking more closely, is what the second question asks for. But it also asks subtly for the viewer to supply evidence to back up his answer to the first question. “*What do you see that makes you say that?*” asks the viewer to identify particular parts of the image and relate that back to his first answer. Now, the viewers must support what they say. Brief random looking—at the big and the bright—gives way to looking that is longer and harder, at smaller and subtler aspects of the painting. In supporting hypotheses, the viewer is

encouraged to speculate and perhaps to interpret. He must revise and edit his ideas. New observations, peer comments, and the teacher's facilitation all assist in this process. The only "evaluation" that the teacher brings is to gently asks the students to complete the answer to the question, in this case, to provide evidence for his interpretation of the image. At the same time the request is not daunting; the students are asked to ground their remarks in what they see in front of them, not what they learned two weeks ago.

Thus, the student has time to practice thinking in a new way that is not entirely customary, yet not out of reach. By looking again, reconstructing, and developing new hypotheses, the student learns that the aesthetic experience is open-ended, subject to multiple interpretations. He experiences that it is alright to make mistakes, that the more you look the more you see, that it is alright to change your mind, and that it is enjoyable to engage in this kind of problem-solving. All of this, of course, is good inquiry behavior. (Teachers often report—and we actually measure—how inquiry around art spills over in useful ways into other subjects.) In fact, we have come to believe that discussions of art may be one of the most fertile grounds for teaching critical thinking skills precisely because there is no one right answer. It can be used, therefore, to engage all students, at all ages, in fundamentally meaningful ways.

Obviously we could have asked other kinds of questions, such as, "What can you tell me about the time or place of this painting?" But the pivotal reason for selecting the questions we did is that they are based on our research findings about what viewers at the relevant Stage do and say in response to works of art. To the Stage I viewer, the question, "What is this about?" really means, "What is the story here?" While the first two questions can be used for any level of viewer, they are especially effective for beginner viewers, because they are designed with beginner viewers in mind. (But, in fact, these practices are often part of the repertoire of expert viewers). These questions engage a beginner's interest, support his/her needs, and encourages her on to the next level of issues that she would naturally be working on. This is why it is crucial to ask the question about a work's meaning in a way that encourages viewers to tell the painting's story.

The combination of a question that allows one to say what comes naturally and one that supports a new kind of behavior produces a rich discussion. It allows practice time for focused, detailed viewing, while oscillating back into behavior that is sure to be easy and successful. The second question requires reflection, looking again, and thinking again. It allows viewers to discover that it is possible to change one's mind in interpreting a work. Viewers experience that there is no one right way to view a work. With each new interpretation students suddenly experience the validity of another way to make sense of what they are looking at. Suddenly, almost magically, they see the work in a different way that seems as valid as their original perception. Time and again we have witnessed how this process makes students increasingly interested in what others will say. It creates a kind of motivated listening because they become fascinated with the personal experience of seeing the whole gestalt change again in front of their eyes because of some comment from another. They become fascinated by discovering every last clue in the work, every new thing to notice, and every new kind of interpretation that can be generated, as if they are engaged in a vivid detective game of finding clues. They start spontaneously to build upon each other's ideas: Johnny supplying new evidence for Sally's interpretation.

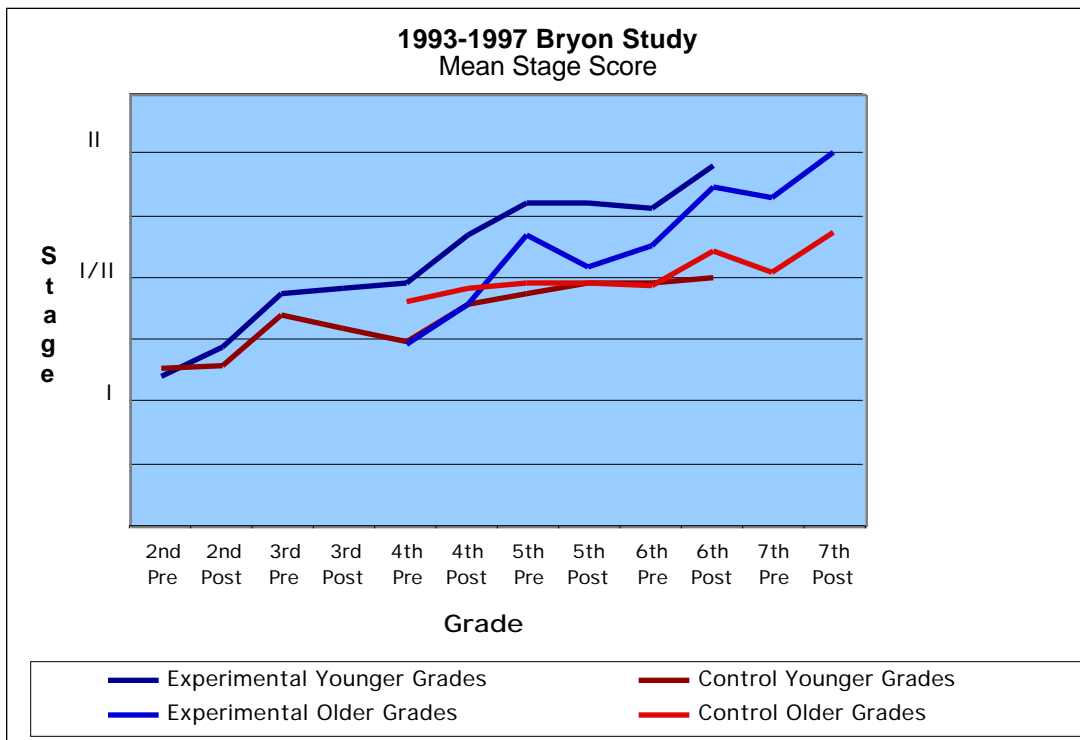
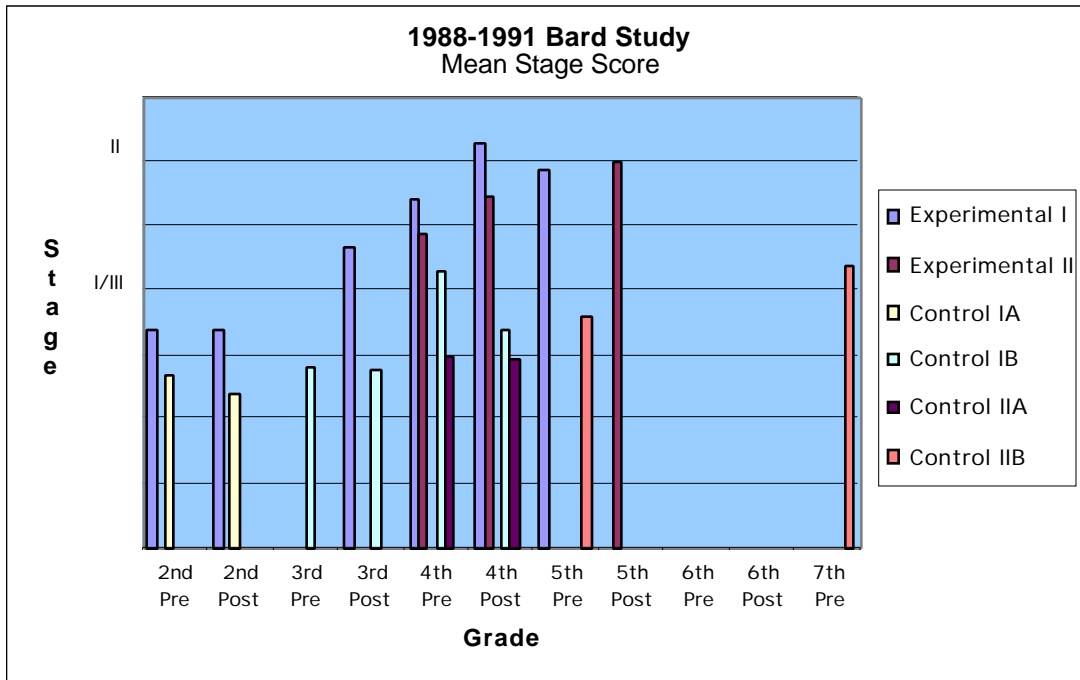
With carefully crafted questions, and images selected to lend themselves to the required observations, discussions of this kind are easy to start and surprisingly hard to cut off. We have numerous instances of children as young as second graders talking about one slide for as long as one hour. The teacher, appearing non-intrusive and non-evaluative, keeps the discussion focused by repeating the questions, paraphrasing and linking students' remarks, inviting all to participate, and knowing when to move on. Since teachers are often accustomed to being the source of information, the ones who do the talking and evaluates student responses, directly or implicitly, this method can often be very difficult for them.

On a superficial level, our approach resembles Socrates' method of asking leading questions. The famous dialectical approach, illustrated in the oft-quoted passage from *Meno*, involves Socrates eliciting an understanding of geometric

principles from an ignorant slave boy. In this passage, Socrates is asking a kind of “leading question,” helping the slave boy move from one insight to the next in order to derive the correct conclusion. But our approach is different in a significant respect. We are not leading the learner towards a specific conclusion in a step-by-step sequence. Rather, our questions ask a learner to pay attention to a different way of discovering or constructing meaning. We are modeling for the learner a new way to approach or gain understanding, a new framework for observing and experiencing all kinds of objects. The learner gets there by repeated practice in making different kinds of connections, in developing distinct habits of mind. Because the new connections or habits are based on that learner’s own questions and abilities, the word “new” is partially misleading. As with the Socratic method, the conclusions are new only in the sense that the methods are not explicitly or consciously known or used by the learner. But the resulting insights in aesthetic practice differ from the “truths” Socrates sought in that the experience produced may be genuinely novel and that we are not seeking an ultimate correct response.

### **Research Findings**

These paradigms for theory and practice led to several controlled longitudinal studies in diverse cultural settings, confirming that the method can accelerate aesthetic development. Longitudinal data from two samples, the Bard Study and the Byron Study, show growth in the experimental groups from Stage I to Stage II.



Since the late 1970's, we have collected a large number of ADI transcripts, totalling more than 6,000, drawn from 15 cultures. Several studies in this database collected longitudinal data bi-annually for 4 years or more. In fact, we are still tracking the students in Byron, Minnesota. Most of the data come from elementary age children and their teachers. The samples are roughly evenly split between experimentals (Bard experimentals were exposed to a precursor of the VTS curriculum while Byron was exposed to a curriculum of aesthetic question, the VTS) and controls. From our studies, we have created a number of findings, subject to all of the various means of evaluation of most psychological tests. While there is not time in this talk to detail about the findings, I should say that such a body of research does exist.<sup>8</sup> Let me merely mention some of the headlines of the patterns we have observed:

- There is extensive evidence of the validity and reliability of the aesthetic measure.
- The types of thought units that appear in samples of aesthetic thinking do not appear to be different in various American and Eastern European populations.
- Thus far no significant gender differences in Aesthetic Stage have been observed.
- Aesthetic thinking is largely a stable trait, remaining the same over many years. Change in Stage happens slowly, at best over many months, but usually over years.
- Non-college age students have been found to be seldom above Stage II in any culture we have worked in.
- It is possible for adults to show beginner Stage thinking that is indistinguishable from that of children.
- Most adults interviewed seldom score above Stage II. General education teachers in our studies are most often at Stages that are roughly similar to their students.

- In measuring the aesthetic response of children, their teachers, museum professionals and hundreds of adults, the single most important factor predicting level of aesthetic development appears to be the amount of time they have spent viewing and reflecting about art.
- Viewers at beginning Stages will misconstrue ideas that are commonly understood by more experienced viewers, and will unknowingly misstate ideas when asked to repeat them.
- Children who have been taught a variety of “expert-derived facts or information” seldom display any of this information in their unstructured samples of aesthetic thinking (ADI’s).
- It is possible to identify micro-changes (categories of thought that shift significantly) in a few months, even if Stage change has not occurred.
- Some Stage transitions appear to be more difficult to achieve than others. The shift to Stage III may be one such transition.
- An educational method based on posing the aesthetic questions (in the Visual Thinking Strategies discussed above) has produced significant Stage change acceleration relative to controls in every study we have conducted in a variety of settings. That is, in our studies of beginner viewer aesthetic development, the average gain of experimental students is about 1/2 Stage per academic year—a progressive gain that does not appear in the control students; experimental students are able to observe works of art closely, find, revise, support and share interpretations and speculations based on their observations of the art work.
- Using the VTS method, school teachers in controlled studies can reliably produce significant Stage change in their students, despite the fact that the teachers are at essentially the same aesthetic level as their students.

## **Conclusion**

Looking at the aesthetic response from a non-traditional vantage point, the open-ended research method, tapping stream-of-consciousness responses to art allowed me to identify and measure Aesthetic Stages in a new way. Thus, I

began to build a developmental theory of aesthetics, one that documents and tracks different kinds of aesthetic responses that appear to unfold in a predictable sequence.

My theory and measuring affected my practice. Early research studies conducted for museums and schools about the effectiveness of their educational programs for their audiences uncovered several disturbing findings. Museum audiences were predominantly at Stages that the museums do not know how to address; their educational programs appeared to be ineffective, at least in terms of producing aesthetic growth. We began to design a new kind of educational practice, one that stimulated such growth. Our research into the various different Stages guided this practice directly, as we have seen. In turn, the practice of the educational groups validated the theory about the Stages. Finally, our research method was able to validate the effectiveness of the educational method in controlled experiments in several cultures.

At first exposure, it might seem that this type of interaction between research, theory and practice entails confounding, circular reasoning in which one finds only what one seeks and measures. But I do not believe that there has been confounding logic. In fact, at each step in this intellectual journey, new results surprised us, rather than confirmed pre-existing suspicions. Some observers have contended that the VTS method is guilty of “teaching to the test.” This is hardly tenable since we do not teach (in the normal sense of presenting information) but merely ask open-ended questions. Similarly, we do not test (in the normal sense of asking specific content questions), but rather sample stream-of-consciousness behavior. The fact that research, theory and practice have so often produced consistent findings, I believe, supports the validity of the patterns we are observing.

Moving between research, theory and practice enriches the understanding of the aesthetic response. It has revealed how it is more than one response; rather, it is a chain of responses. It has shown that we cannot take for granted that development will occur for many people, especially those from backgrounds in which they are not exposed to art and to thinking about art. It has shown that attempting to teach beginners to think like experts is a futile

endeavor. It has shown that it is unwise to ignore the reality of beginner aesthetic responses. It has shown that beginners can and will develop if they are given relevant and provocative stimulation in the form of art works to respond to, questions to ponder, and space to share experiences. In short, aesthetic growth will naturally and predictably appear if we create the conditions that foster the aesthetic experience.

It seems as if the world of art is given more than most to the worship of experts. Curators and art historians are the high priests of the art world, and they seldom create an environment in which others can readily enter. There is a destructive bias in the field of art education which promotes the distillation of the judgments of experts which we must then attempt to teach beginners. We become accustomed to speaking over the heads of most of our audience who turn out to be primarily beginning viewers, with the least exposure and expertise to draw on. In order to develop the aesthetic response at the critical levels—where we all begin—we must learn to change our thinking about teaching and learning.

Our research thus confirms what the philosopher Alfred North Whitehead observed. Ideally constructed education takes into account a student's growing mind, corresponding "...to the natural cravings of the pupil at this stage of progress..." Whitehead warns us that "no one simple formula" or "...one train of thought will...suit all groups..." Our question-based method insures that this wisdom is applied. Lessons accommodate what students are able to learn, noting the "for all [the teachers'] stimulation and guidance the creative impulse towards growth comes from within, and is intensely characteristic of the individual."<sup>9</sup>

By posing developmentally appropriate questions, by asking viewers to look again in a new and relevant way, we are insuring that the learner generates his own learning, not by parroting what the teacher says (no use in parroting a question is there?) but by using the framework provided by the teacher to actively construct something new, something different, something that becomes his own—namely a new way to puzzle over the meaning of a work of art.

Teaching in this way is not about dispensing facts and modeling expert performance. It is about facilitating the aesthetic response as it naturally occurs at

each level of development and creating an environment to experience art viewing in a new and richer way. If we as educators or theorists or researchers provide that environment, all my experience suggests that the learner will surprise us with her energy, appetite and capacity to grow. For this most human of responses, the response to art is yearning for a place to express itself. And we must insure that in a technology-oriented, global society we understand this response well enough to nourish it in all.

### Endnotes

1. Good examples include Benedetto Croce, Giorgio Vasari, Heinrich Woelfflin, Bernard Berenson, Arnold Hauser, Jacob Burckhardt, Alfred Barr, Kenneth Clark, Paul Sachs, Clement Greenberg, and Lucy Lippard.
2. The writings on aesthetics of John Dewey, Carl Jung, Leo Tolstoy, Nelson Goodman, Suzanne Langer, and Arthur Danto develop these concepts. Rudolf Arnheim, John Kennedy, David Berlyne, James Gibson, and Ernst Gombrich are representative of these psychological views.
3. For good examples see the work of Betty Lark-Horowitz, David Perkins and Howard Gardner.
4. For reference to theorists concerned with aesthetic, cognitive, developmental and/or constructivist theory see the writings of J.M. Baldwin, Rudolf Arnheim, L.S. Vygotsky, J. Piaget, D. Kuhn, E. Duckworth Catherine Twomey Fosnot, Jerome Bruner, and J. Dewey.
5. The work of Jane Loevinger has been instrumental in the development and design of my research methodologies. Specifically, see Loevinger, Jane, R. Wessler, and C. Redmore. Measuring Ego Development, Vol. I, San Francisco: Jossey-Bass, 1970. Measuring Ego Development, Vol. II, San Francisco: Jossey-Bass, 1970. Loevinger, Jane. Ego Development: Conceptions and Theories. San Francisco: Jossey-Bass, 1976. "The Meaning and Measuring of Ego Development." In the American Psychologist, 1966, pp. 195-206. "Construct Validity of the Sentence Completion Test of Ego Development," in Applied Psychological Measurement, 3, 1979, pp. 281-311.)
6. Other descriptions of Aesthetic Development can be found in the work of the following: J. M. Baldwin who many consider the father of epistemology and wrote seminal work in the development of aesthetic thought, Baldwin, James Mark. Thought and Things: A Study of the Development and Meaning of Thought or Generic Logic, (Volumes III and IV). New York: Arno Press, 1975; Brunner, Cornelia. Unpublished doctoral dissertation, Columbia University, 1975. "Aesthetic Judgment: Criteria Used to Evaluate Representational Art at Different Ages." a thoughtful description of aesthetic judgments; J.R. Clayton, University of Utah, 1974. "An Investigation into the Developmental Trends in Aesthetics: A Study of Qualitative Similarities and Differences in Young."; Coffey, A.W. Dissertation Abstracts International, 29, (12b), 1968. Unpublished Doctoral Dissertation, University of Massachusetts. "A Developmental Study of Aesthetic Preferences for Realistic and Nonobjective Paintings.", Murphy, Dennis Thomas. Unpublished doctoral dissertation, Hofstra University, 1973. "A Developmental Study of the Criteria Used by Children to Justify Their Affective Response to Arts Experiences." and M. Parsons. How We Understand Art: A Cognitive Developmental Account of Aesthetic Experience, Cambridge University Press, 1987 as well as various earlier articles on aesthetic development.
7. The curriculum that we created is called the Visual Thinking Strategies (VTS). For information consult the bibliography on our website: <http://www.vue.org>
8. For a full listing of our studies please consult the VUE Directory of Studies found on our website: <http://www.vue.org>
9. See Chapters I, III, VII in Alfred North Whitehead. The Aims of Education and Other Essays. New York: The Free Press, 1929.