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Palo Alto Spring. Thomas E. Hill, 1878 Photo: Anirudh Rao

Developing an Eye for Detail with Art and Science

By Michael Stone

On the first day of class, Paula Trepman is skeptical.

Before her is Thomas E. Hill's 1878 painting *Palo Alto Spring*, depicting a get-together of the affluent Stanford family on its farm, the future site of the university bearing the family's name.

First, Trepman and other students in the class silently observe the painting.

Then, while encouraged not to jump to conclusions about the painting's meaning, they're led in a discussion. How many figures are in the work? What is the relationship of the figures to each other? What is surprising?

Surely this exercise would be fine for an arts course, but the reason for Trepman's skepticism: She's a first-year med student at Stanford.

“I was hesitant about the application to medicine,” the 23-year-old recalled. “However, I found that the observation skills we developed over the course were critical.”

The course is called the Art of Observation: Enhancing Clinical Skills through Visual Analysis, and the objective is linking art and medicine to improve med students’ ability to dig deep into observations about a patient.

Trepman was one of 15 students who took the course, taught for the first time this year in Stanford’s winter quarter. Students met four times for two hours, with the first hour devoted to observing and discussing art, such as *Palo Alto Spring*, and the second to a clinical correlate that focused on a specific theme in medicine and related it back to the art.

The four themes were:

Narrative, which included introducing the students to paintings, then showing them clinical images and asking them to describe what they’re seeing.

Body in motion, which explored Eadweard Muybridge’s 19th-century photos of frame-by-frame movements, followed by an orthopedic surgeon showing computer imaging of hands in motion.

Skin and tone, with a dermatologist leading the clinical correlate. “Dermatology is one of the more obvious fields that students could choose to go into that have these visual-analysis skills,” said Audrey Shafer, MD, a Stanford medical professor who directs the course with Sam Rodriguez, MD.

And death, which included a pathologist for the clinical correlate. For this final session, students offered many observations and thorough oral analyses. “So that was a fairly lively session, despite the topic of death,” Shafer said.

Grading students in these four sessions came down to participation, Shafer noted. While a few in the class did have clinical experience, most were preclinical, in their first or second year of medical school.

“I think what these exposures do provide for the students,” Shafer said, “is some context to what they’ll be seeing later on in the clinics and giving them a toolset for working with that.”

Finding meaning in art

Finding practical bridges for art and medical education is nothing new.

Harvard (“Training the Eye”), Drexel (“Training the Physician’s Eye”), Cornell (“Art of Observation”), Nova Southeastern (“Art Observation”) — more medical programs seem to be latching onto the idea, launching with slight alternations to title and method but all sticking to the fundamental concepts.

It’s an attempt to fill the gap that a 2008 study in the *Journal of General Internal Medicine* called “evidence of inadequate physical examination skills among medical students.”

Stanford’s course spawned after a doctoral student in art history and a medical student — both Yale graduates who didn’t meet until Stanford — came to Shafer with the idea, based on Yale’s Observational Skills Workshop. Not a full class, the workshop is a one-time session mandatory for first-year med students at Yale, and the art observation is done at the university’s Center for British Art.

Begun in 1998, the workshop was found to have boosted med students’ skills in catching details by almost 10 percent, according to a 2001 study in the *Journal of the American Medical Association*.

The 2008 *Journal of General Internal Medicine* study presents much more dramatic climbs. Based on Harvard’s Training the Eye class, it found that participating students made 38 percent more patient observations than their peers.

Such findings are part of a relatively small but growing stack of literature in support of the art training for medical students.

The most recent study, published in April in the *Journal of Nursing Education* under the title “One Thousand Words: Evaluating an Interdisciplinary Art Education Program,” concluded that, after studying art, its test sample of medical students used more words to describe art as well as patient images and formed a higher number of observations from both.

Also, the students became more likely to leave emotion out of their observations and focus more on the medical aspects.

The study’s findings were based on nursing and medical students in the University of Texas’ Art Rounds class, which seeks to improve their visual thinking strategies (VTS) through San Antonio’s McNay Art Museum. While the students observe art, VTS has museum educators repeating three basic questions: “What do you see? What do you see that makes you think that? What more do you see?”

At one point, the course transitions to real human models, who have fake markings on their skin resembling various conditions for the students to examine and identify. While visual clues are the main and most obvious focus of arts training in medicine, UT's class uniquely incorporates audio by having a music teacher instruct on paying close attention to sounds and how music affects sight perception.

A second year for Stanford

"There are other medical schools that offer observation skills training at their local university art museum … so that is not that unusual," Shafer said of the wave of med-art training across the country.

But, she added, what makes the Art of Observation course at Stanford special — besides it being the university's first such class — is that five students from its art doctoral program, not museum docents, guide the artistic study.

"And that, I think, in terms of peer education from totally different realms, is what's unusual about our course," Shafer said. "So we were really excited by that."

Shafer considers the inaugural Art of Observation a success, especially with students' only quasi-complaint being that there weren't enough sessions, and she expects it to return next winter.

For Trepman, once questioning the art-medicine juncture, the benefits did make themselves evident.

Perhaps the first-year med student had some help from her background in finding the connection — an artist grandmother, an art history class in undergraduate school and hobbies in painting, drawing and sculpting. Or perhaps it was just relating the art to the science.

"As I just completed my lung block and we were introduced to chest X-rays," she said, "I found that the attention to detail required for visual analysis was critical to pick up radiographic findings."

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