

## Literature and the Arts in Medical Education

---

Johanna Shapiro, PhD  
Feature Editor

*Editor's Note:* In this column, teachers who are currently using literary and artistic materials as part of their curricula will briefly summarize specific works, delineate their purposes and goals in using these media, describe their audience and teaching strategies, discuss their methods of evaluation, and speculate about the impact of these teaching tools on learners (and teachers).

Submissions should be three to five double-spaced pages with a minimum of references. Send your submissions to me at University of California, Irvine, Department of Family Medicine, 101 City Drive South, Building 200, Room 512, Route 81, Orange, CA 92868-3298. 949-824-3748. Fax: 714-456-7984. jfshapir@uci.edu.

### Visual Thinking Strategies: A New Role for Art in Medical Education

Jo Marie Reilly, MD; Jeffrey Ring, PhD; Linda Duke

The use of humanities in medical education has become increasingly popular. Art, dramatic plays, poetry, narrative essays, and music all strive to facilitate awareness of the art of medicine, increasing compassion and empathy.<sup>1</sup> Medical schools and residency programs increasingly incorporate various works from the humanities as tools to stimulate dialogue, discussion, and awareness among their medical learners, particularly in areas of doctoring, the experience of illness, and end-of-life issues.<sup>2,3</sup> One humanities teaching strategy that has been less often incorporated in medical education, however, is the communal viewing of artistic paintings as a modality to increase sen-

sitivity, team building, and collaboration amongst medical trainees.

There are no documented programs of art observation training in medical residencies and few such programs for medical students. Dolev and colleagues<sup>4</sup> demonstrated improved visual diagnostic skills in medical students who participated in art observation workshops. Similarly, Bardes and colleagues<sup>5</sup> found that medical students enthusiastically participated in art observation workshops, with resulting improvement in observation of painting and photographic details and of facial human emotions. Most exposures to art in the medical curriculum, when they do occur, tend to be limited to depictions of surgeries and rounds from classic paintings that are included in lectures on the history of medicine.

While the use of artistic paintings as tools to increase awareness among medical students and residents has rarely been investigated, it has become increasingly common

to use art images to teach younger audiences. One specific approach to teaching, known as Visual Thinking Strategies (VTS), was codeveloped by Abigail Housen, a cognitive psychologist, and Philip Yenawine, an art educator.<sup>6,7</sup> Housen's original research focused on aesthetic meaning making—the thinking strategies people use to find meaning in a work of art. In correlating sample thoughts from an open-ended interview (where people “think out loud” about an art image) with the amount of art experience subjects reported on a questionnaire, Housen discovered that thinking strategies cluster into five stages. She and Yenawine used the thinking characteristics of people in the beginning stages, stage one and stage two, to design teaching protocols that would offer appropriate challenge and support growth. Those protocols, collectively called VTS, use facilitated group discussion of an art image to help people look carefully, put their

(Fam Med 2005;37(4):250-2.)

---

From the Family Practice Residency Program, White Memorial Medical Center, Los Angeles (Drs Reilly and Ring) and the Indianapolis Museum of Art (Ms Duke).

observations and ideas into words, and actively “scaffold” on the thoughts of others.

VTS has been used with younger students in classroom settings and art museums to teach critical thinking, visual literacy, and communication skills.<sup>8,9</sup> As students look at increasingly complex art forms, facilitated by a VTS instructor, their aesthetic observations and reasoning skills grow. These skills have been documented as transferring from art viewing to reading and writing. While VTS has not been studied in medical education, the authors have implemented VTS strategies with carefully selected “medical art pieces” to stimulate cognitive thinking, teamwork, and critical learning in medical residents and faculty. More specifically, we noted some key parallels between the group process of reviewing radiographic studies on rounds and the VTS experience.

### The VTS Experience

Our first experience with VTS was a facilitated session by a trained VTS instructor at a faculty housestaff retreat held at a museum. The medical team gathered around a piece of art and responded to the question, “What is going on in this picture?” The facilitator maintained focus on the artwork, pointing to the area being discussed and paraphrased each comment. The facilitator asked for evidence when interpretations are made: “What do you see that makes you say that?” (See Tables 1 and 2). The facilitator’s responses acknowledged the ambiguity of meaning and the value of hearing multiple points of view. The facilitator linked comments, pointing out that there are two very different possibilities being examined or that two ideas are similar or complementary. Participants moved out of the realm of right answers and into the process of weighing and considering “evidence” that is required by both art and science.

---



---

Table 1

### VTS Teaching Methods

- All students have the opportunity to express their opinions about the artistic piece.
- Students all receive positive affirmations for their contributions in the form of paraphrasing and pointing by the facilitator.
- Students learn to value each other’s comments as a means of viewing the art for multiple meanings.
- The facilitator maintains neutrality but shows interest in each comment.
- Each participant comment is acknowledged.
- The facilitator points as people talk, seeking to confirm understanding but also keeping eyes on the image.
- Teachers encourage active participation.
- Instructors continually point at the painting, maintaining the group’s focus on the art piece in front of them.

VTS—Visual Thinking Strategies

---



---

VTS has also taken a permanent place in our annual intern orientation day focusing on end-of-life care. The medical/behavioral science faculty from our residency program uses the VTS protocols to lead intern classes through the analysis of three artistic pieces: “The Doctor” by Sir Luke Fildes,<sup>10</sup> “Mr S Is Told He Will Die” by Robert Pope,<sup>11</sup> and “The Anatomy Lecture of Dr Nicolaes Tulp” by Van Gogh.<sup>12</sup> These art pieces were selected by the medical faculty because they depict physicians as they participate in clinical encounters with patients. In VTS, image selection is crucial to the overall teaching aims. The facilitator strives to choose images that people will be able to interpret without specialized knowledge, if they look and think carefully together. It is important for the image to be more than an illustration: illustrations often have one or only a few specific meanings. Works of art, in contrast, rarely operate in the realm of certain meaning. Communal understanding is reached through a shared observational process that satisfies a sense of holding several possibilities in mind simultaneously. In this way, VTS celebrates some defining characteristics of art and at the same time fosters critical, creative, and flexible thinking.

### Outcomes

Our residents and faculty have actively and enthusiastically participated in the VTS process of artistic interpretation. They have noted the nuances in color, texture, perspective, and shading of the various art pieces. Participants reach new insights, often based on the comments of their colleagues, discovering further interpretations of the artwork. Our residents felt the VTS process was valuable in working together as a group. Their comments are listed in Table 3.

### Conclusions

Incorporating the humanities in medical education has been shown to increase empathy, awareness, and sensitivity to the art of medicine. While VTS has been used with and studied on younger audiences, the authors are not aware of its use in medical education. We believe it is a viable tool in medical education

---



---

Table 2

### Typical Questions Asked by the VTS Facilitator

- What’s going on in this picture?
- What do you see that makes you say that?
- What else can you find?

VTS—Visual Thinking Strategies

---



---

Table 3

## Resident Comments About the VTS Process

- People would say things, and then I'd see new things I hadn't seen before. My perceptions would shift.
- The painting became richer because different eyes focused on different things.
- There was an openness to each other's ideas, an acceptance of different conclusions.
- My brain passed over things that others brought to my attention. The painting didn't change, but my perceptions of it changed through this process.
- We each had different perceptions of each other's observations. We all analyze information uniquely.
- The facilitator kept touching the painting and drawing us back to the details. He held us responsible for our responses.

VTS—Visual Thinking Strategies

and has interesting implications for the medical training process.

Specifically, VTS appears to increase team building as medical interns work together, challenging each other to form a cohesive idea about the art form studied. This may later prove useful as they strategize differential diagnoses and treatment plans for patients on the wards. It appears to increase listening skills, as each intern patiently and respectfully listens to their colleagues' viewpoints prior to responding. In a profession where physicians are quick to "give the answers," perhaps this is a strategy that can increase physician trainees' listening skills both for colleagues and for patients. The process also appears to increase analytical thinking as students "decode" the images seen in the paintings. Perhaps this can extend to an increased ability to find

multiple solutions to complex problems as noted in the younger students who have been studied through the VTS process. The increased visual literacy observed through this process may be useful as the interns begin analyzing X rays, increasing their awareness about the lights and shadows that may obscure disease processes, and in the analysis of EKG's patterns.

While VTS is in its infancy for use in medical education, we believe it has great potential as a humanities tool at both the medical school and postdoctorate training level. While the authors use it for training family medicine residents and faculty, we believe the skills used are universally applicable to all medical specialties and levels of medical training. VTS offers participants a creative model for linking feelings with reasoned observa-

tions and for testing, articulating, and arguing these perceptions. We believe that VTS discussions of art offer a unique, creative, and enjoyable arena for the development of skills that physicians need in their work with patients and colleagues.

*Corresponding Author:* Address correspondence to Dr Reilly, Family Practice Residency Program, White Memorial Medical Center, 1720 Cesar Chavez Avenue, Los Angeles, CA 90033. 323-260-5789. reillypas@aol.com.

## REFERENCES

1. Grant VJ. Making room for medical humanities. *J Med Ethics* 2002;28:45-8.
2. Reilly J, Ring J. Innovations in teaching: turning point. *Fam Med* 2003;35(7):474-5.
3. Ring J, Reilly J. Tuesdays with Morrie: a humanities teaching exercise in palliative and end-of-life care. *Fam Med* 2003;35(8):552-3.
4. Dolev JC, Friedlaender LK, Braverman I. Use of fine art to enhance visual diagnostic skills. *JAMA* 2001;286:1020.
5. Bardes C, Gillers D, Herman A. Learning to look: developing clinical observational skills at an art museum. *Med Educ* 2001;35:1157-61.
6. Housen A. Aesthetic thought, critical thinking and transfer. *Arts Learning Journal* 2002;18(May):1.
7. Housen A. Validating a measure of aesthetic development for museums and schools. *ILVS Review: A Journal of Visitor Behavior* 1992;Nov 2:2.
8. Yenawine P. Thoughts on visual literacy. *Handbook of research on teaching literacy through the communicative visual arts*. MacMillan Library Reference, 1997.
9. Visual understanding in education. [www.vue.org](http://www.vue.org).
10. Fildes L. The doctor. [www.artcyclopedia.com](http://www.artcyclopedia.com). British painters.
11. Pope R. Mr S is told he will die. [www.robertpopefoundation.org](http://www.robertpopefoundation.org).
12. Van Gogh V. The anatomy lecture of Dr Nicolaes Tulp. [www.vangoghgalley.com](http://www.vangoghgalley.com).