

**MEDICAL EDUCATION**

## Using Art to Strengthen Detectives' and Doctors' Observational Skills

Ronald G. Davidson, MD, FRCPC

### ABSTRACT

This essay describes a program for medical students instituted at Yale University Medical School to teach medical students to enhance their observational and descriptive skills using supervised study of works of art. In a randomized controlled study of 176 students, using pre- and post-test assessments and blinded grading, the intervention group achieved significantly and consistently higher observational and descriptive scores. Thus, group discussion of art images helps students learn to observe more carefully and to put their observations more effectively into words. Similar programs involving medical students and, incidentally, police officers, in supervised visits to art galleries have been instituted in an increasing number of American medical schools.

### USING ART TO STRENGTHEN DETECTIVES' AND DOCTORS' OBSERVATIONAL SKILLS

In the *Globe and Mail* (Weekend Review, November 26, 2005) there was a large colour photograph of about two dozen people in New York City's Frick Art Museum gathered around and obviously intently studying a painting. The observers in the foreground could easily be seen to be carrying guns nestled in the holsters on their belts. This caught my attention!

They were police officers from precincts all over town staring at a picture of a crime scene — a man lying prone in a bathtub bleeding from a wound under his right clavicle, his head wrapped in what appeared to be a turban; his right hand gripped a feather pen, his left hand held a piece of paper. As we learn reading on, a woman with a laser pointer had said, "OK, we have blood on a wound — we don't know if it's self-inflicted or from someone else. Where else is there blood?" she asks and waits for responses. "On the sheets, on the floor" are observations from the learners. And then the docent pauses — "Is he dead?" Silence. The officers are uncertain and at a disadvantage; most don't know that the painting they're looking at is entitled, "The *Death* of Marat".

The goal of the day was not art appreciation. Instead they were learning to be better observers and better communicators. That day, after Marat, the officers were broken into small groups and each group was assigned a painting. After five minutes of observation and discussion, the groups were required to explain the painting to their colleagues.

For over two years the Frick has been running this pro-

gram with the NYPD that brings officers into the museum for several hours to test and hone their observational skills. It was inspired by a program for medical students at Yale University that started some eight years ago and which has now metastasized to Mt. Sinai School of Medicine, Weill Cornell Medical College, and a few other topnotch medical schools.<sup>1</sup> The students are taught to look carefully at what's in the work of art and to study faces in detail so that they can describe them to their fellow students. The hope, of course, is to encourage these future doctors to take some time away from pouring over texts, charts and laboratory results to actually look at their patients.

Does it work? Although so far there is only one actual study, that done by the originators of the approach, Yale University School of Medicine, the results were convincing and published in the *Journal of the American Medical Association*.<sup>2</sup> The investigators began by noting that recognition of both subtle and obvious visual details is a critical aspect of diagnosis. It applies directly to the patient but also includes the physical environs and the other individuals in the room, be they family, friends or medical personnel. Yet, formal teaching of observational skills is rarely included in the medical curriculum. In order to determine whether the process of seeing such visual details can be improved, the Yale study attempted to carry out systematic visual training using representational paintings.

The study was done over two years. In the first year, 90 medical students volunteered and were randomized to three groups, the controls (n=30) who attended the usual clinical

skills tutorial sessions where a physician preceptor taught history taking and physical examination skills; a lecture group (n=30) where students attended an anatomy lecture featuring abdominal radiographic images related to the week's dissection; and the intervention group (n=30) that attended the Yale Center for British Art (YCBA) where the students studied pre-selected paintings before describing them in detail to small groups of about 4 students. The students were not allowed to simply state, in describing for example, a woman's face, that the subject looked depressed. Instead, they were taught to note and be able to comment on the appearance of the eyes, mouth and other facial features that led to the interpretation of depression. The curator of education led the discussions using open-ended questions to encourage students to describe systematically the entire painting in relation to its composite parts.

In the second year of the study, 86 students were randomly assigned to control and intervention groups; the lecture group was dropped because the preliminary data from the year before showed no change in the students' performance.

Students' performance was assessed in both years using sets of photographs of persons with medical diagnoses administered as a pre-test prior to the study and as a post-test after completion of the training. Each participant had three minutes to write descriptions of what was observed in each

photograph after specifically being instructed not to provide a diagnosis or speculate on any pathophysiology. The students were graded blindly using a key that assigned one point for each of nine or 10 visual diagnostic features present in each photograph.

The results were unequivocal. There were no differences among groups in the pre-test, but post-test scores differed significantly between groups in both years. The students in the YCBA group achieved higher scores for each of the photographs used in the post-test examination. The students who achieved the lower scores tended to concentrate on global visual attributes only, described details haphazardly, or made observational mistakes.

Thus, it is clear that the Yale approach facilitated group discussions of art images to help people look more carefully, to put their observations and ideas into words, and to build concepts on the thoughts and observations of others. As put so nicely by Marcel Proust: "The real voyage of discovery consists not in seeing new landscapes, but in having new eyes." ✦

## References

1. Bardas CL, Gillers D, Herman AE. (2001). Learning to look: developing clinical observational skills at an art museum. *Med Educ.* 35:1157-1161
2. Dolev JC, Friedlaender LK, Braverman IM. (2001). Use of fine art to enhance visual diagnostic skills. *JAMA.* 286:1020-1021

### Author Biography

**Ronald G. Davidson** is a retired professor in the Department of Pediatrics and was Director of the Program in Human Genetics, McMaster University, Faculty of Health Sciences, 1975-89.