

Medicine and the arts

Using visual art to develop observation skills and empathy in medical and dental students

Heather Gaunt

In many ways the visual arts provide a key to our understanding of the world around us. By following the eyes, feelings and ideas of artists we are able to enter their unique world or consciousness, and gain insight into ways of looking and comprehending that have practical implications far beyond the realm of art. The recently established Academic Programs Unit (APU) at the Ian Potter Museum of Art is built on this concept, and driven by the imperative to make meaningful and productive connections with students at all levels and from the widest variety of disciplines.

The APU actively supports undergraduate courses, from breadth subjects such as *Seeing: The whole picture* and *Sports coaching: Theory and practice*, to higher-level undergraduate courses such as *Advertising and promotions* and *Interpreting the ancient world*, with groups from more than 25 courses visiting the Potter for tutorials or assignment work in semester 2 this year. We also engage with postgraduate students, through activities such as seminars, internships and research work, with a focus on fostering multidisciplinary connections. This latter work is central to my role in the APU. In 2012 I have initiated programs that

set new parameters for the Potter's engagement with the university's wider research community, and that clearly address the university's commitment to interdisciplinary collaborative research and activity. One of these programs is the visual observation skills and empathy training project, aimed at medical and dental students, launched in June 2012. The program is designed to enhance specific skills in health-care students that contribute to effective professional practice, by facilitating directed engagements with works of art in a museum environment. The program aims to improve students' visual literacy and perception of story and narrative through visual cues, directly raising the quality of their diagnostic skills. In addition it aims to improve social cognitive skills, especially empathy.

Observation skills, including identification of key pieces of data, pattern recognition, and interpretation of significance and meaning, are central to medical decision-making. But medical educators agree that these skills have been in decline in recent decades, and that they should be explicitly taught.¹ In 1997, Irwin Braverman at the Yale School of Medicine conceived of using a work of art—being 'a visually foreign object' about which the medical student had

'no biases and no significant prior knowledge'—as a tool to teach how to detect fine details.² Braverman took his senior dermatology students to the Yale Centre for British Art, where he asked each student to objectively analyse a complex, narrative, representational painting, chosen for its inherent ambiguity. After this session, Braverman found 'dramatic improvement' in his students' ability to describe clinical scenarios in subsequent rounds.³

Fully fledged courses based on Braverman's principles have been a compulsory part of Yale's medical program since 2002. Variations have also been developed at Harvard and other American universities, and internationally in institutions such as the Changhua Christian Hospital in Taiwan.⁴ Evaluations have found distinct improvements in the accuracy of students' visual diagnostic skills, one study showing that students who participated in an art intervention program had a 38 per cent increase in observations over the control group.⁵ As Corinne Zimmerman of Harvard Art Museums notes:

Consistently positive feedback from participating doctors, nurses and students speaks to the power of art as a springboard for important reflective professional



Left: Medical students discussing their subjective visual analyses and 'differential diagnoses' of Bernard Hall's *Despair* (1916), Ian Potter Museum of Art, June 2012. Photograph by Heather Gaunt.

Right: Medical student Anna Harris studying William Strutt's *Busbrangers, Victoria, Australia 1852* (1887) at the Ian Potter Museum of Art, June 2012. Photograph by Heather Gaunt.

conversations that both enhance observation and communication skills and support the cultivation of empathy and perspective-taking. This work is tremendously compelling.⁶

Similarly, with some studies suggesting that 'empathy may be declining in medical and dental students',⁷ research has found that it is possible to increase empathy through educational experiences, including art interventions.⁸ Using artworks as 'patient surrogates' is an ethical way to practise these skills, sensitising students to reading and responding to complex human emotions and relationships in a clinical environment.⁹

The program of visual observation skills and empathy development that we are developing at the Potter was initiated in conjunction with Dr Natasha Michael, a consultant in palliative medicine at the Peter MacCallum Cancer Centre. We delivered the pilot seminar at the Potter on 6 June 2012. Four senior clinical students who were working with Dr Michael at Peter MacCallum participated. In the spirit of interdepartmental collaboration, two Master of Teaching (Visual Arts) students from the Melbourne Graduate School of Education,

Claire Virgona and Victoria McCaffrey, played a key role in designing the lesson plan and assisting Dr Michael and me in its delivery.

The first two-hour session, based on the format used at Harvard, was structured around the elements of objective and subjective observation, communication and reflection within the group, and applying the skills learnt to medical scenarios. The medical students were each assigned a painting in the exhibition *Visions past and present: Celebrating 40 years*, the identifying label and information concealed. Works included William Strutt's iconic *Busbrangers, Victoria, Australia 1852* (1887), Norman Lindsay's *Crete* (1940), Emanuel Phillips Fox's *Lamplight* (1911), Rupert Bunny's *The new step* (1908–11) and Bernard Hall's *Despair* (1916).

Students were asked to study their painting for ten minutes, then present their objective analysis, each in turn, to the group. After discussion of the visual data they had seen, they moved back to their assigned painting to prepare a subjective analysis in which they were encouraged to interpret and speculate. The subjective analyses were then discussed with the whole group. The Master of Teaching students made prompts and suggestions to aid visual analysis.

Dr Michael interpolated throughout the discussions with observations that reinforced the intellectual work being done by the students, and contextualised this in a medical framework. In the final part of the session, the group moved to a tutorial room in the Potter, where images from medical textbooks were analysed in objective and subjective visual terms, and clinical visits that all the students had experienced in previous days were discussed. This concluding part of the seminar was designed to concretely reinforce the new skills in explicitly medical parameters.

Dr Michael's discussion of issues that arose from the activities was central to the success of the program. She spoke of the complexity of environmental observation, urging students to take in carefully the many and varied elements of a clinical scenario, from concrete objects to nuanced interactions between patients, carers and medical staff. She emphasised the effect of prior knowledge on observation, and the possibility of tension from conflicting perceptions of a clinical scenario, noting that 'everybody goes into the room and sees different things. We all see things through our own lenses'. Dr Michael drew clear parallels between the narrative content of the paintings analysed



and the life stories of the patients, urging the students to discover ‘the patient’s story’. As students offered different interpretations of ambiguous paintings such as Bernard Hall’s *Despair*, Dr Michael drew connections with medical principles of differential diagnosis, and handling contradictory data, and drew attention to the need to be mindful of the privilege that is the intimate knowledge that a medical professional has when relating to a patient. She urged the students to be always curious, to follow the patient’s story, and to look for signs that give a sense of a larger narrative beyond the patient’s medical history.

The pilot session was very successful, as measured by student feedback, and was followed by a similar seminar in July for six Doctor of Clinical Dentistry (Special Needs Dentistry) students under the guidance of Dr Mina Borrromeo. Dr Borrromeo focused on empathy development, and skilfully overlaid scenarios of complex group relationships in discussions of works of art in the *Visions* exhibition, including Henry Moore’s *Untitled (Family group)* (1944), and Ian Fairweather’s *Hell* (1950). Differing interpretations of the content and relationships depicted in these works stimulated intense and challenging discussions.

This is the first time a medical art intervention project of this sort has been undertaken at an Australian university, although there has been increasing interest in the medical humanities in general, with the establishment of the Australasian Association for Medical Humanities in 2004.¹⁰ At the Potter we have continued to expand the program through delivery to larger student cohorts. During the second semester, 83 Doctor of Dental Surgery students have attended two-hour seminars, using visual prompts selected from the appropriately themed exhibition *The anatomy lesson*. Ongoing qualitative evaluations of the project provide important data for future publications, and we are working with staff from the Faculty of Medicine, Dentistry and Health Sciences to explore the embedding of the program into curricula in future years. In addition, I am exploring ways in which the Potter can offer similar visual observation skills seminars to other faculties, in subjects such as the Arts Faculty PhD electives and *Dynamics and robotics* in the School of Engineering, where the ability to accurately read, describe and manipulate two- and three-dimensional visual data is essential.

The Ian Potter Museum of Art manages the University of Melbourne Art Collection, including the Classics and Archaeology Collection. It is situated on Swanston Street between Faraday and Elgin Streets, and admission is free. For details see www.art-museum.unimelb.edu.au/.

The novel environment of the art museum can be a powerful tool to provoke new ways of learning across a great variety of disciplines.

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- 1 Irwin Braverman, ‘To see or not to see: How visual training can improve observational skills’, *Clinics in Dermatology*, vol. 29, no. 3, May–June 2011, p. 343.
- 2 Braverman, ‘To see or not to see’, p. 343.
- 3 Braverman, ‘To see or not to see’, p. 344.
- 4 K.T. Yang, C.C. Lin and L.Y. Chang, ‘A program to interest medical students in Changhua, Taiwan in the incorporation of visual arts in medicine’, *Education for Health*, vol. 24, no. 3, December 2011, pp. 1–10.
- 5 S. Naghshineh and others, ‘Formal art observation training improves medical students’ visual diagnostic skills’, *Journal of General Internal Medicine*, vol. 23, no. 7, July 2008, pp. 991–7; J. Shapiro, L. Rucker and J. Beck, ‘Training the clinical eye and mind: Using the arts to develop medical students’ observational and pattern recognition skills’, *Medical Education*, vol. 40, no. 3, March 2006, pp. 263–8.
- 6 Corinne Zimmermann, Senior Museum Educator, Harvard Art Museums, email to Heather Gaunt, 23 June 2012.
- 7 Carilyne Yarascavitch and others, ‘Changes in dental student empathy during training’, *Journal of Dental Education*, vol. 73, no. 4, April 2009, p. 516.
- 8 See for example Mohammadreza Hojat, *Empathy in patient care: Antecedents, development, measurement, and outcomes*, Philadelphia: Springer, 2007.
- 9 Braverman, ‘To see or not to see’, p. 345.
- 10 Jill Gordon, ‘Medical humanities: To cure sometimes, to relieve often, to comfort always’, *Medical Journal of Australia*, vol. 182, no. 1, January 2005, pp. 5–8.