Asia Pacific Family Medicine 2003; **2**: 226–228

MEDICAL EDUCATION

'Authentic' problem-based learning, instrumental rationality, and narrative

Seiji YAMADA[1,2,3] and Gregory G. MASKARINEC[4,5]

[1]*Hawaii/Pacific Basin Area Health Education Center,* [2]*Office of Medical Education,* [3]*Division of Ecology and Health, John A. Burns School of Medicine, University of Hawai'i, Manoa, Hawaii and* [4]*Department of Family Practice and Community Health, John A. Burns School of Medicine, Mililani, Hawaii and* [5]*Department of Anthropology, University of Hawai'i, Manoa, Hawaii, USA*

Summary: Howard Barrows recommends that 'authentic' problem-base learning (PBL) use a format in which students query a case module with regards to 202 history items, 121 physical examination items, and an array of laboratory and imaging items. We examine a case that Barrows presented to students at the University of Hawai'i in order to illustrate the problems that we see with this heuristic method. This method portrays the clinical encounter as an interrogation and examination that reveals the diagnosis within some standard nosology. We identify 'instrumental rationality', the mode of thinking in which the goal is to find the most efficient means to achieve the ends, as the philosophy underlying this view of medical practice. We suggest instead that physicians need to be skillful at listening to patient narratives, that the case that Barrows presented appears rather different from this perspective. If physicians view moral engagement with patients to be the core task of medicine, it will help transform medicine from a task-oriented endeavor to one driven by ethics, morality, and justice.

Key words: 'authentic' problem-based learning, instrumental rationality, interrogatory method.

Introduction

One approach to problem-based learning (PBL) in a medical school curriculum is to make the PBL process replicate as closely as possible real clinical encounters, a technique that Howard Barrows calls 'authentic PBL'.[1] Authentic PBL seeks to replicate the conditions of current practice, preserving intact the philosophy underlying current medical practice. We contend that we should subject this underlying philosophy to critical examination and ask if we want the next generation of physicians to adopt it as well. To examine those underlying presuppositions, we critique a PBL module (PBLM) of Southern Illinois University's (SIU) curriculum. Each module is a paper case that can be 'performed' by a standardized patient. The tutorial group, consisting of five to six students and a faculty tutor, uses the PBLM as the focus of their learning. One-third of the cases are opened through interview and examination of a standardized patient. The patient's chief complaint is given at the outset. Any subsequent data must be obtained from the paper case or the standardized patient through queries. The group has a codebook containing 202 history items, 121 physical examination items, and an array of laboratory and imaging items. The written PBLM has answers to all these query items.

As regards the queries in the SIU codebook, Barrows maintains that this constitutes just about everything a doctor could possibly ask. 'You can order a serum linoleum, if you like'. However, considering a PBLM case that Barrows presented to first year medical students at the University of Hawai'i, we were beset by a number of questions that were not in the codebook. Indeed, the fact that it was a real patient made us, as participants in the PBL process, curious about the patient and his illness. In this, we agree with Barrows that basing cases upon real patients sparks one's curiosity. This

Correspondence: Seiji Yamada, MD, MPH, Office of Medical Education, University of Hawai'i John A. Burns School of Medicine, 1960 East West Road, Honolulu, HI 96822, USA. Email: seiji@hawaii.edu

Accepted for publication 16 October 2003.

curiosity, however, may lead the clinical encounter far afield from a defined set of questions.

Barrows presented a PBLM case of a 31-year-old Vietnamese student with amebic dysentery. He had not been back to Vietnam since arriving in Illinois 5 years ago. So if the ameba had lain dormant for 5 years, why had he become symptomatic now? If he had contracted it on campus, what had made him, in particular, susceptible? Was his immune system impaired? In the context of discussing the biopsychosocial model, McWhinney asks the questions, why this patient? Why at this time?[2]

Where was he during the USA invasion of Indochina from the early 1960s to 1975[3,4] during which time 3 million Vietnamese died? Had he been in the North or South? Did he belong to the persecuted ethnic Chinese minority? Had he or his family been refugees? What was he studying? Was he planning for success in Vietnam's economy, more open since the *doi moi* reforms?[5] The point being – these were not among the 202 questions in the PBLM codebook.

The interrogatory patient encounter

One study showed that at the outset of real clinical encounters, the patient tells his or her story for an average of 18 seconds before the physician interrupts.[6] The SIU PBLM encourages the learner to adopt such an interrogative stance. In contrast to real patient encounters, in which motivated patients have a chance to bring the conversation back to their life-worlds,[7] no information is available to the SIU student unless he asks for it. This encourages an attitude that the doctor's world is the real one, that the physician's tasks, to diagnose and treat, are primary.

The interrogatory method, revelatory of a priori truth – innate knowledge not derived from sensory experience – is reminiscent of the method of Socratic enlenchus by which the slave boy in Plato's Meno is shown to 'know' the Pythagorean theorem through questioning. Plato purports to demonstrate that the slave boy's soul must have always possessed this knowledge, for in his queries, Socrates does not impart information, but rather elicits what the slave boy knows already.[8] Similarly, underlying the interrogatory approach to the patient encounter is the conventional belief that the disease state is 'out there', independent of our efforts to diagnose it or the patient's efforts to understand it – that the proper diagnostic procedures will uncover it.

A limited number of questions, examinations, and tests leads the physician to one or more of a limited number of diagnoses within some standard nosology, for example, the diseases delineated in the International Classification of Diseases. The strategy is akin to one of determining the Platonic form from the corrupt manifestation in the real world. The underlying assumption is that science is 'the paradigmatic human activity, and that natural science discovers truth rather than makes it'.[9]

The physician becomes merely a technical instrument that gathers data during the clinical encounter. It may be that depending on the prior knowledge and concerns of the physician, different data might be gathered, but such diversity is to be avoided. Consequently, 202 questions are proposed as exhausting the possible universe of questions that could and should be asked in a medical encounter. The physician's tasks are seen to be subject to standardization and continuous quality improvement. This is the longitudinal task of medical education and training.

Instrumental rationality

One of the motives underlying the interrogatory encounter is efficiency. Efficiency is served by restricting the purview of the encounter to the world of disease nosology. While efficiency is not to be denigrated, this particular drive has a certain flavor of being driven by the realities of modern American medical practice. The inefficient provider cannot make it in the real world of the marketplace.

Efficiency in medical education is seen in the organ system organization of medical curricula – an organization that encourages medical students to view the task of medicine not as engaging persons with sickness but rather diseased organ systems.

At a fundamental level, this approach is driven by the philosophical stance of instrumental rationality, the mode of thinking in which the goal is to find the most efficient means to achieve the ends, the particular ends chosen by those who have power, pragmatically separated from questions of ethics, morality, or justice. Medicine is reduced to being a task-oriented endeavor: to query and examine the patient in order to determine the diagnosis. There is no room, in such 'technocratic thinking', for value-oriented action: efficiency replaces sensibility.

As noted by anthropologist Byron Good,

> I am convinced of the threat of the dominance of instrumental rationality to human freedom and to our experience of the meaningful, mythological, and transcendent dimensions of illness, healing, and human existence.[10]

Of course, there is much to be said for reproducibility in history taking and physical examination skills. Every patient would want a personal physician to identify any ameba that they might harbor, rather than attribute symptoms to childhood experiences or

to political economy. However, to ignore such considerations runs the risk that the lifeworld of the patient will be ignored and the social causes of disease will go unaddressed.

Narrative

Were we, the physician seeing the Vietnamese student as a patient, we would obtain a different story than the one elicited by the writer of the case. Indeed, it would appear that the writer of the case does not obtain a story at all. Or perhaps it has been partitioned among the 202 questions. However, all illnesses are initially conveyed as stories, and the skill of listening to narrative is one that all physicians must develop.[11,12]

Physicians must know how to diagnose and treat. Without the knowledge and skills to accomplish these tasks, one cannot practice medicine. Diagnosis, however, emerges from the clinical encounter. True, the physician relies on her diagnostic skills and draws upon her knowledge of the scientific understanding of disease. However, knowledge of the patient's disease is constructed in the course of the interaction between patient and physician, in the sense that it takes shape as a meaningful entity only during their interactions. At question is the fundamental orientation for the encounter. Is it patient-centered, or does the doctor set the agenda? This dialectic is not simply philosophical or dialogical. Power is at stake here. The past few decades have seen power within the doctor-patient relationship renegotiated, such that we now speak about the patient-doctor relationship, with the patient first. And the more we speak of it this way, the less ironic it seems.

The view that the possible universe of inquiry consists of 202 questions reflects a severely restricted world view, one that denies our freedom to make of the world what we will. We suggest therefore that diversity in our approach to medicine is to be celebrated. The radical possibilities of the medical encounter need further exploration, not restriction. To borrow from Good's prescription for medical anthropology, we suggest that PBL is a medium with the potential to accommodate a wider view of medicine that includes 'existential concerns and humane values, as well as social commitments'.[10] We encourage physicians to engage not diseased organ systems, but rather persons with sickness. We hope that all physicians view the task of moral engagement with patients to be the core task of medicine. Our task as medical educators is to encourage our learners to meet this challenge.

Summary of implications for GPs

- 'Authentic' PBL seeks to replicate current medical practice within the medical school curriculum.
- It views the clinical encounter as analogous to determining the Platonic form (the disease) from its corrupt manifestation (the patient's illness episode) in the real world.
- This view is driven by the philosophical stance of instrumental rationality, within which action is not driven by values.
- In contrast, we suggest viewing knowledge of the patient's disease as being constructed in the course of the clinical encounter, as taking shape during the interaction between patient and physician.
- In this view, the skill of listening to the patient's illness narrative is central to the work of the physician.

References

1 Barrows H. Authentic problem-based learning. In: Distlehorst LH, Dunnington GL, Folse JR (eds). *Teaching and Learning in Medical and Surgical Education: Lessons Learned for the 21st Century*. Mahwah: NJ Lawrence Erlbaum Associates, 2000; 257–67.

2 McWhinney I. Philosophical and scientific foundations of family medicine. In: *A Textbook of Family Medicine*, 2nd edn. New York: Oxford University Press, 1997.

3 Chomsky N, Herman ES. *The Washington Connection and Third World Fascism*. Boston: South End Press, 1979.

4 Sheehan N. *A Bright Shining Lie. John Paul Vann and America in Vietnam*. New York: Random House, 1988.

5 Turley WS, Selden M (eds). *Reinventing Vietnamese Socialism*. Boulder: CO Westview Press, 1993.

6 Beckman HB, Frankel RM. The effect of physician behavior on the collection of data. *Ann. Intern. Med.* 1984; **101**: 692–6.

7 Mishler E. *The Discourse of Medicine: Dialectics of Medical Interviews*. Norwood: ABLEX, 1984.

8 The Internet Classics Archive – Plato Meno. Translated by Jowett B [Internet]. Cambridge, MA: Massachusetts Institute of Technology [updated 10 April 2000; cited 22 October 2003]. Available at: http://classics.mit.edu/Plato/meno.html.

9 Rorty R. *Contingency, Irony, and Solidarity*. New York: Cambridge University Press, 1989.

10 Good B. *Medicine, Rationality, and Experience*. New York: Cambridge University Press, 1994.

11 Kleinman A. *The Illness Narratives: Suffering, Healing, and the Human Condition*. New York: Basic Books, 1988.

12 Greenhalgh T, Hurwitz B. Why study narrative? *BMJ* 1999; **318**: 48–50.