Reflection, perception and the acquisition of wisdom

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Our growing understanding of the human brain and the human mind has given us insight into the pitfalls of making judgements about what we perceive and what we know. The brain has a capacity for rapidly sorting objects, events and experiences into categories that are useful to us as clinicians, such as when we observe that this child looks 'sick', or that patient's difficulty in word finding suggests a stroke. Because these mental processes are largely unconscious,[1] we are often unaware of exactly which memories, perceptions and assumptions affect our actions and our judgement; without awareness, we cannot validate or disconfirm them. Importantly for those of us involved in medical education, assumptions about our own behaviour are also often unconscious and, therefore, we can be blind to many aspects of our own competence, effectiveness and professionalism. Reflection is promoted as one way of gaining access to perceptions and judgements that often escape our awareness, and thus may place us in a better position to change them.

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The goal of reflection should be to develop not only one's knowledge and skills, but also habits of mind that allow for informed flexibility, ongoing learning and humility

Expertise is more than just repeated experience: we all know clinicians whose experience merely justifies their ability to repeat their mistakes with greater confidence. Experts should not only possess the capacity for self-monitoring, but should also be adaptable to changing circumstances.[2] David Leach (personal oral communication, 2000) once described an expert as someone who has the 'practical wisdom' to know which rules to break, when to break them, and to what degree; Dreyfus describes how 'masters' are able to question, expand and contextualise their own knowledge continuously.[3] Thus, the goal of reflection should be to develop not only one's knowledge and skills, but also habits of mind that promote informed flexibility, ongoing learning and humility.

Reflection involves metacognition (e.g., thinking about thinking and feeling about feeling). Recent neurocognitive studies suggest that there are parts of the brain that are involved in reflection and metacognition.[4] One such area is the medial prefrontal cortex, a neural crossroads that both *receives* information from the senses and emotions and acts as a gateway that selectively *allows entry* of sensations, thoughts, memories and emotions to awareness. It also allows us to *monitor* our own perceptions, attention, reasoning and emotions and therefore to make judgements about our own moment-to-moment competence. Observations that some kinds of mindfulness practices and reflective activities activate the medial prefrontal cortex may help to explain how reflection might promote adaptive expertise and practical wisdom.[4]

Whereas reflection-in-action is part of the continuous self-monitoring that is essential to keep clinicians on course, prevent errors and maintain competence, the value of reflection-on-action is controversial

It is possible to gain knowledge of aspects of our thinking and behaviour that are not immediately obvious to us through reflection on impersonal data from formal assessments (e.g. multiple-choice question tests), interpersonal data from others (e.g. feedback, group discussions) and intra-personal data such as 'gut' feelings. We understand very little about how self awareness results from reflection to the explicit processing of data relating to one's performance in the moment ('reflection-in-action') as well as after the fact ('reflection-on-action').[5] Whereas reflection-in-action is part of the continuous self-monitoring that is essential to keep clinicians on course, prevent errors and maintain competence,[6] the value of reflection-on-action is controversial. Morbidity and mortality rounds, for example, have been criticised because they do not seem to prevent future errors simply by

examining and assigning culpability for past ones. Furthermore, ascribing motivations for one's own actions (e.g. 'I was tired'; 'the patient was uncooperative'; 'it was an atypical case') after the fact may be comforting, but it does not reveal the inconvenient truths about our own personal deficiencies (e.g. 'I asked the patient leading questions'; 'I always pretended to hear those murmurs, but really just copied my senior resident's note'; 'I don't have a good way of organising a differential diagnosis'). Furthermore, the relationship of reflection to insight, adaptive expertise and practical wisdom is obscure. Does one need insight and wisdom in order to know which situations to reflect upon? Does reflection lead to greater insight and expertise?

These and other important questions are raised by three provocative papers in this issue of *Medical Education*. In the first article, Roberts and Stark set out to measure reflection and insight, and the relationship between them.[7] They base their work on a questionnaire survey completed by medical students in which respondents rated themselves on three factors: their openness and preparedness to examine their own thoughts, feelings and behaviours; the actual 'doing' of reflection; and their insight into how their behaviours influence their clinical competence and might be changed. The authors' finding that a perceived need for, and openness to, reflection should be associated with engaging in reflection makes intuitive sense. It also makes sense that insight, as measured by the scale used, seems to drive the perceived need for reflection. However, the finding that insight does not seem to be a product of reflection is harder to explain. Perhaps the insight scale really measures perceived insight rather than a much more difficult-to-measure level of self-understanding. Self-congratulatory and self-indulgent pseudo-reflection can reinforce rather than challenge a flawed self-image. I wonder if any scale can possibly distinguish between insight and self-deception. Furthermore, continuous self-monitoring (reflection-in-action) in a clinical context may yield more contextualised insight compared with the process of examining past events.

Reflective practice sessions have evolved to provide self-knowledge and a corrective to the natural human tendency to self-deceive

Promotion of habits of reflection in actual clinical practice is not always easy because both teachers and learners put up defences when reflection yields insights that challenge their perceptions of their competence, effectiveness and self-worth. Reflection groups, reflective narratives and reflective practice sessions have evolved to provide self-knowledge and a corrective to the natural human tendency to self-deceive. As Roche and Coote report, students seemed to like 'reflective practice' sessions, but more detailed description of the actual content and conduct of the sessions might help the reader identify key features contributing to their success so that they can be imported into other contexts.[8] However valuable sessions conducted outside the clinical context might seem, these must be complemented by reflection that is embedded in clinical work, and modelled and mentored by insightful and patient clinicians with whom trainees work.

Kogan and Shea's study of 'feedback cards' represents an effort to foster reflection and feedback in the context of medical school clinical rotations.[9] As I started reading, I thought this was probably a great idea – who could possibly object to more feedback? Our students constantly complain that they don't get enough feedback, but they don't recognise it when they actually do get it unless we say, 'Now, I'd like to give you a bit of feedback' and then again define the feedback as such after it has been shared. Using feedback cards would seem to be an elegant solution: feedback would be frequent, labelled as such and organised around themes that were important to students. The good news is that students complied with the feedback cards and appeared to learn something of value. Yet their reports on the quality of feedback suggested that it was less satisfactory than that reported by their predecessors, who had not used the cards. How could this be? The authors posit a few possible reasons: poor quality of feedback; administrative burden, or apprehension about revealing weaknesses and discordance between desired and received feedback. Or was there something else in the way the cards were deployed that rubbed students up the wrong way? Did the students feel judged or ridiculed? Or did the feedback contain too many uncomfortable truths? Perhaps there is a clue in the content of the requested feedback: students appeared to want feedback about the activities most closely related to getting good grades – those behaviours most visible to attending doctors and residents – rather than those that were more complex (reasoning) and unobserved by others (physical examination, history taking). Did an otherwise well-intentioned and well-conceived intervention not work for these students because it simply reinforced the schism between deep learning and doing what is necessary to get a good grade (and a good residency)? If so, a careful look at the informal curriculum in

which the intervention took place would be warranted. Insights into what went wrong would help us develop better means of providing timely, reliable, learner-centred feedback on an ongoing basis.

Reflection demands skill, involves the brain and the mind, requires attention to high-quality feedback and is subject to scientific investigation and understanding

Reflection is part of the art of medicine. However, like the visual and performing arts, reflection demands the development of specific skills, involves the brain and the mind, requires attention to high-quality feedback and is subject to scientific investigation and understanding. The three studies in this issue of *Medical Education* help to illuminate the processes that underlie reflection. The goals of reflection – insight, wisdom and informed flexibility – though, like beauty, harmony and health, are much harder to define and measure.

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Improving communication with all patients

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The UK Consensus Statement on the content of communication skills curricula in undergraduate medical education well represents the breadth and depth of communication in medicine.[1] The notion of rotating concentric rings within the 'communication curriculum wheel' may prove useful to those who plan undergraduate as well as graduate and continuing medical education programmes. Conceptually, these rings expand outward from a core of Respect for Others to Theory and Evidence, Tasks of Clinical Communication, Specific Issues, Media, and Communicating beyond the Patient, all embedded within a set of overarching contextual themes that include Professionalism, Ethical and Legal Principles, Evidence-based Practice, and Reflective Practice. More immediately, the wheel and its rings begin to convey the sheer number of vectors and challenges for effective communication in, and about, medicine.

Reading the Consensus Statement prompted me to reflect on approaches to teaching and assessing two critically important and currently hot topics: cultural competence and health literacy. A quick MEDLINE search reinforces the impression that both topics have received considerable attention in the last decade. The overall trajectory of publications has been truly impressive, ranging from a handful of articles in the early 1990s to more than 280 on cultural competence and over 160 on health literacy in 2007 alone.

Early educational approaches toward cultural competence were characterised by a focus on the language and culture of particular groups

As noted by Betancourt, early educational approaches toward cultural competence were characterised by a focus on the language and culture of particular groups, which 'can lead to stereotyping and oversimplification of culture'.[2] Contemporary approaches focus on learning about, and addressing, the frame of reference of individual patients (i.e.

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