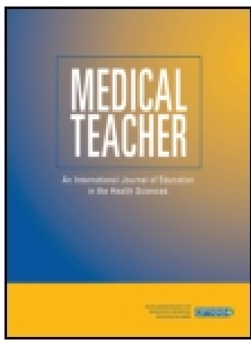

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Medical Teacher

ISSN: 0142-159X (Print) 1466-187X (Online) Journal homepage: https://www.tandfonline.com/loi/imte20

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To cite this article: Brian David Hodges (2015) Sea monsters & whirlpools: Navigating between examination and reflection in medical education, Medical Teacher, 37:3, 261-266, DOI: 10.3109/0142159X.2014.993601

To link to this article: https://doi.org/10.3109/0142159X.2014.993601

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Sea monsters & whirlpools: Navigating between examination and reflection in medical education

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Abstract

The 16th International Ottawa Conference/Canadian Conference on Medical Education (2014) featured a keynote deconstructing the rising discourse of competence-as-reflection in medical education. This paper, an elaborated version of the presentation, is an investigation into the theoretical roots of the diverse forms of reflective practice that are being employed by medical educators. It also raises questions about the degree to which any of these practices is compatible with assessment.

Practice points

- Reflection is not a homogeneous construct: a century of authors have grappled with what reflection is and how it applies to education and practice.
- Diverse reflective practices are used in medical education and they align with very different theoretical and philosophical ideas.
- Adopting reflective practices without consideration of the theories and philosophies that underpin them risks obscuring potential unintended consequences.

Introduction

Educators are preparing the next generation of health professionals for an uncertain future. Medical education is an exciting but daunting voyage for the student and for the educator – one that is not without danger. In Homer's epic poem, the Odyssey, Odysseus must travel through the Strait of Messina, passing between two great threats: the Scylla and Charybdis. The Scylla, on one side of the strait, is a multi-headed monster that plucks sailors off the ship and eats them. On the other side of the strait lays the Charybdis, a deadly, sucking whirlpool that is invisible to all who approach it. This metaphor, a more poetic version of "being caught between a rock and a hard place", is useful allegory for the challenges facing medical education.

Our book "The Question of Competence" contains essays by authors who warn of the dangers that will characterize the journey taken by Twenty-first century medical students and their teachers (Hodges & Lingard 2012). One of the most worrisome is the growing tension between high stakes, external examinations driven by a discourse of "accountability" and a more recent, but no less passionate, investment in internally motivated notions of "self-direction" and "reflection". I have argued that these two discourses may be theoretically and practically incompatible, yet we persist (Hodges 2007). How did we get here?

The explosion of a culture of examination

In the nineteenth century, medicine was a guild and competence was linked to the notion of being the "right kind" of man (there were very few women doctors in the nineteenth century). The assessment system of the time was a judgement model in which progression in training and employment was based on approval of a master. In the twentieth century, the biological sciences flourished and medical schools were relocated into universities, heralding a shift in the concept of competence away from holistic judgement of "character" toward a rich base of knowledge. To confirm competence, medical schools developed written examinations. The invention of multiple choice questions in the early twentieth century made assessment more efficient and easier to administer. By the mid-twentieth century, there was another paradigm shift and the notion of competence-as-performance was born. Performance-based assessments such as Objective Structured Clinical Exams (OSCEs) and simulations changed the face of assessment. Medical educators were climbing what is now called Miller's pyramid: a competence ladder starting from a base of "knowing", rising to "knowing how", to "showing how" and finally to "doing" (Miller 1990). At the same time, medical educators distributed the responsibility for assessment outward, adding examinations given by state or provincial professional organizations to tests in medical schools, and then national, high stakes, standardized examinations. The net result was an enormous expansion of testing in the life of would-be physicians. This story is not limited to medical

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ISSN 0142-159X print/ISSN 1466-187X online/15/030261–6 © 2015 Informa UK Ltd.
DOI: 10.3109/0142159X.2014.993601

education, however; in the twentieth century there was an explosion of testing across Western countries.

When we are born we have an *Apgar Test* and at the end of our lives, as we quietly slip away, someone will perform a *Glasgow Coma Scale*. In between we undergo all manner of elementary and high school tests, college exams, intelligence tests, driving tests, MCATs, SATs, LSATs and on and on. Our lives are punctuated by an endless series of written and performance assessments. Michel Foucault called ours an *examined society* and argued that the examination is one of the most brilliant, if least studied, inventions of the classical age (Foucault 1975/1995, pp. 184–185). There have been many benefits from the proliferation of testing. In medical education these include greater alignment of teaching with learning objectives, more accountability to the public and the possibility of better feedback to learners (although formative feedback tends to become rare as the stakes of testing get higher). Further, educators have developed new testing tools and can assess a wider range of competencies. Finally, the rise of assessment has gone hand in glove with the elaboration of new competence frameworks such as the Canadian CanMEDS roles and the American ACGME competencies (Whitehead et al. 2013). However Hanson (1993) is among those who have cautioned that all those tests are doing more than just measuring competence: they are also *inventing* us (p. 210).

My own research has led me to conclude that methods of assessment shape students more powerfully than we realize and in ways that merit greater attention (Hodges 2006). The question that drives my research is "Are our assessment methods shaping students in a *desirable* way?" I keep on my desk a note from one of our medical students: "Dear Dr. Hodges, I was wondering how important your two lectures are for the exam. I don't see any questions from your lectures on old exams, and wanted to know if your stuff was testable this year?" Is it relevant to know that the two lectures were on the social determinants of health? Or does it matter what the content of teaching had been? The lesson is clear. For this student the examination existed for its own sake only – devoid of any meaningful relationship to the pedagogy that preceded it. Far from shocking my colleagues, recounting this anecdote never fails to invoke a concerted nodding of heads. We all know about these unfortunate adverse effects of testing: examinations drive behaviours that are often at odds with learning. I am most interested in these adverse – let us call them "unintended" – effects of assessment.

Why do we tolerate these effects? I cannot imagine any teacher setting out deliberately to create an examination that creates the Pavlovian reward-response effect illustrated by my student. We do not intentionally create examinations in the behaviourist tradition of instrumental conditioning so that so many metaphorical rats are rewarded with sweet water. And yet all medical educators know that whilst our intense testing culture has brought many gains, these unintended effects are not rare, but actually endemic.

Returning to the Scylla and Charybdis metaphor, the Scylla of overusing examinations is a danger we ignore at our peril. It diminishes student motivation by pushing them to respond to external reinforcement/reward rather than fostering internally motivated, self-direction. We speak constantly of the centrality of lifelong learning but then construct an educational environment that is so externally motivated, so surveillance-oriented, that health professionals risk developing neither the drive nor the skills to guide their own learning. Many teachers decry the fact that too many examinations drive students away from the things we wish them to learn, but until quite recently the solutions amounted to tinkering with examination tools rather than fomenting a paradigm shift.

But now a paradigm shift is underway. Fearing the Scylla of over-examination some medical educators are looking to the other shore – hoping to flee from over-testing, partially or altogether. Many are charting a voyage to the other side of the strait. What is over there? Off in the distant tranquil sea, shrouded in a gentle mist, is the promise of "self-reflection". I understand and share the desire of my educator colleagues who dream of a world in which students have an enduring inner passion for learning. In which they are highly self-motivated and curious, seeking out opportunities and challenges to advance their knowledge and skills. In this paradise, no external forces are needed because learning and personal development will be driven from within. In this world competence is grounded in knowledge and in performance but also, and perhaps primarily, in the capacity for reflection.

When I read our medical education literature today, I see "reflection" and "competence" linked more and more frequently. A bibliometric study would undoubtedly reveal a huge rise in references to and study of reflection. Such paradigmatic shifts interest me and I have set out to learn more about this newfound enthusiasm for reflection, and, to explore what might lie beyond that heavenly fog.

The rise of a discourse of competence-as-reflection

What is reflection? Dewey (1933) defined it as "active, persistent and careful consideration of any belief or supposed form of knowledge" (p. 9); Boud et al. (1985) as "intellectual and affective activities in which individuals engage to explore their experiences in order to lead to a new understanding and appreciation" (p. 19); and Wikipedia as the "capacity of humans to exercise introspection and willingness to learn more about our fundamental nature, purpose and essence" (Wikipedia 2014). Worryingly, these definitions all sound a little different and several authors have pointed out the dispersion of definitions and diversity of practices that characterize "reflection". Some have attempted taxonomies (Kinsella (2012) presents a thoughtful, epistemologically-oriented categorization). The problem becomes even more apparent when one is asked to *teach* reflection.

Let us imagine that you have been assigned a group of six students and your task is to develop their capacity for "reflection". What exactly are you going to *do*? Likely you will grapple for some activities that will foster reflection; perhaps the course organizers will have provided some tools. Yet jumping to action and grabbing an easily implemented method may risk leaping into unknown and unforeseen consequences.

It is striking the degree to which educators have embraced reflection as a practice without clearly articulating to what end

Table 1. Four practices of reflection and their associated epistemology, primary activity, concept of effect, role of teachers and potential unintended consequences.

	Meta-cognition	Mindfulness	Psycho-analysis	Confession
What can we ''know'' about? (Epistemology)	Thoughts	Perceptions and inner experience	Dynamic relationships with self/others	Adherence to or transgression of codes of thought or behaviour
Primary activity (praxis)	Think aloud protocols	Meditative practices	Recounting thoughts and feelings to another (who interprets)	Recounting thoughts and behaviours to another (who renders judgment)
Concept of effect: This practice this will create a better doctor through . . .	Cognitive awareness and thinking about thinking	Active and open attention (and in the spiritual context inner peace and harmony)	Self-understanding (in the therapeutic context particularly dysfunctional thoughts and relationships)	Guiding thoughts/actions (in the religious context giving absolution) to align with ethical/moral/religious (professional) rules/laws
Role of teacher	Cognitive coach	(Spiritual) Guide	(Psycho) Analyst	Assessor (Confessor)
Possible unintended consequences when used in medical education	Overly cognitive, individual focus (loss of context); false recall	Surfacing past traumas; paradox of ''non-judgment'' (detachment from accepting external judgment)	Self-focus, narcissistic preoccupation	External locus of control, overly governed by external judgment

the practices of reflection are being engaged. This may be because reflection has become a kind of generic salve to heal all wounds: reflection is taken up to address burnout, professionalism lapses, empathy, cultural competence, well-being, diagnostic decision making, medical error, interprofessionalism, lifelong learning, tolerance of ambiguity and *on and on*. Reflection, in the way it is often taken up in medical education, seems stands in as the solution for so many different and disparate challenges that I have begun to wonder if we have any shared idea about it at all. Coupled with this dispersion of practices is an almost universal assumption that reflection is something positive, something good, with hardly a nod to the possibility of unintended effects.

Ng (2012) has argued that different theorists and disciplines have theorized and applied reflective practice in a variety of ways, making it confusing for newcomers to navigate their way through the large body of literature. The danger in this confusion is the possibility for reflection and reflective practice to be dismissed, misinterpreted or oversimplified (p. 119).

Yet there are scholars who have given considerable thought to the idea of reflection and its relevance/application in health professions (Nelson & Purkis 2004; Kinsella 2008, 2012; Mann e al. 2009; Nelson 2012; Ng 2012). These scholars focus on the theoretical underpinnings of reflection, drawing on theorists such as Dewey (1933), Habermas (1971), Kolb (1984) and Schön (1983, 1987). In doing so they posit the need to have a clear, conceptual sense of what reflection *is*, and *is for*, before leaping to practical action (Kinsella 2012; Ng et al. in press). Reading both the original theoretical works and the health professional analyses of them illustrates the pitfalls of uncritical use of reflection in medical education. To take but one example, Nelson (2012) writes that the use of reflection in nursing education (largely reflective diaries for practice assessment) has ignored Habermas' (1971) notion that a main function of reflection is emancipation from dominant ways of thinking and being. Yet if the purpose of reflection is to get free of power structures and to challenge the *status quo*, creating ''mandatory reflection'' for grading and certification is incomprehensible.

In my work, rather than elaborating further on theories about reflection, my goal has been to explore *practices* of reflection used by medical educators in order to discover the beliefs, concepts or epistemologies on which they might be drawing. This way, I hope to illustrate for educators inconsistencies and tensions and make visible possible consequences that would be obscured to those who have not considered the origins of their practices. For example, following Nelson & Purkis (2004), asking students to write down their reflections and hand them in for marking is a practice grounded in very different reflection tradition than asking students to reflect alone through meditation.

I have identified through reading and observation four loose clusters of reflective practice in which medical educators are engaging. Most of these practices have been imported from religion, psychoanalysis and cognitive psychology. The four practices are: reflection as metacognition, as mindfulness, as psychoanalysis and as confession. Each practice is shown in Table 1 together with a summary of its primary characteristics.

Reflection as metacognition

Reflection as metacognition is a concept that arose in cognitive psychology and is based on the idea that we can become aware of our own cognitive processes (Flavell 1979). Practices associated with reflection as metacognition are variations on the *think aloud protocol* developed by cognitive scientists for research. The notion is that by articulating one's thoughts (usually to another person, but possibly to the self) one is able to see more clearly the nature of how one thinks and by extension some of the inconsistencies, vagaries, traps and holes in our cognitive processes. For this reason, metacognition has been associated with medical error and popularized in books such as *How Doctors Think* (Groopman & Prichard 2007). Observing our own thoughts also opens a window onto the way our emotions affect our cognitions. Eichbaum and colleagues at Vanderbilt University developed an undergraduate medical curriculum using of meta-cognition to underpin reflection in education (Fleming et al. 2013; Eichbaum 2014).

The attraction of this approach is obvious. Rising attention to patient safety, the importance of clinical reasoning and a grasp on the effects of emotion on cognition are promising research areas. Could there be any problems with education based on meta-cognition?

First, within the cognitive paradigm there is a well-known phenomenon that subjects asked to report or recall their thinking processes will unwittingly "invent" facts or cognitions that the think they used in their decisions but were not even available to them (Koole et al. 2011). Thus relying too heavily on the veracity of cognitions could present a problem, particularly if metacognition and "think aloud" were used for assessment. A second concern is that a cognitive focus might distract students from the socio-cultural dimensions of knowledge formation and use. Kinsella (2012), for example, has cautioned that there is a cost to exclusively turning inward – an individual may become overly focused on their own thoughts and lose perspective on the importance of external, socio-cultural dimensions of knowledge (p. 43).

To summarize, metacognition is a promising way for educators to help students learn about and perhaps adapt their thinking. The caution is to be aware of the slipperiness of "veracity" in reporting cognition and the need for vigilance that learners do not lose sight of the social and cultural systems in which they and their thoughts are embedded.

Reflection as mindfulness

Mindfulness is a state of "active, open attention to the present" and when one can "observe your thoughts and your feelings from a distance, without judging them, good or bad" (Psychology Today 2014). Although mindfulness has roots in Buddhism, most religions promote some form of reflective prayer or meditation that helps shift away from quotidian preoccupations toward a larger perspective on life. In clinical research, mindfulness has been shown to be effective in reducing anxiety, distress, depression and other psychological symptoms. This is interesting to medical educators because of growing appreciation that our field is beset by burnout (Fralick & Flegel 2014). Dobkin & Hutchinson (2013) report that the University of Rochester School of Medicine and Dentistry in the USA and Monash Medical School in Australia successfully incorporated mindfulness into their curricula and that students in such programs have decreased psychological distress and higher quality of life. They suggest that mindfulness has the potential to "prevent compassion fatigue and burnout, in that the doctor who is self-aware is more likely to engage in self-care activities and to manage stress better" (Dobkin & Hutchinson 2013, p. 768) and that this will result in doctors who are "better equipped to foster wellness in their patients" (Dobkin & Hutchinson 2013, p. 768).

While considered relatively benign in therapeutic uses, clinicians using the method are vigilant for the emergence of past traumas and of depersonalization (Booth 2014) and medical educators should be as well. But clinical issues aside, the more prickly question that arises is how an inward looking, *non-judgemental* approach, aligns with assessment. Learning to be non-judgemental about oneself is difficult to square philosophically with the ethos of assessment, which by definition is a judgment – often a rather harsh and high stakes one in medical education. It is important for the educator using non-judgmental forms of reflection, such as mindfulness, to consider whether pedagogy should be assessed at all or whether pedagogy and assessment should be decoupled (Koole et al. 2011) as many schools do with student wellness/support and academic matters.

Reflection as psychoanalysis

Socrates apparently said that the "unexamined life" is not worth living. A century of psychoanalysis has embraced the notion that reflecting on one's inner life and uncovering the (often unconscious) psychodynamics of one's relationship to the self and to others, is a valuable pursuit with healing properties. Today, many people believe in the importance of psychodynamic formulations (dream analysis, transference of emotions from earlier relations onto present relationships, deficits and traumas of the formation of self, etc.) and there is a whole industry of psychotherapies and psychoanalytic approaches designed to achieve felicitous effects by uncovering and interpreting these dynamics. The arts and humanities draw heavily on psychoanalytic concepts promulgated by Freud, Jung and their descendants. While only practicing psychoanalysts are likely to have had formal training in the clinical applications, psychodynamic concepts are widespread in popular culture and many teachers will be tempted to bring them into the classroom. Indeed psychodynamic interpretations, which served as a means to help people to understand life's journey, their relationship to others and to the self are valuable for medical learners who are deep in the midst of their identity formation. I have previously described how psychoanalytic concepts have been used to understand the experience of medical students in anatomical dissection and the dreams, emotions, defences, transferences and traumas that result (Hodges 2004). Interestingly however, Freud (1940/1969) himself cautioned that in the practice of psychoanalysis, "However much the analyst may be tempted to act as teacher, model, and ideal to other people and to make men in his own image, he should not forget that that is not his task in the analytic relationship" (p. 50). As with mindfulness, the clinical uses of psychoanalysis may not mix well with the pedagogical and the evaluative. As a psychiatrist myself, while I greatly value introspection, I worry about blurring the role of being someone's analyst/therapist and someone's teacher. Shaping introspection, particularly when one has power (through assessment for example) over the career trajectory of students creates complex psychodynamics and muddles the notion of reflection.

There are indeed models that bring psychodynamics into an educational frame, for example Balint groups have been used around the world to help practicing physicians understand their reactions to patients (Benson & Magraith 2005). But this approach requires sophisticated training and facilitation. Exploring the connection between a student's relationships with his or her mother and with a patient in clinical supervision seems to me to open some complex doors – doors that are not

opened in therapeutic settings without ensuring a high degree of safety and emotional support. Further, as psychoanalysts well know (and echoing Kinsella's (2012) critique), too much inward focus can also lead to narcissistic self-preoccupation.

Kinsella (2012) and Ng et al. (in press) both highlight the problem of adding the prefix "self" to "reflection" and argue that the adoption of the term "self-reflection" in medical education moves us away from concepts of "critical reflection" and "reflexivity". These latter approaches, which allow individuals to consider social constructions of power, culture and systematic inequities such as discrimination (following Nelson's (2012) call to rediscover the Habermasian critical/emancipatory functions of reflection) are not very well emphasized when prioritizing the "self".

Reflection as confession

Like meditation in Buddhist tradition, confession is important for those of Catholic faith. *Catholic Online* explains that before you go to confession, "you should make a review of your mortal and venal sins since your last sacramental confession" (Catholic on Line 2014). Unlike meditation, confession involves another person. Thus, "if you need some help, especially if you've been away for some time [you should] simply ask the priest and he will help you by 'walking' you through the steps to make a good confession" (Catholic on Line 2014). There are theorists who have compared what we do in educational assessment to confession (Fejes & Dahlstedt 2013). For example, I recently observed a teacher say to medical students, "It's reflection time. Please take a piece of paper, write down an experience you've had this week – it could be a professionalism issue, a problem you've experienced, a lapse you saw or were part of. Write down your reflections and when you're done, please turn them in for marking. I'll have them back to you for next week". Though I do not mean to imply that medical educators are taking up the actual practice of confession, I agree with Fejes and Dahlstedt who argue, after Foucault (1975/1995), that western systems of criminal punishment/reform as well as education draw significantly on confessional practices: absolution of the transgression of religious or moral codes through confession and atonement. An example is the practice among medical education's professionalism movement to have students report (or confess) and then perhaps atone for their professionalism "lapses" (Hodges et al. 2009).

What differentiates confessional approaches from other forms of reflection is the pivotal role of the external judge or "confessor". Frankford et al. (2000) have written, for example, "it should not be assumed that reflection is a natural part of everyone's skill set. This process can be done alone, of course, but reflection with facilitators, or peers, strengthens the process by ensuring that reflection is conscious. Debriefing with facilitators or peers can "provide a check" of *accuracy and objectivity*" (p. 712, emphasis added).

That we should be concerned with the "accuracy and objectivity" of reflection reveals something important. Like the priest who will help the penitent "walk through" confession, the medical educator who guides and shapes the "accuracy and objectivity" of reflection may take on qualities of a "confessor". This is a very interesting phenomenon because it is in this confessional quality that reflection comes back, full circle, to meet external examination. If we are to shape, judge and grade reflections, we are returning to a concept of external locus of control, precisely the twentieth century inheritance that some medical educators are trying to shake off.

Conclusions

So what do you do when you go into the classroom tomorrow? How do you help students to reflect and to gain competence on the basis of reflection? The truth is I do not really know. Medical education may not yet be a fertile home for reflection in the way Dewey (1933) or Habermas (1971) or Schön (1983, 1987) conceptualized it. We seem to grasp for simple pedagogical practices of reflection that are superficial in their theoretical justification but also in conflict with our other practices, particularly assessment. A very helpful corrective is the recent work of Ng et al. (in press) entitled "Reclaiming a theoretical orientation to reflection in medical education research" that will surely be of help to educators.

Perhaps our biggest challenge is trying to square practices of reflection with assessment. Indeed some educators ask if reflection should be assessed at all (Sumsion & Fleet 1996; Stewart & Richardson 2000). Murdoch-Eaton & Sandars (2014) caution that adopting an overly instrumental approach to reflection results in the creation of rituals more than any meaningful insight. Ng et al. (in press) has argued that, "The very essence and purpose of reflection may be compromised when it is experienced in an overly prescriptive manner, and when it is subjected to formal evaluation, instead of critical dialogue" (p. 1). We are, it seems, torn between two paradigms that we cannot fully align. Metacognition, mindfulness and psychodynamic approaches may be a good basis on which to base reflective pedagogy. But they do not align well with examination. Confessional practices may be the (dubious) compromise.

To return to the metaphor of a sea-journey I hope that as we steer a course away from what was certainly a time of excessive external assessment, we are thoughtful (indeed *reflective*) about the dangers that may lie in front of us; that in charting a course away from forming students who are driven only by "what is on the exam" that we do not lurch headlong and blindly into an invisible whirlpool of uncritical, untheorized "self"-reflection. Lost in the fog we may find we have unwittingly doubled back, dropping anchor squarely in front of the sea monster.

Notes on contributor

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Acknowledgments

The author would like to acknowledge Elisa Hollenberg for assistance with formatting of text and references and Stella Ng for providing feedback on the manuscript.

Declaration of interest: The author reports no declarations of interest.

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