

Embracing the tension between vulnerability and credibility: ‘intellectual candour’ in health professions education

Elizabeth Molloy¹  & Margaret Bearman² 

The tension between expressing vulnerability and seeking credibility creates challenges for learning and teaching. This is particularly true in health care, in which practitioners are regarded as highly credible and making errors can often lead to dire consequences and blame. From a transformative learning perspective, expressing vulnerability may help individuals to access different ways of knowing. By contrast, from a sociological perspective, seeking to maintain credibility results in ritualised interactions and these ritualised encounters can reinforce credibility. One

means of embracing this tension between expressing vulnerability and appearing credible is ‘intellectual candour’, an improvisational expression of doubts, thoughts and problems with the dual purpose of learning and promoting others’ learning. Educators’ revelations of inner struggles are proposed as a means of inviting reciprocal vulnerability. This builds trust and a platform for learning, particularly of the transformative nature. It also allows modelling of how to balance the vulnerability–credibility tension, which may provide a template for professional practice.

Medical Education 2019; 53: 32–41
doi: 10.1111/medu.13649



INTRODUCTION

Health care is a challenging working environment. Practitioner errors can lead to catastrophic situations and, as recent media reports indicate, the fight to hide deficits and mistakes may cause serious stress.^{1,2} These stories reveal professionals with high credibility, working in difficult circumstances, who are reluctant to share the strains of their occupation. The less visible aspect of this picture is that seeking to maintain social status can make it difficult for health professionals to express

vulnerability. This endemic need to promote credibility and hide vulnerabilities can, we argue, interfere with learning and quality of practice. We propose that teachers have a role to play in modelling how health professionals negotiate the balance between making themselves vulnerable and maintaining credibility. In particular, we offer ‘intellectual candour’ (or the exposure of learners and teachers’ ‘thought processes, dilemmas or failures’³) as a way to help negotiate, and embrace, this tension. This nimble form of intellectual exposure, or what we have previously termed ‘intellectual streaking’,³ is characterised by

¹Department of Medical Education, University of Melbourne, Melbourne, Victoria, Australia

²Centre for Research in Assessment and Digital Learning, Deakin University, Geelong, Victoria, Australia

Correspondence: Elizabeth Molloy, Department of Medical Education, School of Medicine, University of Melbourne, Parkville, Melbourne, Victoria 3010, Australia. Tel: 00 61 3 9035 7522; E-mail: elizabeth.molloy@unimelb.edu.au

brainstorming, improvisation and disclosure for the purpose of one's own learning and the learning of others. We argue, with theory and evidence from the field, that modelling this type of risk taking (in the name of learning) is likely to establish trust and thereby invite others to reciprocate.

Current medical education literature emphasises the need for professional identity development,^{4,5} with some calling for assessment of the attitudes, values and behaviours expected of one who has come to 'think, act and feel like a physician'.⁶ As a response, we put students in challenging scenarios, ask them to reflect in groups or in online journals and expect them to make themselves vulnerable in an authentic manner. However, studies of student reflections (generated as part of assessment tasks designed to test and promote professionalism) indicate students have admitted to fabricating narratives to achieve the objectives of assessment.⁷ This is familiar territory. As educators, we have often read something along the line of: *Earlier, I committed a mild (but understandable) mistake, amidst a number of conditions out of my control. Now, I have comprehensively learned from my mild mistake, and this valuable learning loop means I am unlikely to make a similar mistake again. Things are now OK, and the reflective practice opportunity was very useful, thank you.* These stories are immediately recognisable via their cadence, tone and 'hero narrative', and we suggest that they are familiar constructions across the culture of health care. This type of reflection illustrates both a hiding of vulnerability and the maintenance of an appropriate level of credibility. This is hardly surprising.

Reflection demands that learners take risks in making judgements about their own performance. There is further risk in communicating these judgements to supervisors, who often adopt a combined role of assessor and supporter/developer. Previous studies indicate that learners find these processes of self-exposure daunting, fraught and, at times, the opposite of self-serving in a competitive and high-stakes industry.^{8,9} These risks may be real: fallibility and vulnerability are not viewed as desirable characteristics within the health professions education culture.¹⁰

If we are asking learners to exhibit reflective or evaluative dispositions, how are we teaching them to develop the capability to take well-considered intellectual risks? Although modelling might present the most compelling possibility, it is seldom offered. Students have: lectures by experts in the field with pre-prepared slides; feedback conversations with

clinical experts who rarely exhibit vulnerability themselves despite asking learners to 'reveal all' about their own practice deficit, and observations of experienced clinicians with well-crafted and well-rehearsed communication scripts with patients. As researchers of workplace and classroom learning practices, we have not observed a great deal of reciprocal vulnerability, with the exception of clinicians talking about deficits in their own practice that are firmly rooted in the past.^{11,12} As we outline later, displays of vulnerability, or presentations of our unvarnished selves, are a key part of learning. If this is the case, why don't teachers reveal vulnerability more readily and more regularly? The answer may be that when the exposure of thinking or struggle does not sit well with the audience, there may be a compromising of the teacher's credibility. This reduction in status can, in turn, compromise trust between parties in the educational partnership.¹³

This paper explores the multiple tensions between credibility and vulnerability for both learners and teachers in health professions education. First of all, we make the case for vulnerability as a fundamental part of learning, making reference to Mezirow's transformative learning theory.¹⁴ Next, we draw from Goffman's seminal work^{15,16} on 'face' and 'impression management' to think about how credibility is constructed within an educational partnership. These two frames present a theoretical tension between the internal state of learning and the social construction of credibility. Against this, we propose that intellectual candour offers an opportunity to manage and embrace the vulnerability-credibility tension. The pivot point at which vulnerability may disrupt credibility is conceived as a dynamic construction, different for different people, and dependent on the time of day, the parties involved, the nature and stakes of work in the health setting, the positioning (or labelling) of the learner's capability at that moment in time and stages within the career trajectory. Although acknowledging that these things are always easier said than done, we suggest potential strategies for enacting intellectual candour within educational encounters. Finally, we outline potential benefits of and limitations to this approach.

THE VALUE AND RISKS OF SHOWING VULNERABILITY IN LEARNING ENCOUNTERS

The *Oxford English Dictionary* defines vulnerability as 'The quality or state of being exposed to the possibility of being attacked or harmed, either

physically or emotionally'. Learners in a health professional environment have vulnerabilities simply by the nature of their status and role. They are reliant on their supervisors to direct them appropriately, on their teachers to guide their development and on their assessors to make fair judgements. Moreover, as discussed earlier, clinical environments are challenging and stressful workplaces with very high stakes. Supervisors, who are often also teachers, rely on their colleagues (including students) to get the work done safely and well. All practitioners therefore have significant vulnerabilities because of the potential harms of their own actions as well as the inevitable social pressures of the workplace and affiliated institutions, such as universities or postgraduate training colleges. Against this backdrop, learning needs to occur.

In order to learn, we have to open ourselves up to the possibility of imagining things differently. This is more than the incremental learning of adding new facts to older ones, what Illeris calls 'assimilative' learning.¹⁷ Rather, this is learning as transformation; different ways of knowing or being; profound epistemic or ontic changes in how we make sense of the world.^{18,19} Transformative learning theory suggests that 'disorienting dilemmas' act as catalysts for learning.¹⁴ For example, when an overly confident medical student gets feedback from a patient that he or she is speaking in dismissive tones, the student feels shame or guilt. Then, through critical reflection, the student may begin to understand that, as a medical professional, he or she will be in a privileged position, and as such, must ensure that he or she speaks respectfully. This is learning that transforms. The student has experienced 'a significant level of disruption ... where their frame of reference is shown to be inadequate to explain what they have seen, heard or experienced'.²⁰ As Berger²¹ notes, 'such a change can lead people to see things they had not noticed before and to have choices they didn't realise they had. But ... this change of perspective comes with a loss – a loss of satisfaction with earlier perspectives'. In other words, learners must necessarily expose themselves to the possibility of disorientation or, far worse, 'catastrophic disorganisation'.²² Hence, profound learning may be highly disruptive to a sense of self and the world. In order to experience such disruptions, we need to be vulnerable.

Disorienting dilemmas and associated vulnerabilities do not need to be made public. Our own private reflections may bring profound changes. However, we suggest that teachers and peers often have a key role

to play in helping us to reflect and make new meanings. If others know our confusions, errors and concerns, then they can help direct and guide us. Moreover, by voicing our dilemmas and uncertainties, we prime ourselves for learning. We flag to others and ourselves that we are open to new ways of knowing or, as commonly said, we 'make ourselves vulnerable'.

'Making yourself vulnerable' may be good for learning but it exposes us to be less than perfect. Revealing our underbellies is a risky business, particularly in clinical workplaces where health care practitioners and students already have significant vulnerabilities. In some situations, 'making yourself vulnerable' might lead to exploitation, legal threat, bullying or being overly dependent on others to help manage internal dilemmas. After all, clinical learning intersects with social structures and expectations that are extremely complex. We suggest the most likely potential harm in learning situations is that our teachers and colleagues may think less of us. Our professional status may be significantly damaged, and we may lose career opportunities. In other words, anyone who 'makes themselves vulnerable' also opens themselves up to losing credibility.

THE ROLE OF CREDIBILITY IN THE STUDENT–TEACHER RELATIONSHIP

Credibility is a slippery concept. If a person is credible, we 'believe' in them. However, our perception of that person's credibility may not align with their own internal feelings. For example, if you are a doctor and you say to your patient, 'I'm afraid I don't know what's wrong with you', you may not feel any immediate loss of credibility. However, unbeknownst to you, the patient may think 'a doctor should know what's wrong'. The only way you will know if you have lost credibility is if the patient expresses his or her concerns, possibly by not returning for a follow-up appointment. So credibility is an attribute that others invest in you, and your feelings of credibility arise from your perceptions of that external investment. This is the eternal dilemma: we are seeking to maintain an attribute that is always given to us by other people.

Seeking to maintain credibility is a key feature of human existence. In making this claim, we draw primarily from Goffman's notion of 'face': one's own 'image of self, delineated in terms of approved social attributes'.¹⁶ We have multiple faces, and they are mutually constructed and preserved through social interactions. In other words, 'face' is one's own

representation of one's own credibility, through enacting a coherent pattern of actions and thoughts in social situations. What we call colloquially 'loss of face' occurs when information about 'social worth' cannot cohere with this presentation of self. In these circumstances, a person is 'likely to feel ashamed and inferior . . . because of what may happen to his [sic] reputation on such an account'.¹⁶ Already, the tension with making oneself vulnerable is clear: we all try to 'save face' whenever possible, even at the expense of a rich learning encounter.

In seeking to promote our own credibility, we also construct the credibility of others. Goffman suggests any interaction has a ritual form, in which individuals mutually construct each other's positions.¹⁶ For example, when a patient visits a general practitioner, there are ritual interactions that position the patient and doctor in certain ways. 'How can I help you today?' is a strongly ritualised interaction that seeks to maintain perceptions of credibility. If the ritual is broken, for example with a 'high-five' greeting, the credibility of the doctor might be called into question. Likewise, in end-of-rotation feedback encounters in the workplace, educators often begin their appraisal of students with phrases like 'Look, you are on the right track'.⁹ The opener positions the educator as the diagnostician of performance: *rest assured, I've watched you carefully, I'm a knowledgeable other, and in my opinion you are meeting most of the standards of work.* The ritual also protects the face of the learner by indicating that he or she is not going to be dismantled through this discussion of his or her performance. The learner likewise constructs the face of the educator with equally ritualised responses by positioning that person as the expert.⁹

These ritualised interactions, which reflect our social structures, our positions and status, are just part of the credibility equation. Learners can politely enact these face-saving rituals, listen attentively to instructions for improvement and then ignore them. In workplace training, credibility judgements are based on who has delivered the feedback; in other words, credibility is critical in how (and if) the learner integrates the feedback into his or her development.²³ Identical messages from two sources may hold different value according to whether the source is perceived to be heavyweight or lightweight. If the teacher lacks credibility, the learner may simply disengage from the teacher's advice.

In short, credibility is a significant factor in learning and teaching. For the teacher, promoting his or her

own credibility is an important part of making a teaching exchange acceptable to learners. Likewise, for the learner, promoting his or her own credibility is important if he or she wishes to engage in a meaningful dialogue with the teacher, pass examinations and progress through a career. These very natural tendencies to maintain credibility lead to both teachers and learners promoting an idealised view of the encounter, aligned with social expectations. We see constructions of credibility shift with social status. A first-year medical student can be expected to ask silly questions; a new consultant has to strive harder to appear expert. A well-respected senior clinician with a prolific research profile may feel very comfortable in replying to a delegate at a conference with: 'That is a very good question. I don't have the answer to that.' The attribution of credibility affords different social responses with different effects.

It typically takes a lot of time, energy and work to establish credentials to a point where others will invest you with credibility. As a consequence of this, teachers may feel they must 'provide' the answers and 'pick' the right tasks for learners in order to maintain their own credibility. To give another example, clinical educators often painstakingly craft comments to *deliver* feedback to the learner, a balance of praise and criticism to maintain stability in the learner-teacher relationship, and yet they expend little energy in attempting to understand the learner's perspective and the extent to which viewpoints about the performance align.^{24,25} This polished performance, or monologue, which seeks to boost credibility, seems a long way from 'making oneself vulnerable'.

INTELLECTUAL CANDOUR: A SOLUTION TO THE CREDIBILITY-VULNERABILITY CONUNDRUM?

The tensions between vulnerability and credibility for learners and teachers are pervasive and, in some ways, represent irreconcilable differences. Learners must be willing to take the risk of exposing themselves and lowering their credibility. Teachers likewise need to model these exposures in order to demonstrate the nuances and complexities of grappling with real-world problems, but, similarly, risk lowering their credibility. The social interactions that frame the teaching encounter mutually construct credibility and, in doing so, make it harder for expressions of vulnerability, with their accompanying risk of loss of face.

We are proposing that intellectual candour is a useful way to help manage these cross-currents.³ So what is intellectual candour? It is the verbalisation of thinking with respect to a genuinely complex problem or situation. It has an improvisational quality. It is not polished, and the discourse is emergent, hesitant and fraught with the possibility of failure. It is a short glimpse, revelatory rather than indulgent. This is speaking *as* thinking, similar to ‘thinking aloud’, where the speaker might explain or justify a response to a situation, or ‘brainstorming’, where ideas are discussed without a demand for perfection. What distinguishes intellectual candour from thinking aloud is that the purpose is *learning*, both for self and others.

So how can intellectual candour promote learning? We suggest that learners and teachers alike can use these brief, improvisational disclosures of thoughts or dilemmas to learn: (i) humility; (ii) reflection-in-action skills, and (iii) how to formulate and generate ideas and thoughts through dialogue. Moreover, when teachers reveal their minds and unvarnished truths, they are modelling how to be vulnerable. By doing so, they illustrate that learning is lifelong and that experts and novices both grapple with things they do not understand (see Box 1 for phrases that might suggest you are being intellectually candid.)

This type of ‘candour’ does not reconcile the tension between vulnerability and credibility and nor do we want it to. It is this tightrope that gives us a platform, a very narrow one at that, to wobble upon. It is the very risk that makes it thrilling and that makes it an effective mechanism for learning. The balance point between expressing vulnerability and seeking credibility is ever changing, and, for that reason, learners and experts alike can never

Box 1 Phrases that may indicate you are being intellectually candid

- I haven’t quite got a grip on this yet. . .
- I’m not sure. . .
- I’m in two minds. . .
- I don’t quite understand this yet, but what I’m thinking is. . .
- When I look at this problem. . .
- What I still struggle with in my own practice is. . .
- Bear with me, while I talk this through. . .

claim to have it mastered. What makes one person feel vulnerable may be another person’s sweet spot. Learners who are tagged with the status ‘underperforming learner’ or teachers ‘on probation’ have a lot more to lose and may be well served to play it safe in the candid stakes, depending on context. Revealing faltering thinking, when you are trying to build your own confidence, may not always be a sensible call. This is why we suggest that ‘teachers go first’. When those with high social capital are prepared to open themselves to learning, and the concomitant possibility of loss, it creates an atmosphere of humility and possibility. Students may get a glimpse of the notion that they are on the same team as the teacher.

POTENTIAL BENEFITS OF TEACHERS MODELLING INTELLECTUAL CANDOUR

We have made the case that although vulnerability is a key part of learning, one of the chief constraints is simultaneously needing to be credible. For this reason, judicious use of intellectual candour presents a valuable opportunity for development. We particularly suggest that teachers can use intellectual candour to promote student learning. This is not risk-free. Although humility is a very appealing attribute in someone of high status and ‘making oneself vulnerable’ can also boost credibility as well as diminish it, there is always a potential fall in credibility. This risk can be balanced against potential benefits. We see that there are two main benefits resulting from teachers’ intellectual candour.

Building trust through reciprocal vulnerability

Recent papers in medical education have examined the nature of interpersonal trust and individuals’ trust in systems, including features that characterise trusting behaviour and the mechanisms by which trust may be developed.^{26–28} Other literature examines the role of trust as part of the relational nature of feedback.^{13,23} Together, this research suggests the need for trust as a key part of learning. As Beitat notes: ‘Interpersonal trust is a dynamic and voluntary process, involving both cognitive and affective elements that shape a positive expectation about a future outcome and thus enables cooperation by accepting vulnerability posed by associated risks.’²⁹ We suggest that intellectual candour requires trust and can build trust. If a teacher, who by his or her position is higher status

and more expert, reveals problems, uncertainties and inner thoughts within educational interactions, there is a sense of *I'll show you mine* and (if you like) *you can show me yours*. Learners may therefore be more likely to shift viewpoints, subject their own arguments to others' and their own scrutiny, take on others' ideas and develop links between concepts that they had not previously considered. A mirroring or reciprocation seems to happen when people engage with a sense of trust and a shared purpose.³⁰ In other words, 'trust never grows without our taking the risk of placing our trust in others'.³⁰

The merits of reciprocal vulnerability are suggested by two observational studies of verbal feedback conversations in the workplace.^{9,12} In both these studies, the conversations in which learners allowed themselves to be vulnerable by self-evaluating their own deficits exhibited two distinctive qualities. Firstly, the educators extended legitimate invitations for learners' evaluations of their own performances, including providing enough space for responses. Secondly, the educators helped to build an atmosphere of trust. This may of course have been building prior to the observed 'feedback event'; however, the distinguishing characteristic of this atmosphere was reciprocal vulnerability. In other words, educators did not present themselves as perfect and were prepared to share their own dilemmas and struggles in practice. For example, educators talked with learners about the difficulty in distinguishing certain lung sounds on auscultation and the sort of strategies that they personally found helpful to make the clinical judgement.⁹ Looking for how intellectual candour assists reciprocal vulnerability in different contexts and cultures, including learning conversations, workplace assessments and learning-rich events in the workplace such as ward rounds, may be a productive research direction.

Building a culture that acknowledges fallibility

We have suggested that teachers' intellectual candour can create an atmosphere that allows learners to take intellectual risks. When people feel safe enough, they are also prepared to reveal their less polished selves and accompanying 'unvarnished' thought processes and actions. We propose that any 'unvarnished' self also appears in the necessary errors that are made as learners and throughout professional life. As Billett³¹ notes, '... making errors is central to how we learn, and come to perform in and through work and across working life'.

By encouraging candid exchanges, learners are more likely to be socialised into a culture that acknowledges fallibility rather than honouring perfectionism. As mentioned in the introduction, health care practice is a high-stakes environment in which errors can lead to catastrophic situations. At the same time, errors are inevitably made and the attempts to hide or downplay these errors lead to serious consequences.¹ For learners, this set of stressors can be further amplified by the competitive nature of many training programmes. We argue that clinical educators who enact the features of intellectual candour can help normalise fallibility as part of clinical practice. This may mitigate the perils of a culture of perfectionism by helping learners build a complex, holistic view of practice that better serves themselves, the patients and colleagues they work with.

EMBRACING THE TENSION IN PRACTICE

We have described intellectual candour as managing the dynamic balance between credibility and vulnerability in theoretical terms. How do these notions translate to practice? Although there are no dedicated studies as yet, the reduction in the authority gradient through teachers' expressions of humility and vulnerability has been documented in studies on workplace feedback.⁹ In Table 1, we offer some features, drawing from theory and our research on learning conversations,^{8,9,12,32,33} which describe how to walk the tightrope.

Specific types of learning activities may support the development of intellectual candour for both learners and teachers. In Table 2, we offer three examples that may promote opportunities for vulnerability while supporting all parties in feeling credible. The way that educators 'set up' these processes, and encourage others to engage, needs to be the focus of further research. Importantly, none of these strategies attempt to place emotions to the side. The very design of the approaches accounts for the embedded nature of emotion in learning, following the principle that learning, by definition, demands some form of risk taking, or openness to the possibility that things can be done or thought about differently.

One unproductive way that learners and teachers alike resolve the vulnerability–credibility tension is by 'faking vulnerability'. We see this in reflective writing about critical incidents in the workplace, in which learners 'play the game' to the extent that

Table 1 Features of intellectual candour

Improvisational	You are 'in the moment' . This means the learner or teacher is responsive and working off impulse, with minimal pre-scripting. It may be helpful to read the literature on improvisation ^{34,35} to build further understanding of how this works and to what ends
Purposeful	At the same time, there is a conscious awareness that this is what you are doing, with the intention of both learning and promoting learning . This is not purposeless or spurious verbiage and this focused intention means that the principles of theatrical improvisation only reach so far. The purpose of the 'candid exposure' needs to be clear and conscious and be watchful for the effects (immediate and downstream). This means that while you are 'invested in the moment', you continue to be accountable for the purpose and effect of your actions. Intellectual candour as indulgence or attention seeking does not fit here
Dialogic	It is part of a dialogic encounter . Although it is possible to be intellectually candid for a broader audience (such as in written reflections or by revealing uncertainties in a conference presentation), we think it is most effective and most likely to be improvisational when working with others. Through this form of joint work, trust can be more easily established. This may lead to reciprocity. Vulnerability invites vulnerability, which offers the promise of transformative learning
Thrill of the tension	Feeling the 'thrill' of walking the line; that is, there is likely to be a sensation of stress or tension as you make yourself vulnerable and negotiate your way through the possibility of losing credibility. The balance point shifts regularly depending on context, the nature of the interactions, and the 'roles' or externally assigned positions of the stakeholders. Moreover, you can never know your own credibility – you can only judge cues as to what others are thinking and feeling
Emotional dimensions	An emotional preparation for an emotional consequence . You are likely to feel emotion – possibly exhilaration or fear. When your intellectual candour does not hit the mark, you may feel shame. At times, the audience can inherit this shame too

they exchange fiction for autobiography.⁷ We also see examples of experienced teachers or expert clinicians making a oft-used confession of a fault that happened a long time ago. Other characteristics of faux candour may be sharing mistakes with a happy ending, sharing mistakes in which you had little involvement in the problem (e.g. declaring others' inadequacies), or disclosing struggles or deficits that are off topic (being prepared to discuss your below-average carpentry job at the weekend while presenting your professional self as outstanding). Presenting a faux sense of vulnerability allows everyone's credibility to remain intact. However, it does not create the same atmosphere as legitimate risk taking, and we suggest that, in many cases, trust and learning are not enabled. Intellectual photoshop may look the part, but it is not the same as 'making oneself vulnerable' with its real attendant risks of loss of credibility.

LIMITATIONS OF INTELLECTUAL CANDOUR

Despite providing theoretical arguments for intellectual candour and some suggestions as to how this can be encouraged, we acknowledge that

managing the vulnerability and credibility tightrope is challenging to do in practice. A poorly performing learner who is striving for credibility in the eyes of his supervisor may rightfully choose to be more restrained in his intellectual candour, compared with a peer who is sitting at the top of the class and has 'credit' to afford more intellectual risks during conversations with supervisors. Likewise, a well-performing trainee would do well to err on the conservative side of intellectual candour (micro versus gusto 'reveal') when she first meets her supervisor. After a 3-month, trusting supervisory relationship, this same trainee may escalate learning opportunities by taking more intellectual risks during these supervisory interactions, particularly as she monitors the positive effects of these open conversations with this particular communication partner.

The negative impacts of intellectual candour are worth outlining so that educators and learners alike can consider what and when they are willing to reveal. For learners, the competitive nature of many health professional courses and postgraduate training means that students may strive for advantage over their peers. In this climate, clear

Table 2 Educational strategies to promote purposeful intellectual candour

Strategic approach	Examples of how these may be enacted in the classroom or health workplace
1 Pedagogies that lower the emotional risk	Some pedagogies afford learners and teachers a chance to learn to think in a 'relatively safe' and confined environment; an immediate analogy is learning to walk the tightrope on a low wire or even on the floor. Peer-learning activities are one example of this; in peer-learning situations, the credibility stakes are lower as students are at the same level. As Christiansen and Bell's study indicates, this may reduce anxiety and learners will be prepared to 'disclose areas of uncertainty'. ³⁶ Another strategy from the feedback domain, with a higher level of challenge, is to emphasise standards of work in learning conversations, rather than cutting straight to the learner's performance on the task. This strategy was evident in Johnson and Molloy's examination of feedback conversations. ¹² Calibration against a standard takes away from the learner's emotional risk (information is less likely to threaten the learner's 'self') and also affords teachers an opportunity to reveal some of the uncertainties that may exist around tacit standards of practice. Simulation-based learning is another example of a teaching approach in which emotional stakes can be lowered (although research shows us not as much as we think), while maintaining technical demands of the task
2 Activities that offer joint work	Learning as 'participation' is a well-understood metaphor in education ³⁷ and Wenger ³⁸ emphasises 'joint work' as a key part of 'communities of practice'. We suggest joint work is a very useful strategy to promote 'productive vulnerability'. Both parties can only be responsive, dialogic and build on each other's work if they authentically lose some control over the encounter. For example, when two radiologists work together in real time to prepare a presentation for the rest of the department, they are guided by a shared set of learning outcomes, but may have very different notions of how to generate material or activities to achieve these learning outcomes for their colleagues. Co-construction by its nature requires that people lose something in order to gain something. Giving up turf, gaining turf or building brand new turf not previously conceived, both parties are improvising and in real (or at least constrained) time. This is more challenging to achieve in workplace learning in which the primary currency is patient care, not learning outcomes. Supervisors or teachers who create these conditions for co-construction often achieve this through embodiment of a 'becoming' identity (humility, openness), rather than an 'arrived' identity (expert, closed). ³⁹ In assessment or feedback conversations, learners and teachers often create a shared reconstruction of the clinical encounter that just occurred and provide their respective opinions about areas to focus on for improvement. When these conversations go well, both parties co-construct the flow of events, the 'diagnosis' of what needs improvement and why, and the shared development of a plan to incorporate the new knowledge into action. ³⁹ Listening, negotiation and compromise are all central tenets of this practice of joint work
3 Rituals that disrupt the status quo	If most rituals are about preserving status, as proposed by Goffman, ¹⁶ it is worth considering what happens if we set up rituals that momentarily invert the status quo. Snowden proposes the role of ritual in disrupting 'entrained thinking' in knowledge management. ^{40,41} For example, he describes a ritualised disruption 'involving the use of a comical hat with elephant ears and an elephant trunk. . . Following agreement by the team that assumptions must not be made, the first person caught making an assumption had to wear the hat until someone else was caught in a similar mistake. Judicious advance planning meant that the most senior member of the group made the first assumption. . . Humour was critical as it diffused tension and criticism'. ⁴¹ Playfulness affords the opportunity to break through the standard teaching rituals into a more fluid improvisational space. Similarly, swapping multiple 'patients' into simulated 'history taking' role-play with set timed changes ⁴² achieves a ritual disruption. The ritual removes notions of status, as no-one could possibly be expected to act 'normally', although, of course, learning can continue under these game-like conditions. Another exciting disruption to rituals in classroom or in conference settings is the use of soft, cube-shaped and throwable microphones. Instead of class participants walking up to a standing microphone to deliver a question to the presenter or crowd, they are thrown, at speed, the portable microphone. Microphone ping-pong promotes informal and spontaneous exchanges between colleagues. These disruptive rituals take time to set up and, like any experiential learning encounter that carries risk, may be followed by a group debriefing

and decisive action may be viewed as more attractive than speculation, challenge or meandering cognitive work with backflips or admissions of shortcomings. For educators, there are times when learners do not need to know about ambiguities and shortcomings as these may muddy the waters and potentially discredit the teacher in the eyes of those who will shortly become colleagues in the same workplace. Moreover, sometimes the feelings of loss of credibility (even though, in reality, there has been none) can be overwhelming. It is often the case that the person who is embarrassed feels it far more keenly than anyone else and this feeling may be destructive.

One of the key facets of professionalism (of teacher, of student, of clinician) is an understanding and enactment of appropriate boundaries in communicative encounters. 'Bearing all' to others, without a clear purpose for the exposure and without the reflective or evaluative capacities to trace the effects of intellectual candour, would likely constitute a breach of professional conduct. This again points to the importance of appropriate modelling of intellectual candour by teachers so that students can observe and experience context-specific parameters that work to heighten learning.

CONCLUSIONS

In this paper, we have argued for the learning value in taking risks and making mistakes, in line with transformative learning theory.¹⁴ We have also referred to Goffman's notions of 'face' and impression management^{15,16} in highlighting the important role of credibility in learning and teaching, and in clinical practice. We have argued for the compelling act of candour in teaching and learning, but at the same time, we acknowledge that the opportunities for finding new ways of knowing can be dashed very abruptly when credibility is lost. We think that learners and teachers alike should embrace the ongoing struggle between expressing vulnerability and seeking credibility, both in learning and in practice. It may be that teachers' modelling of intellectual candour – how to walk the tightrope – is the most persuasive influence in encouraging novices to negotiate their own sense of balance.

Contributors: EM and MB made substantial contributions to the conception and design of the work, and contributed to the drafting and critical revision of the

manuscript. Both authors approved the final manuscript submitted.

Acknowledgements: the authors would like to thank Professor David Boud, a credible expert on reflective practice whose openness encourages his colleagues to take leaps in his presence, for his comments on a draft of this work.

Funding: none.

Conflicts of interest: none.

Ethical approval: not required.

REFERENCES

- 1 Reynolds E. Why doctors are taking their own lives at alarming rates. news.com.au 2017. <https://www.news.com.au/finance/work/at-work/obsessed-with-the-fear-of-failure/news-story/d707f7cd8ee0173b17fd289a99889a25>. [Accessed d Month 2018.]
- 2 Mulholland H. Alys Cole-King: 'Suicide is a tragedy – particularly when it is a doctor or nurse'. *The Guardian* 2018. <https://www.theguardian.com/society/2018/jan/16/aly-cole-king-suicide-nhs-doctors-nurses-winter-crisis>. [Accessed d Month 2018.]
- 3 Bearman M, Molloy E. Intellectual streaking: the value of teachers exposing minds (and hearts). *Med Teach* 2017;**39** (12):1284–5.
- 4 Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. Reframing medical education to support professional identity formation. *Acad Med* 2014;**89** (11):1446–51.
- 5 Monrouxe LV. Identity, identification and medical education: why should we care? *Med Educ* 2010;**44** (1):40–9.
- 6 Cruess RL, Cruess SR, Steinert Y. Amending Miller's pyramid to include professional identity formation. *Acad Med* 2016;**91** (2):180–5.
- 7 Maloney S, Tai J-M, Lo K, Molloy E, Ilic D. Honesty in critically reflective essays: an analysis of student practice. *Adv Health Sci Educ Theory Pract* 2013;**13** (4):617–26.
- 8 Bearman M, Castanelli D, Denniston C. Identifying and working with underperformance. In: Delany C, Molloy E, eds. *Learning and Teaching in Clinical Contexts*. Sydney, NSW: Elsevier 2018;1–15.
- 9 Molloy E. Time to pause: giving and receiving feedback in clinical education. In: Delany C, Molloy E, eds. *Clinical Education in the Health Professions*. Chatswood, NSW: Elsevier 2009;128–46.
- 10 Lingard L, Garwood K, Schryer CF, Spafford MM. A certain art of uncertainty: case presentation and the development of professional identity. *Soc Sci Med* 2003;**56** (3):603–16.
- 11 Molloy E, Borrell-Carrió F, Epstein R. The impact of emotions in feedback. In: Boud D, Molloy E, eds. *Feedback in Higher and Professional Education: Understanding It and Doing It Well*. New York, NY: Routledge 2013;50–71.

- 12 Johnson C, Molloy E. Building evaluative judgement through the process of feedback. In: Boud D, Ajjawi R, Dawson P, Tai J, eds. *Developing Evaluative Judgement in Higher Education: Assessment for Knowing and Producing Quality Work*. Abingdon: Routledge 2018; 166–75.
- 13 Telio S, Ajjawi R, Regehr G. The ‘educational alliance’ as a framework for reconceptualizing feedback in medical education. *Acad Med* 2015;**90** (5):609–14.
- 14 Mezirow J. Transformative learning: theory to practice. *New Dir Adult Cont Educ* 1997;**1997** (74):5–12.
- 15 Goffman E. *The Presentation of Self in Everyday Life*. Garden City, NY: Anchor 1959.
- 16 Goffman E. On face-work: an analysis of ritual elements in social interaction. *Psychiatry* 1955;**18** (3):213–31.
- 17 Illeris K. A comprehensive understanding of human learning. In: Illeris K, ed. *Contemporary Theories of Learning*. Abingdon: Routledge 2009;7–20.
- 18 Kegan R. What ‘form’ transforms. In: Illeris K, ed. *Contemporary Theories of Learning: Learning Theorists in Their Own Words*. Abingdon: Routledge 2009;35–54.
- 19 Taylor EW. An update of transformative learning theory: a critical review of the empirical research (1999–2005). *Int J Lifelong Educ* 2007;**26** (2):173–91.
- 20 Howie P, Bagnall R. A beautiful metaphor: transformative learning theory. *Int J Lifelong Educ* 2013;**32** (6):816–36.
- 21 Berger JG. Dancing on the threshold of meaning: recognizing and understanding the growing edge. *J Transform Educ* 2004;**2** (4):336–51.
- 22 Perry WG Jr. *Forms of Intellectual and Ethical Development in the College Years: A Scheme*. Jossey-Bass Higher and Adult Education Series. San Francisco, CA: Jossey-Bass 1999.
- 23 Telio S, Regehr G, Ajjawi R. Feedback and the educational alliance: examining credibility judgements and their consequences. *Med Educ* 2016;**50** (9):933–42.
- 24 Watling C, Driessen E, van der Vleuten CPM, Lingard L. Learning culture and feedback: an international study of medical athletes and musicians. *Med Educ* 2014;**48** (7):713–23.
- 25 Molloy E, Boud D. Changing conceptions of feedback. In: Boud D, Molloy E, eds. *Feedback in Higher and Professional Education: Understanding It and Doing It Well*. New York, NY: Routledge 2013;11–23.
- 26 Hauer KE, ten Cate O, Boscardin C, Irby DM, Iobst W, O’Sullivan PS. Understanding trust as an essential element of trainee supervision and learning in the workplace. *Adv Health Sci Educ Theory Pract* 2014;**19** (3):435–56.
- 27 Damodaran A, Shulruf B, Jones P. Trust and risk: a model for medical education. *Med Educ* 2017;**51** (9):892–902.
- 28 Hauer KE, Oza SK, Kogan JR, Stankiewicz CA, Stenfors-Hayes T, ten Cate O, Batt J, O’Sullivan PS. How clinical supervisors develop trust in their trainees: a qualitative study. *Med Educ* 2015;**49** (8):783–95.
- 29 Beitat K. Conceptualising trust. In: Beitat K, ed. *Trust and Incidents: The Dynamic of Interpersonal Trust Between Patients and Practitioners*. Wiesbaden: Springer 2015;13–66.
- 30 Carter MA. Trust, power, and vulnerability: a discourse on helping in nursing. *Nurs Clin North Am* 2009;**44** (4):393–405.
- 31 Billett S. Errors and learning from errors at work. In: Bauer J, Harteis C, eds. *Human Fallibility: The Ambiguity of Errors for Work and Learning*. Dordrecht: Springer 2012;17–32.
- 32 Bearman M, Molloy E, Ajjawi R, Keating J. ‘Is there a Plan B?’: clinical educators supporting underperforming students in practice settings. *Teach High Educ* 2013;**18** (5):531–44.
- 33 Krogh K, Bearman M, Nestel D. ‘Thinking on your feet’ – a qualitative study of debriefing practice. *Adv Simul* 2016;**1** (1):12.
- 34 Spolin V. *Improvisation for the Theater: A Handbook of Teaching and Directing Techniques*. Evanston, IL: Northwestern University Press 1983.
- 35 Johnstone K. *Impro: Improvisation and the Theatre*. New York, NY: Routledge 1981.
- 36 Christiansen A, Bell A. Peer learning partnerships: exploring the experience of pre-registration nursing students. *J Clin Nurs* 2010;**19** (5–6):803–10.
- 37 Sfard A. On two metaphors for learning and the dangers of choosing just one. *Educ Res* 1998;**27** (2):4–13.
- 38 Wenger E. *Communities of Practice: Learning, Meaning, and Identity*. Cambridge: Cambridge University Press 1998.
- 39 Hager P, Hodkinson P. Becoming as an appropriate metaphor for understanding professional learning. In: Scanlon L, ed. *‘Becoming’ a Professional: An Interdisciplinary Analysis of Professional Learning*. Dordrecht: Springer Netherlands 2011;33–56.
- 40 Snowden D. Complex acts of knowing: paradox and descriptive self-awareness. *J Knowl Manag* 2002;**6** (2):100–11.
- 41 Snowden D. Cynefin, a sense of time and place: an ecological approach to sense making and learning in formal and informal communities. In: Edwards JS, Kidd JB, eds. *Proceedings of KMAC2000*. Birmingham: Operational Research Society 2000;1–11.
- 42 Topps D, Ellaway R, Kupsh C. Hockey lines for simulation-based learning. *Clin Teach* 2015;**12** (3):161–4.

Received 13 March 2018; editorial comments to authors 11 April 2018; accepted for publication 30 May 2018