Competency-based simulation education: should competency standards apply for simulation educators?

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The healthcare education landscape is evolving. Recent years have seen a change in conceptualisations of learning, assessment and time-based versus competency-based education (CBE).[1] These changes will influence healthcare provider training and ultimately the clinical care they provide to patients. CBE has elevated the discourse surrounding clinical competencies and entrustable professional activities.[2] Inherent to this focus on educational outcomes is a renewed attention on the role of formative clinical experiences: how we engage and empower learners in their own education; how we organise workplace-based learning to provide the graded supervision our trainees require while maintaining patient safety; and how we help our trainees maximise learning from clinical practice and progress in their training through robust assessment and feedback mechanisms.[2] [3]

This changing landscape places a heavy burden on busy clinician educators who themselves may require significant training and faculty development to translate the emerging educational science into effective clinical teaching practice. The very nature of CBE requires clinical educators to assess learners frequently in a manner that allows reliable and valid inferences across the spectrum of clinical competencies that are required for their specific training programme.[1] In addition, assessment of individual learner competencies will occur in workplace settings where clinical care is a team activity. We see a mismatch between a CBE approach we value and strive for and the relative underemphasis of faculty teaching skills required for its effective implementation and outcomes assessment. Without equal and parallel attention to clinical educator training, we fear this disconnect has the potential to undermine the translation of promising advances gleaned from healthcare education research into widespread clinical education. The increasing adoption of healthcare simulation with its demonstrated potential role in CBE is encouraging yet seems to represent an example of this disconnect between curriculum demands and faculty development efforts required to implement it.[4]

The rapid expansion of simulation-based training to augment and in some instances partially replace clinical experiences seems to be proceeding with a lagging recognition of the high time and skill demands that simulation-based education and assessment places on educators. For some competencies, teaching and assessing these skills solely in the clinical environment is challenging or even unfeasible for relatively rare events. Healthcare simulation is particularly helpful to promote skill acquisition and assess competency for these rare events using deliberate practice and mastery learning paradigms (eg, resuscitation, infrequent procedural skills) or which may be associated with high stakes that might otherwise be difficult to capture in the workplace.[4] Simulation provides a controlled environment where educators can train and assess competencies in a predictable, on-demand fashion.

While these research findings are promising, achieving similar educational outcomes and consistency in assessment using simulation-based approaches on a widespread basis will require significant faculty training.[4] Success factors of simulation-based educational research that translate to clinically important learning outcomes demand that researchers reliably recreate standardised simulation events for all study participants.[5] Development of robust assessment tools and training raters to use these tools are also vital components.[6] Similarly, we view these factors as essential for simulation-based education and assessment; ideally, these competencies should be the focus of faculty development activities.

Assessment tools for faculty development purposes are emerging, for example, healthcare debriefing.[7] Some of the essential simulation educator competencies that are required for effective implementation of CBE using simulation include (but are not limited to):[5–7]

▶ *Conduct an effective prebriefing*: The prebriefing before the simulation event should be tailored to the activity and is essential to frame the event and create a psychologically safe learning environment.[8] This applies to sessions dedicated to skill development as well as sessions in which performance assessment will be the focus even though key aspects vary.

▶ *Deliver high quality, standardised simulation training events*: Design and implementation of standardised simulation training events require multiple steps, including needs assessment, designing a training event tailored to the target audience, providing cues as triggers for key behaviours, pilot testing the event and implementing the event in a reproducible manner.

▶ *Attend to relevant realism issues*: This element includes a sound understanding of how to optimise relevant aspects of realism and tailor specific aspects of realism to the task/competency being assessed. For example, when assessing a learner's ability to communicate with a family member while under stress, the educators' ability to create and control emotional realism will be the key to the experience (and assessment).

▶ *Integrate actors or simulated participants effectively when appropriate*: Actors or simulated participants may require training to ensure suitable role portrayal and consistency from one trainee to another. Here, the lessons learnt from standardised patient community may help to guide training methods and requirements.

▶ *Debrief simulation events effectively*: Debriefing, ideally balancing key performance feedback and reflection, is a key component simulation-based education, including deliberate practice and mastery learning models.[4] [7] [9] How debriefings are conducted can influence how much/what is learnt; as such, training is required. If debriefing is to be used as a means of assessing competency (ie, formative assessment), then educators should be taught how to conduct debriefing in a standardised

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fashion to ensure the debriefing experience is similar for all learners.[9]

▶ *Assessing learning outcomes*: Assessment requires designing an appropriate assessment tool or using a pre-existing one that has ideally been validated in a similar or comparable context.[6] In either case, raters must be trained to ensure results are reliable, valid and defensible, especially in the CBE paradigm in which high-stake decisions about progression in training are made.

While the penetration of formal education training (eg, Masters in Health Professions Education) is gradually increasing, usually simulation faculty, at most, participate in simulation educator-training courses as preparation for their simulation education and assessment activities. Unfortunately, these courses have variable focus, breadth and quality. In addition, we have taught on many simulation educator courses and, in our experience, we hear that many of these educators are then expected to develop simulation faculty at their own institutions after their short immersive faculty development experience; this reflects the very 'see one, do one, teach one' mentality that simulation community has attempted to debunk. With the shift to CBE, more robust faculty development strategies—with inclusion of skills required to effectively implement CBE—will be needed. We recognise that simulation educators acquire their skills to varying degrees from several different training options, including formal courses, conference workshops, webinars, mentored experiences and self-directed learning. More recently, fellowships in healthcare simulation are becoming more widespread. Our focus, however, is not on the process of simulation faculty development, but rather applying a similar competency-based framework to simulation faculty development we advocate for our medical trainees.

The healthcare simulation community has made progress in this important arena. Professional organisations such as the Society for Simulation in Healthcare (SSH), the Royal College of Physicians and Surgeons of Canada, and the American College of Physicians have robust accreditation criteria for simulation programmes. Similarly, the SSH has developed basic and advanced certification programmes for simulation educators. We believe this beginning professionalisation of simulation education represents a start, although this certification programme is currently based on written examinations and/or portfolio review; it does not (yet) include assessing of actual teaching performance or review of educational outcomes. We see a need for an increased breadth of simulation educator training opportunities that are centred upon assessing CBE-specific skill sets using simulation strategies.

In summary, we see the alignment of medical educational curricula and faculty teaching competency to be a mission critical component and success factor for CBE. We have used simulation-based education as an example, but we view parallel developments in medical education research and faculty development for clinical educators, though challenging and resource intensive, to be worth the effort for CBE.

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