

Context: How COVID-19 exposed key factors of emergency medicine education

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Rarely have our lives, work, and teaching been as disrupted as they have been by coronavirus disease (COVID-19). The clinical capacity concerns and physical distancing guidelines resulting from the pandemic have altered our usual educational activities. Learners and programs have seen rotations cancelled, subspecialty and elective experiences delayed, certification exams postponed, and our workforce redeployed. Educators have rapidly pivoted to virtual academic days, virtual teaching sessions, and novel wellness initiatives.¹ Interest in *in situ* simulation has expanded,^{2,3} and novel educational techniques, such as the use of mental practice,⁴ have been embraced. Collectively, these innovations highlight the importance of context in education, an increasing focus on collective competence, and the synergy of education and quality improvement.

Context matters. It is made up of everything around us, including our patients, practices, location, culture, and society. By its nature, it is both omnipresent and invisible⁵; however, COVID-19 caused such a sudden change in our context that it could not go unnoticed. Emergency departments (EDs) were altered to incorporate COVID-19 and non-COVID-19 areas, adherence and attention to personal protective equipment became a priority, and the safety of the ED as a learning environment was questioned. At the height of uncertainty about COVID-19, even the most seasoned emergency provider felt incompletely prepared to deal with a critically ill COVID-19 patient. These changes in context challenged our traditional model of medical education and profoundly impacted teaching and learning. For us as educators, the COVID-19 pandemic reaffirmed the need to consider context when designing and

implementing educational interventions.⁵ While educational interventions may be effective in the particular context where they were developed, we need to adapt when that context changes.

The change from in-person to virtual academic half-day is a tangible example that demonstrates the impact of a change in context. We did not fully appreciate the value of social interaction during academic half-days until it was gone. Lecture presenters lost the feel of the audience who can't make eye contact or laugh at jokes. Audience engagement through small group work or flipped classroom experiences that can deepen understanding and improve learning are more challenging to facilitate. Mok et al.¹ provide excellent suggestions for lecturing in this new context, including the use of deliberate pauses for clarification, opportunities to unmute and contribute during lectures, using "virtual classrooms" with pre-assigned trainees to increase discussion and peer teaching, and incorporating quizzes to foster engagement with the concepts and material. Lecturers will need to adjust the way that they present their lectures to incorporate this new context.

Educational leaders also adapted to the changing context of COVID-19 through an expanded focus on collective competence.⁶ Instead of engaging with just residents or attending physicians, multiple innovations described in this issue focus on healthcare teams.²⁻⁴ While it has long been recognized that we do not practise in a vacuum and team-based simulation is not uncommon, our historic educational paradigms continue to centre around physicians. COVID-19 has given us the nudge we needed to shift this focus from individuals to teams. The arrival of the pandemic has stressed the

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potential danger of incompetence that can result from team members with misaligned mental models and facilitated engagement of clinicians in emergency department educational initiatives. Specifically, Chaplin et al.² described the impetus for the use of team-based *in situ* simulation at their centres, whereas Hanel³ and Riggs⁴ used virtual and mental simulations to engage their entire department.

Finally, the threat of COVID-19 has broken down traditional silos between medical education and quality improvement to allow for a collaborative focus on both. In one example, the input from participants in simulation education initiatives was used to improve the final process of identifying latent safety threats.² In another, the power of mental practice was leveraged to provide virtual repetition of donning and doffing without wasting precious personal protective equipment.⁴ Applying mental practice to an immediate patient safety threat with limited resources empowered providers with the skills to be safe in their new day-to-day work. Both examples effectively integrated educational and quality improvement principles to meet their objectives.

The realization that competence itself is contextual gives us pause.⁵ While considering that context may help address the incompetence of a team faced with the threat of a rapidly spreading novel infectious disease, creating safety concerns, fear, and anxiety, we wonder

how it might be considered more broadly within our day-to-day educational activities. We challenge educators to pay attention to context as they develop novel educational interventions, to think beyond individuals when measuring competence, and to continue integrating medical education and quality improvement as we aim to address future challenges.

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