From Acquisition to Participation: Theorizing Virtual Patient Use in Family Medicine Education

TO THE EDITOR:
I enjoyed the study by DeMarco et al1 comparing the use of fmCASES to traditional use of textbooks. The use of virtual patients to support clinical learning is relatively unexplored2 and of particular relevance in family medicine given the increasingly distributed nature of clerkship and residency curricula.

DeMarco and colleagues1 evaluated the role of fmCASES in clerkship, cases replacing traditional textbook resource support. The intervention outlined in this paper reflects learning as acquisition3 and focuses on the representational capabilities of virtual cases, resulting in linear approach to learning, where students work through cases. Learning outcome is measured cognitively; unsurprisingly, students “learned to the test” (consequential validity).

Delivery is only a minor part of learning;4 education, however, is a complex social interaction. In this study we know little of how cases were presented to students, student expectations, nor their experiences of the technology. Faculty attitudes and perceptions are unclear. We do not know how cases were integrated into the curriculum; linkage to prior learning and experience are important components of expansive learning. Studies that focus on outcome, while important, fail to embrace the complexity of learning as a social process.5 It is likely that underlying tensions exist within the goals and expectations of different stakeholders of this intervention, hinted by the authors’ honest reflection of possible exam leakage. By focusing on outcome only, these understandings remain unreported and the potential to understand why things work in education is lost.

Adoption of a theoretical lens, eg, sociocultural learning theory or activity theory, could enrich this study. For example, focus groups with students or faculty could address the issues above. Alternatively, use of an action research framework or participatory design where learners are part of the research process from the outset would allow for iterative adaption and refinement of case use, inclusive of user-centered evaluation. These methods offer an avenue for future research, extending the question from “do computers work” to how best to use technology for learning. Incorporation of theoretical study design moves use of technology from replication of pedagogy to one that stimulates interactivity and creativity.

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References
4. van der Vleuten C, Driessen E. What would happen to education if we take education evidence seriously? Perspectives on Medical Education 2014:1-11.

Authors’ Reply
TO THE EDITOR:
We thank Dr Kelly for her insightful response to our recent manuscript.1 Further, we agree that education is a complex social interaction that cannot be reduced to a single curricular event. However, it is for that reason that we believe our work is important in understanding the unintended consequences of curricular changes.

In our study, our curriculum was held constant except for the replacement of the textbook with virtual cases. Although there is insufficient space to describe how this was presented to students and perceptions of the cases in the manuscript, we did obtain data that sheds light on that question. When asked to rate their satisfaction with fmCases, students rated the cases consistently below the course as a whole in each of the 3 years evaluated (3.6 versus 4.2) on a 5-point scale. Because data on student satisfaction with a textbook has never been collected, it is difficult to interpret these