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Reply to Comments Regarding "Deliberate Apprenticeship in the Pediatric Emergency Department Improves Experience for Third Year Medical Students"

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In Response to: “Deliberate Apprenticeship in the Pediatric Emergency Department Improves Experience for Third-year Students”

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Iyer MS, Mullan PB, Santen SA, Sikavitsas A, Christner JG. Deliberate Apprenticeship in the Pediatric Emergency Department Improves Experience for Third-year Students. *West J Emerg Med.* 2014;15(4):424-9.

To the Editor:

Iyer et al. have presented an interesting study of the usefulness of a deliberate apprenticeship model in the pediatric emergency department for third year students.¹ The deliberate apprenticeship model appeared from both the quantitative and qualitative results to show benefits of deliberate apprenticeship. However a closer examination of the methodology reveals potential problems with the quantitative techniques used. Put simply the multiple quantitative comparisons made may have yielded false positive results. By contrast although grounded theory has had its critics, most agree that the constant comparative method is a sound method of qualitative analysis.²

However perhaps most concerning is what the learners actually say in the qualitative feedback – or at least what we can see that they say from the selected quotes. One learner talks about being “able to jump from patient to patient” – not behaviour that we would perhaps wish to encourage in our learners. The same learner talks about being given more autonomy in “ordering tests, discharging patients” – activities that are likely to be beyond their competence. Another learner complains that they “didn’t get to see as many interesting things” as they would liked – here using language that appears to dehumanize patients. It is interesting to wonder what other learners said in their qualitative feedback. The authors have undoubtedly done a good job in using the constant comparative method to draw conclusions from this feedback but it would be fascinating to see all the raw data. At a time when many leaders in quantitative research are calling for access to all data, should qualitative researchers follow suit and similarly call for access to all qualitative data? It would be too much for journals to publish, but online papers could include a link to an open data repository which interested readers could then access.

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In Reply:

The authors are appreciative of the interest in our study provided by the author(s) of this letter. We found the Deliberate Apprenticeship (DA) model to be useful for third year medical students rotating through our Pediatric Emergency Department in regards to performing more physical exams and also having greater comfort in obtaining histories and creating differential diagnoses. Moreover, we found that this was a feasible and acceptable technique that could potentially be implemented at other institutions.

In response to the first critique of “put simply the multiple quantitative comparisons made may have yielded false positive results,” we did explore this in the limitations and agreed that multiple comparisons could have led to a Type I error. In fact, we took this a step further and by using Bonferroni Correction discovered that only the comfort in creating differential diagnoses remained statistically significant between the DA and control groups. This was also explicitly stated in the paper.

We also agree that the constant comparison method is a sound tool for analyzing qualitative data and was useful and enlightening in the results of this study. The students comments provide a rich description of their experience from their vantage point. We respectfully disagree that the comments provided by the medical students are concerning in their content itself. The nature of emergency medicine is to manage an ever-changing work load. As stated by Ledrick et al (2009), “part of the skill set needed for [emergency medicine] is being able to treat a large number of patients simultaneously, under pressure, and in a short period of time.”¹ We believe that the opportunity for reflection that our study provided created a safe space for students to consider and to articulate their perceptions about the learning environment and their roles as students and physicians-in-training. Therefore, the comment from one learner about being “able to jump from patient to patient” is a quality we would hope students are able to acknowledge, consider, and incorporate into their

emergency medicine practice. Furthermore, going from “patient to patient” allows for increased exposure and assists with student learning in an acute care environment. Finally, the comment that this learner appreciated the autonomy provided by “ordering tests, discharging patients” is not beyond his or her “competence” when the ultimate premise of this study was that these learners were under close supervision of a senior medical resident or faculty member.

It is an interesting idea to create an online repository to allow access to the raw qualitative data in studies. This would be particularly valuable for more extended direct observations over time, yet the implications for institutional review board protection of learners as human subjects would also warrant consideration. Furthermore, we also caution that while such a repository might facilitate further examination of thematic concepts and permit readers to have insight into the spectrum of ideas provided by our learners, providing external access to data opens the door for readers unfamiliar with the study setting to make interpretations not based on deep understanding of the training and practice site.

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