



Letter to the Editor

Do observers and active participants learn similarly during high fidelity sessions?



ARTICLE INFO

Keywords:

Simulation
Anaesthesia training
Observer role
Learning

We thank Dr Lilot et al for their comments on our study [1]. We have been very interested by the discussion of their post hoc analysis [2] from which they conclude that active participation during high fidelity simulation might provide better retention of knowledge at 3 months than observation only. They suggest that increased stress and more active experience might explain their results [2].

At the present time, active participation is the gold standard during high fidelity simulation to provide experiential learning such as described by Kolb et al. [3]. However, learning by viewing also occurs and has recently been emphasised [4,5,6]. Immediate improvement of knowledge was recorded in observers in our study, although it was greater for active participants. Importantly, there was no difference when testing participants at 3 months. In their post hoc analysis, learning results were not evaluated by Lilot et al immediately after the training sessions. Their results suggest a better retention of key messages at 3 months but the clinical and educational relevance should be viewed with caution since statistical significance was in disagreement with the raw values, which were similar.

It is important to stress that the effect of simulation-based training on knowledge retention needs more evaluation as the current educational model often suggests that once studied, knowledge, skills and attitudes will remain intact in the long term, whereas it is highly likely that repetition is needed. Our study is likely the first attempt to assess retention rate when comparing roles of participants. Thus, more specific educational studies are needed before any firm conclusion can be drawn.

Moreover, the role of the observer might be different depending on the study setting and/or the simulation training scenario. Observers can also have a more or less active role in their own learning. Additionally, instructors might impact differently on observers' learning by using different educational methods [4]. A recent literature review about observers' learning outcomes discusses the different methods, which can be used to optimise learning in healthcare simulation education [4]. For example, in a randomised study performed in 92 nursing students, Kaplan et al showed no difference in learning outcomes obtained in active

participants and those in learners who were given an observer tool, i.e. a cognitive aid aimed at better monitoring and reminding the most important aspects of the scenario.

Finally regarding the role of stress induced by simulation sessions, such as discussed by Lilot et al. it is well accepted that active participants are in greater stress than observers. The increase in stress is however not an educational objective and the final (positive or negative) impact of stress on learning depends on variable individual responses [7].

In conclusion, improvement of learning outcomes seems to exist for both roles after immersive simulation but they may be better for participants engaged as players in scenarios. As the number of learners increases steeply, topics to be addressed widen and repetition of training sessions is probably necessary, high-fidelity simulation needs to adapt and participants being only observers will likely be more frequently seen. Other studies to reinforce observers' active learning are thus needed.

Disclosure of interest

The authors declare that they have no competing interest.

References

- [1] Blanie A, Gorse S, Roulleau P, Figueiredo S, Benhamou D. Impact of learners' role (active participant-observer or observer only) on learning outcomes during high-fidelity simulation sessions in anaesthesia: a single center, prospective and randomised study. *Anaesth Crit Care Pain Med* 2018;37(5):417–22.
- [2] Lilot M, Evain JN, Bauer C, Cejka JC, Faure A, Balanca B, et al. Relaxation before debriefing during high-fidelity simulation improves memory retention of residents at three months: a prospective randomized controlled study. *Anesthesiology* 2018;128(3):638–49.
- [3] Kolb D. *Experiential learning: Experience as the source of learning and development*. Prentice Hall. Upper Saddle River, New Jersey: Pearson Education, Inc; 1984.
- [4] O'Regan S, Molloy E, Watterson L, Nestel D. Observer roles that optimise learning in healthcare simulation education: a systematic review. *Adv Simul* 2016;1:4.
- [5] Leonetti A, Puglisi G, Siugzdaitė R, Ferrari C, Cerri G, Borroni P. What you see is what you get: motor resonance in peripheral vision. *Exp Brain Res* 2015;233(10):3013–22.
- [6] Kaplan BG, Abraham C, Gary R. Effects of participation vs. observation of a simulation experience on testing outcomes: implications for logistical planning for a school of nursing. *Int J Nurs Educ Scholarsh* 2012;9 [Article 14].
- [7] LeBlanc VR. The effects of acute stress on performance: implications for health professions education. *Acad Med* 2009;84(10):S25–33.

A. Blanie^{a,*}, D. Benhamou^b

^aCentre de simulation LabForSIMS, faculté de médecine Paris Sud, 94275 Le Kremlin Bicêtre, France

^bDépartement d'anesthésie-réanimation chirurgicale, CHU de Bicêtre, 94275 Le Kremlin Bicêtre, France

*Corresponding author

E-mail address: antonia.blanie@aphp.fr (A. Blanie).

Available online 25 February 2019