

**Centre for Faculty Development  
Stepping Stones Program  
Annotated Bibliography**

**How does simulation-based training fit into the education of healthcare professionals?**

**By Dr. Mohammad Zubairi**

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I have chosen this particular topic for the annotated bibliography assignment as my current research is looking at the process of 'building a simulation' as a stand-alone educational activity. I am interested to see how participants, who come together from different disciplines, perceive the process of creating a scenario with specific learning objectives. Given that the context of my research is in healthcare, I wanted to ask where simulation-based training is currently situated, and what utility does it provide in the education of healthcare professionals. To date, I have not come across research that evaluates the 'simulation build' independently, and below are articles looking at simulation in healthcare, broadly speaking.

**Article #1 – The use of simulation in healthcare: from systems issues, to team building, to task training, to education and high stakes examinations**

[Orledge J](#), [Phillips WJ](#), [Murray WB](#), [Lerant A](#).

[Curr Opin Crit Care](#). 2012 Aug;18(4):326-32. doi: 10.1097/MCC.0b013e328353fb49.

This article by Orledge et al (2012) provides a very broad overview of the benefits of use of simulation in healthcare. The first author works in the Department of Emergency Medicine. The authors begin by defining key words, including simulation, fidelity and debriefing. Of greatest importance is fidelity, which when 'high' means that the simulated environment is very closely approximating the real environment. Simulation is a unique medium to allow learners to 'show(s) how' something is done, which is a level higher than 'knows and knows how.' They speak about the explosion of use of simulation (more articles since 2008), but focus on simulation that use physical technologies e.g. mannequins for individuals or small groups. Unfortunately, very non systematically, they review 1-2 articles that have found simulation to play a positive role in improvement in patient outcomes, identification of obstacles in system policies, retention of skills, overall learning and in being used for evaluation e.g. exams.

**Article #2 – Simulation-Based Team Training in Healthcare**

[Eppich W](#), [Howard V](#), [Vozenilek J](#), [Curran I](#).

[Simul Healthc](#). 2011 Aug;6 Suppl:S14-9. doi: 10.1097/SIH.0b013e318229f550.

Again, this article by Eppich et al (2011) derives its findings from a non-systematic review of the literature and input from those attending a summit on simulation in healthcare. It specifically focuses on team training, hoping to identify best practice for use of simulation in this context and to identify gaps at present. It highlights that teams are comprised of individuals and situated within organizations, and so these 3 levels need to be considered when designing curricula. Most importantly, any design of simulations need to be based on the training needs of the group, which can be variable over time, and also necessitate the participants to respond to a specific event. In follow up, there is a need for effective feedback, and tools need to be development to assess performance systematically. They similarly conclude that how competencies are generalized and transferred will depend on a number of factors, including context and fidelity, which is something that is already known.

**Article #3 – The First Research Consensus Summit of the Society for *Simulation in Healthcare***

[Dieckmann P](#), [Phero JC](#), [Issenberg SB](#), [Kardong-Edgren S](#), [Ostergaard D](#), [Ringsted C](#). [Simul Healthc](#). 2011 Aug;6 Suppl:S1-9. doi: 10.1097/SIH.0b013e31822238fc.

This article by Dieckmann et al (2011) was published in the same journal as article #2 above. It is an overview of the simulation summit summarizing key themes emerging from the works of 10 topic groups. It is intended as a guide, and highlights the issue of poor consensus on many of the debates in the area of simulation. It broadly speaks to the need of asking the right research questions, using the correct methodology, and grounding the work in some form of theoretical or conceptual framework. It also raises the question as to whether simulation in healthcare will require its own 'set of rules' moving forward. The article references many of the monographs produced in the summit through systematic review and expert opinion. It brings to the reader an important distinction, that of the 'clinical situation' versus the 'simulation situation', and how learners will tackle these differently. It emphasizes the need to learn about simulation as it has been studied in other disciplines.

**Article #4 – Simulated interprofessional education: An analysis of teaching and learning processes**

[van Soeren M](#), [Devlin-Cop S](#), [Macmillan K](#), [Baker L](#), [Egan-Lee E](#), [Reeves S](#). [J Interprof Care](#). 2011 Nov;25(6):434-40. doi: 10.3109/13561820.2011.592229. Epub 2011 Sep 7.

This article by Soeren et al (2011) is a unique look at simulation within the context of interprofessional learning. As a case study, it looks at how clinicians and students approach specific scenarios through role-playing and experiencing different roles. A variety of professional disciplines were represented in the study, and multiple ways of data collection were used, including focus groups and observational recordings. The research study was situated within an interprofessional workshop and participation was voluntary; however, all participants consented to the study. As this is a qualitative study, several themes about the role-playing experience emerged, specifically as they related to the teaching & learning processes: how motivated and enthusiastic participants are; how real is the case; who is playing what role and the comfort level; who are the facilitators; and how many facilitators are there. The authors could have provided more examples of the various themes in lieu of just summarizing them, but their hope is that the process allow for reflection and critique among the participants.

**Article #5 - The simulation game: an analysis of interactions between students and simulated patients**

[de la Croix A, Skelton J.](#)

[Med Educ.](#) 2013 Jan;47(1):49-58. doi: 10.1111/medu.12064.

This article (2013) applies a discourse analysis, studying the use of language as it is used for social purposes. Specifically the authors are interested in how language is used between third year medical students and standardized patients in varying scenarios. They identify that both students and standardized patients need to play dual roles e.g. as 'doctor' and 'patient' and as 'student being evaluated' and 'assessors.' These varying roles affect who is dominant during an interaction. What they find is that standardized patients tend to ask direct questions, are not good topic followers, respond well to structured 'openings' of an interaction, and often hint the 'closing' of an interaction. This is contrast in to students who ask more indirect questions and follow the cues of the standardized patients. What I find interesting is about this article is their conclusion that a simulation need not be completely authentic as long as it achieves an educational goal.