

# Simulation Research



An open access professional development module for simulationists

# How to use this module



**Module progresses from foundational concepts to advanced practice. Self direct how deep you want to go!**

**Exercises are designed to work on your own or to discuss with a friend over coffee.**



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# Simulation and Research

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## Overview :

Many starting their scholarly journey are interested in understanding how simulation and research intersect. There seem to be two main ways research and simulation interrelate.

1. **Research about simulation itself** – i.e. trying to understand what the best design, delivery, and debriefing methods are to achieve specific learning objectives.

Or

2. **Simulation used as a tool to research another topic** – i.e. simulation used as part of a process to create an airway checklist or to test processes that are used to improve door to balloon time for patients with myocardial infarction.

Either way, the methods that are used may often feel quite unfamiliar. Randomized control trials – seen as the gold standard for much of medical research - are not always the best approach! As you explore, you are likely to come across more qualitative and mixed-methods approaches. Work through these exercises to explore the breadth of the intersection of research and simulation.

## Exercise 1 : Research about simulation

### Read the article :

- [How does moulage contribute to medical students' perceived engagement in simulation? A mixed-methods pilot study<sup>1</sup>](#)

### Ask yourself :

- What question ABOUT simulation are the authors trying to answer?
- What does mixed-methods mean? How did this team combine quantitative and qualitative data to answer their questions?
- What questions does this study raise for you? If you were going to further study the impact of moulage on learning how would you do it?
- The participants in this study are medical students. Do you think the findings can be translated to other groups? Why or why not?

## Exercise 2 : Simulation as a tool in researching other questions

### Read the article:

- [Does utilization of an intubation safety checklist reduce omissions during simulated resuscitation scenarios: a multi-center randomized controlled trial<sup>2</sup>](#)

### Ask yourself :

- What question ABOUT intubation checklists are the authors trying to answer?
- What role does simulation play in trying to address this question?

### Thorny question :

- If you were an ED director, would you find this research (conducted in a simulated setting) convincing enough for you to dictate a change practice for your group? Why or why not?

### Retrieval practice :

- Discuss with a friend/colleague how you might use simulation to study a clinical problem relevant to your practice. Perhaps you want to further explore the issue, trial some solutions, or implement a new process/protocol.

### Exercise 3 : Research Paradigms

Watch this short [video](#)<sup>3</sup> and/or read this [blog post](#)<sup>4</sup> about research paradigms, ontology, and epistemology.

Ask yourself :

- What ontology and epistemology resonate with your way of preferred way thinking? What research paradigm does most medical research fall under?
- Think of an issue in your clinical work that may align itself more with a constructivist approach.

Then read :

- [Improving relational aspects of trauma care through translational simulation](#)<sup>5</sup>

Ask yourself :

- What research paradigm do you think the authors of this article have? How does it impact the methods they chose?
- What about for the articles covered in exercise 1 and 2?

Thorny question :

- Do research paradigms even matter? Find a colleague and debate what impact research paradigms might have on the questions we ask and way we choose to answer them.

### Exercise 4 : Staying up to date

Listen to this episode of the [Simulcast Episode 149 : Journal Club Podcast February 2022](#)<sup>6</sup>

Retrieval practice:

- What journals were the papers discussed from? Go to those journal websites and review some of the recent published articles. What other simulation journals are there?
- Then read [Establishing a virtual community of practice in simulation: the value of social media](#)<sup>7</sup> and/or [Simulcast: a case study in the establishment of a virtual community of simulation practice](#)<sup>8</sup>

Ask yourself :

- What is your community of practice for simulation scholarship (locally or virtually)?
- How are you going to stay up to date on simulation literature and scholarship? Make a tangible commitment.

### Exercise 5 : Participating in Scholarship

Many people want to do “research” but it is also worth broadening understanding of scholarship to understand how we can contribute most meaningfully as simulationists.

Read the blog posts :

- [Scholarship of teaching and learning](#)<sup>9</sup>
- [Education Scholarship – Part 2](#)<sup>10</sup>

Ask yourself :

- How can you be more scholarly in the design, delivery, or debriefing of the next simulation activity you have planned?
- Write down your current contributions to each of the areas of scholarship (discovery, integration, application, teaching). Reflect on where your strengths and interests for future contribution are.
- Who can help you grow as a scholar? Contact them and discuss your reflection.

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Eve Purdy is an emergency physician and applied anthropologist interested in how healthcare teams improve. She researches how simulation can shape culture and uses those findings in real time with teams at Gold Coast University Hospital. She works for the Debriefing Academy and the Bond Translational Simulation Collaborative.