

Break Out of the Classroom: The Use of Escape Rooms as an **Alternative Learning Strategy for Surgical Education**

L. Dufresne, MD^{1,2}, A. Kinio, MSc¹, P. Jetty, MD, MSc, FRCSC^{1,2}

¹ Faculty of Medicine, University of Ottawa, Ottawa, ON, ²Division of Vascular and Endovascular Surgery, The Ottawa Hospital



INTRODUCTION

- Active learning strategies in Canadian medical schools
- > Passive spectator to active participant
- > Has been shown to increase: enjoyment, information retention, faculty/student interactions1-5.

Escape rooms: immersive games in which players are locked into a room and required to solve a series of riddles to escape within a set time limit.

OBJECTIVE

- 1. Implement a Vascular Escape Room.
- 2. Assess the impact of a Vascular Escape Room on medical student satisfaction, self-preparation and engagement in CanMEDS roles.

METHODS

- > We designed an Escape Room based on Vascular Surgery clerkship objectives:
 - Peripheral arterial disease
 - Carotid stenosis
- · Acute limb ischemia
- > Knowledge-based problems
- > Technical skills: ultrasound, endovascular practice board, embolectomy
- > Recruitment via an email sent to the
- ▶ 6 review articles provided as preparation





DATA COLLECTION

- Direct observation
- > Debriefing interview session
- ➤ Satisfaction survey
- ➤ Web-based survey

THE ROOM

- > Simulation room at the University of Ottawa Skills and Simulation Centre
- > Stations representing patients in the vascular surgery clinic
- ➤ Hidden objects and puzzles
- Teams of 3 or 4 participants had 1h to escape
- > Participants could ask for hints

RESULTS

BASELINE CHARACTERISTICS

- ➤ 13 medical students forming 4 teams
 - 9 males, 4 females
 - 9 first year, 4 second year
- ▶ 1 had done a previous observership in vascular surgery
- ▶ 6 had previous experience in an Escape Room and they all found it enjoyable

DEBRIFF INTERVIEW

- Enjoyed practical exercises (3 teams)
- >Would like to see Escape Rooms integrated in the medical curriculum (2 teams)

ONLINE SURVEY ON PREPARATION MATERIAL

- > Average time spent preparing: 83.5 min (35-120 min)
- > Average % of readings completed: 62.5% (41.7-100%)
- ▶ 2 participants used external resources as well



100% would like to have more of this type of activity in the medical curriculum.

OBSERVATIONAL DATA

- ➤ Successful escape: 3/4 teams
- ➤ Average time: 56.8 ± 3.87 min
- > Average number of hints: 6.25 ± 2.75

Team strategy

Table 2: Individual vs collaborative

	Individual (n=2)	Collaborative (n=2)
Successful escape	1/2 teams	2/2 teams
Average time	60 min	53.6 ± 1.98 min

Table 3: Answering questions vs trial and error

	Answering questions (n=3)	Trial and error (n=1)
Successful escape	3/3 teams	0/1 teams
Average time	55.7 ± 3.95 min	60 min

- AAA
- University of Ottawa medical students
- material

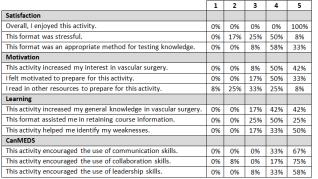


Table 1. Results from satisfaction survey post-Escape Room, N=13.

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree





CONCLUSION

By combining knowledge-based problems. technical skills, and CanMEDS roles into an Escape Room, we have developed a learning platform that is enjoyable and could provide an adjunct to traditional didactic lectures.

RESOURCES:

 Chamundeswari S. Rakiarai S. Attitude towards and problems faced by teachers in the imp ethodology (ALM) in schools at the upper primary level in the Dharmapuri District. Global Institute for Re Jucation, June 2015: 4(3):57-61.

Education. June 2015; 4(3):7-91.
3. ORBB39:Rorte, Swigart's. Student perceptions of a Top 200 Medication Course utilizing active learning techniques.
Currents in Pharmacy Teaching & learning (serial online). January 2013;5(1):49-53.e2. Available from: Education Sos
[powich, MA. Accessed November 9, 2016.

Ipswich, MA. Accessed November 9, 2016.
A Fideler R, Felder S, Cleder S, Cle