Development and Implementation of an Escape Room in Health Sciences Education
Nancy Barker, EdD, MSN, RN
Michelle Kaulback, EdD, RN, FNP-BC
Danielle Yocom, DNP, RN, FNP-BC
West Chester University
Department of Nursing
This presentation will describe the development and implementation of an escape room utilized as a learning strategy in health science education. Escape rooms use a collaborative approach as teams engage in critical thinking to solve puzzles and find clues to escape a room based on course content.

1. Develop an escape room as an active learning strategy.
2. Discuss the steps to implement an escape room within the curriculum.
3. Describe debriefing as an evaluation method.
We won't meet the needs for more and improved higher education until professors become designers of learning experiences and not just teachers.

What is an Escape Room?

- Escape Rooms use an entertainment approach as teams engage in critical thinking to solve puzzles and find clues to escape a room.

- Pre-arranged scenario

- In the classroom setting this concept may be to solve a mystery by finding various objects through a series of puzzles to locate clues.

Where has it gained momentum?
Where has it gained momentum?
Where has it gained momentum in healthcare and healthcare education?
Why has it gained momentum?

- Millennials (28.7%)
- An Interactive Adventure
- Flipping the Classroom
- Teaching and Learning Strategy
- Hands on Team Approach
- Collaboration with Interdisciplinary and Intradisciplinary Professionals
- Communication
- Problem Solving
- Critical Thinking
- Fun!

Escape Room Development

• Faculty brainstorming related content that would be suitable for students
• Developed objectives for the activity
• Developed an "escape route" in a grid format (see next slide)
• Purchased locks and boxes (less than $20)
• Developed power point
• Did a "dry run" with student participants and obtained feedback
• Implemented any modifications
• Obtained video consent from all students
• Set the stage in the classroom
# Outline of Escape Room

**Client Status**

- 60 year old female with PMH CAD, CHF, CRI, and HTN
- Nausea, vomiting, diarrhea for last 72 hours

**Escape Room Sequence**

<table>
<thead>
<tr>
<th>Step One</th>
<th>Inside box is EKG with depressed T waves &amp; PVC’s (students should check K+ level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSS bolus 250 mL over 1-hour x 2 then 1000 mL over 8 hours. What is the rate?</td>
<td>CONGRATS you have saved your patient!</td>
</tr>
<tr>
<td>Answer 125 mL/hour</td>
<td></td>
</tr>
<tr>
<td>2. Note attached to NSS bag (have several different IVF’s to choose from.)</td>
<td>4. Lab results will have BUN, Creat, K+ 2.7 in the EHR</td>
</tr>
<tr>
<td>Contact HCP or will order K-Rider 20 mg. in 100 cc NSS over one hour. What is the rate?</td>
<td>5. Once K-Rider is obtained back of K rider should say your shift is over so please give report (SBAR) Congrats you have escaped your shift.</td>
</tr>
</tbody>
</table>

**Vital signs:** 90/55, HR 110 BPM, RR 22, Temp 101.2

**Notes:** The nurses priority action is to a. administer IVF, Elevate HOB, apply oxygen or assess pulse ox.
The Great Escape Rules for Students

- Work as a team
- You can ask for peer help three times during the experience as needed; you can call the healthcare provider
- No electronic resources permitted
- Most important: Think like a nurse
Your Patient

60-year old female with a Past Medical History of CAD, CHF, CRI, and HTN

Complains of nausea, vomiting, and diarrhea for last 72 hours after eating at a restaurant

Vital Signs: 90/55mm Hg, 110bpm, 28 breaths/min, 101.2 °F

Patient states…
Define at least 3-5 symptoms your patient may present

This was used to gain access to the room
Calculate the Rate

► Normal Saline 1000 mL over 8 hours

► What is the rate (mL per hour)?

There were four different types in the lock box to select the correct one after entering the rate into the lock and back of Normal Saline had a clue.
Look at the vital signs, what is priority intervention at this time?

- 0800 vitals: 90/55 mmHg, 110 bpm, 28 breaths per min, 101.2 °F

A. Stop IV fluids
B. Elevate the head of the bed
C. Apply oxygen
D. Assess pulse oximetry

Back of the pulse ox had a clue "LABSK"
Lab Values from the Electronic Health Record

- BUN
- Creatinine
- K+
I think we have a problem.....

This was in the locked box but needed the word "LABK"
Low K+ - WHAT SHOULD THE NURSE DO?

Warning: Watch Potassium Levels in Clients with:
- Renal failure
- Hypo- or hyperkalemia
- Acid-base imbalances
- Cellular damage
- Burns
- Accidents
- Seizure
- Diabetes

Watch K levels with Diuretics, Diuretics and IV fluids.
↑K - low pulse, oliguria, muscle fasciculity, alkalosis.
↓K - tachycardia, fatigue, hypotension, acidosis.

Potassium at 6.5 or 2.5 can be life threatening. The safest place is 3.5-5.0mEq/L.

This was available to the students to select appropriate intervention.
Congratulations! You have saved your patient!

- Vital Signs: 110/70 mm Hg, 88 bpm, 22 breaths/min, 99 °F
- Patient states...
Debriefing
Wickers (2010)

- Led by a facilitator, allows dissemination of active learning to every member of the group in a safe environment.
- Enables participants to more fully think through and discuss what has transpired, gain a more in-depth understanding and appreciation of knowledge, and retain knowledge and skills for future application.
- Participants do most of the talking.
Debriefing with Good Judgement
Rudolph et al. (2007)

I saw.....I think.....I wonder....

What is guiding the student's actions?

Discussion allows for participants to determine different or better decisions.
Now it's your turn to participate!

- Need two volunteers
- Help save the WCU mascot
1. Go to padlet.com
2. Take a picture of the QR code
2. Post a topic that you may want to develop an escape room
3. What are potential barriers to development?

https://padlet.com/kmkk/z09vxt1r0pjf

