Experiential Learning in Undergraduate Disaster Medicine Education

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Outline

• Why one should be concerned of Disaster Medicine education

• Limitations of teaching Disaster Medicine by traditional methods

• Experiential learning as a pedagogical method in Disaster Medicine education

• Experience sharing: what EMU has been doing
Why one should be concerned of Disaster Medicine education

• No country, society or individual is immune to disaster.

• What’s worse, disaster is often unpredictable.
Limitations of traditional teaching methods for Disaster Medicine

• Lecturing
  • Hard to deliver skills through abstract description
  • Difficulty in combining theory and practice

• Field Based Training
  • Not always available (disaster is uncommon) / Too Late
  • May delay rescue
  • Poses threat to students who are not prepared
What is Experiential Learning?

"方其知之，而行未及之，則知愈淺，既親歷其境，則知益明，非前日之可比。「（孝經語錄）卷九・學三・論知行

“When you know something but don’t act on it, your knowledge of it is still superficial. After you’ve personally experienced it, your knowledge of it will be much clearer and its significance will be different from what it used to be.”


That learning is fundamentally experiential has been pointed out by philosophers and educationists in the East and the West. The above quotation from the Chinese philosopher, Zhu Xi, crystallizes the essence of experiential learning. The dialectical relationship between knowing and doing is well captured by the often-cited quote “知行合一” (Knowing and doing are one).

Achieving the above goals is non-trivial. Colleagues at HKU have put in a tremendous amount of time and effort to identify suitable sites for learning, to work with community partners, and to provide on-site guidance for their students. I salute their selfless dedication to the core mission of this University and thank them for making learning at this Institute more experiential.
Benefits of using experiential learning in Disaster Medicine Education

• Environment
  • Assured safety
  • Constant availability
  • Controllable scenario
  • Does not affect actual rescue

• Learning Activities
  • Allows further elaboration after some hands-on experience: bonding theory and practice
  • Better retention with increased engagement
  • Mistakes are not fatal but valuable teaching/reflection opportunity

• Assessment
  • More accurate and relevant of assessment task
  • Mentality is also demonstrated/assessable
## Disaster Medicine curriculum by EMU

<table>
<thead>
<tr>
<th>Regular</th>
<th>Elective</th>
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</thead>
<tbody>
<tr>
<td>Introduction to Emergency and Disaster Medicine</td>
<td>Disaster 101</td>
</tr>
<tr>
<td>Disaster and related emergencies</td>
<td>Primer course for clinical skills in disasters</td>
</tr>
<tr>
<td>HAZMAT drill</td>
<td>Ultrasound-assisted clinical skills for disasters</td>
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An integration of different pedagogical methodologies. Experiential learning is one of them.
Experiential Learning

• Key components

1. Pre-exposure basic knowledge (not blank trial and error)
2. Briefing before learning activities
3. Supervised trial (e.g. using US devices) with immediate feedback
4. Explanation of mistakes / sharing of experiences
5. Assessment of skills
6. Evaluation
HAZMAT drill

Terminology

- ABC (Atomic, Biological, Chemical)
- NBC (Nuclear, Biological, Chemical)
- RBC (Radiological, Biological, Chemical)
- CBRN
Take home messages

• Experiential learning is useful in Disaster Medicine education regarding:
  • Teaching environment
  • Learning activities
  • Assessment

• Pre-activity knowledge is necessary

• Post-activity elaboration is crucial for better learning

• Evaluation/reflection allows deeper learning