IAMSE Winter 2019 Series on the Learning Environment in Health Sciences Education

Session 2: The Learning Environment: An International Perspective
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Where does this session fit into the series?

• January 10: Defining and measuring the LE
• January 17: Me (international)
• January 24: GME learning environments
• January 31: LEs in nursing, PA, and osteopathic ed
• February 7: Virginia Tech LEAC program

Highlights from last week

• Learning environment definition:
  – “The learning environment refers to the social interactions, organizational culture and structures, and physical and virtual spaces that surround and shape the learners’ experiences, perceptions and learning.” (Josiah Macy Jr Conference, 2018)
  – What isn’t the learning environment?

Financial disclosures

• None

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- Learning environment definition:
  - “The learning environment refers to the social interactions, organizational culture and structures, and physical and virtual spaces that surround and shape the learners’ experiences, perceptions and learning.”
  - What isn’t the learning environment?
- Conclusions: LE is messy, challenging, and important

Today’s Objectives

- By the end of the session, participants will:
  - Describe at least one individual, institutional, and system-level factor that varies between LEs internationally.
  - Identify studies that have attempted to compare UME LEs across countries.
  - Describe at least one opportunity to advance UME LE research internationally.

Where are the world’s LEs in health sciences?

- >3000 medical schools in 185 countries, >2 million medical students
  - U.S.: 183 schools (147 MD, 35 DO), ~0.09 million students
  - Avg cohort size: India 100/school, China 1000/school
  - Avg cost: U.S. $300k/student, China $14k/student (2010)
- GME – wide variation in structures and regulation
- Nursing program number is indeterminate; nursing students graduating per year estimated to be ~2x med students.

There are not just more medical schools, but greater national and international networking among schools.

This example is from MEPI (Medical Education Partnership Initiative), which over 2010-2015, partnered 20 U.S. and 30 African organizations (now has become Afrehealth).
UME programs fit into the continuum differently, vary in duration, with some countries having multiple models (e.g., Australia). Here we see predominant models of medical education systems. Wijnen-Meijer 2013
Summing up complexity in international LEs

• Rapidly growing number of medical schools
• Increasing institutional collaborations
• Increasing student migration
• Variation in curricular models by countries
  – And sometimes within countries
• Uneven coverage by accrediting/regulatory authorities

Medical education under attack

Destruction of Al-Hudaydah University 2018
Source: https://www.youtube.com/watch?v=kr_wRjT4sMh8#t=48
IFMSA 2018

Summing up complexity in international LEs

• Rapidly growing number of medical schools
• Increasing institutional collaborations
• Increasing student migration
• Variation in curricular models by countries
  – And sometimes within countries
• Uneven coverage by accrediting/regulatory authorities
• Uneven resources
  – With some exceptionally challenging circumstances
Where is LE data being generated?

Damiano 2018 bibliometric analysis: All Studies (N = 710)

<table>
<thead>
<tr>
<th>Countries (by author’s affiliation)</th>
<th>No. Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>309 (43.5%)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>61 (8.6%)</td>
</tr>
<tr>
<td>Canada</td>
<td>39 (5.5%)</td>
</tr>
<tr>
<td>Australia</td>
<td>32 (4.5%)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>23 (3.2%)</td>
</tr>
</tbody>
</table>

Note: Gruppen’s 2018 scoping review found 17 countries included in 47 studies of medical education LEs. 56% from U.S., 5 countries were not HICs (Brazil, China, Indonesia, Malaysia, Thailand).

What about international comparisons?

• First, some notable national LE studies:
  – Skochelak 2016: 28 U.S. med schools, describing variation in LE ratings across schools
  – Tempski 2015: 22 Brazilian med schools, finding association between LE rating and quality of life
• Maybe only 2 international studies?
  – Tackett 2015: Comparing 3 schools (1 U.S., 2 Malaysia)
  – Tackett 2017: Comparing 3 schools (1 China, 1 Israel, 1 Malaysia)
Odds ratios for LE vs outcomes across 3 schools (1 China, 1 Israel, 1 Malaysia)

<table>
<thead>
<tr>
<th>Quality of Life</th>
<th>Exhaustion</th>
<th>Depersonlization</th>
<th>Empathy</th>
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<tbody>
<tr>
<td></td>
<td>Crude</td>
<td>Adjusted</td>
<td>Crude</td>
</tr>
<tr>
<td>Health</td>
<td>2.21 (1.08, 4.53)</td>
<td>1.13 (0.96, 1.34)</td>
<td>1.31 (0.92, 1.87)</td>
</tr>
<tr>
<td>Faculty</td>
<td>1.9 (1.26, 2.96)</td>
<td>1.53 (1.38, 1.70)</td>
<td>1.31 (0.94, 1.83)</td>
</tr>
<tr>
<td>Engagement</td>
<td>2.71 (2.04, 3.60)</td>
<td>2.23 (1.61, 2.10)</td>
<td>1.53 (1.18, 2.01)</td>
</tr>
<tr>
<td>Mentorship</td>
<td>2.95 (2.35, 3.71)</td>
<td>2.82 (2.31, 3.47)</td>
<td>1.91 (1.27, 2.88)</td>
</tr>
<tr>
<td>Help</td>
<td>1.53 (1.49, 1.57)</td>
<td>1.41 (1.10, 1.84)</td>
<td>1.21 (1.09, 1.36)</td>
</tr>
</tbody>
</table>

Concluding thoughts
- LEs are important for learning and personal and professional development.
- Understanding 1 individual’s LE is already complex. Complexity increases when measuring at institution, health system, and inter-health system levels.
- International comparison studies seemed to yield meaningful insights.
- Much more needs to be done to strengthen the evidence base (e.g., theory/definitions, study design, research infrastructure (e.g., funding, data warehousing)).

References (1)

References (2)