How good is your learning environment?

Measuring UK medical students’ perceptions of different clinical learning environments

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Objectives:

1. Examine the Clinical Learning Environment (CLE)
2. Why relevant?
3. Measuring the CLE – the UCEEM
4. Study – adapted UCEEM for four UK depts.
5. Key findings and applications
6. Take away – what can you do?
Clinical Learning Environment (CLE)

• The CLE is the sum of the internal and external circumstances and factors surrounding and affecting a person's learning and working:
  • Physical surroundings
  • Systems and structures
  • Organisational culture (e.g. relationships between staff, patients and students/trainees; shared values, norms and behaviours)
  • Attitudes, norms “how we do things here”
  • The learner – how s/he perceives the climate, interacts with the environment and its opportunities

• Important for learner satisfaction (1), achieving competencies (2), and how they practice after training (3)

Why look at the CLE?
Measuring the CLE

• Wide range of tools to measure learners’ perceptions of the learning environment
• Most measurement tools approach the CLE as an educational environment rather than a working environment (4)
• Many popular tools have also been criticised on their apparent lack of theoretical basis (5)

Undergraduate Clinical Education Environment Measure (UCEEM) – Strand et al.

- Developed to measure UG medical students’ perceptions of the learning environment
- Developed in Sweden (6)
- Based in workplace learning theory (7) with qualitative data (focus groups, interviews plus a pilot)
- Examines multiple organisational qualities that focus on social inclusiveness and experiential learning (i.e. the social, emotional and cognitive dimensions of the CLE)
- Validated, robust measure (8)

### UCEEM Dimensions and sub-scales

1. Experiential learning:
   - 1A. Opportunities to learn in and through work & quality of supervision
   - 1B. Preparedness for student entry

2. Social participation
   - 2.A Workplace interaction patterns & social inclusion
   - 2.B Equal treatment

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Study aim:

Apply the UCEEM to the new context of a UK setting, to assess and examine the perceptions of senior medical students of a number of different CLEs

- Support departments improve their own learning environments
Methods – questionnaire

- Cross-sectional questionnaire study
- 5th year medical students, at the end-of-year session
- Context: four departments that had received mixed reviews from students and were in the process of making changes/improvements
- Asked to completed questionnaire for two memorable LEs/rotations from the four identified (length =8 weeks)
- UCEEM consists of 25 items scored on a five-point Likert scale (Fully disagree to fully agree)
- Approximately 80% took part (n=132)

Example UCEEM Survey Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I received useful induction to this placement.</td>
</tr>
<tr>
<td>2.</td>
<td>My supervisors were expecting me when I arrived.</td>
</tr>
<tr>
<td>3.</td>
<td>My (work) tasks are relevant to the learning objectives.</td>
</tr>
<tr>
<td>4.</td>
<td>I am sufficiently occupied with meaningful (work) tasks.</td>
</tr>
<tr>
<td>5.</td>
<td>My tasks are suitably challenging for my level of knowledge and skills.</td>
</tr>
<tr>
<td>6.</td>
<td>I am encouraged to participate actively in the work here.</td>
</tr>
<tr>
<td>7.</td>
<td>I have adequate access to computers.</td>
</tr>
<tr>
<td>8.</td>
<td>There is sufficient physical space for the number of medical students on placement here.</td>
</tr>
</tbody>
</table>
## Results

### UCEEM Scales, Subscales & Example Items *

<table>
<thead>
<tr>
<th>Scale 1: Experiential Learning</th>
<th>Department 1 Median (L-UQ)</th>
<th>Department 2 Median (L-UQ)</th>
<th>Department 3 Median (L-UQ)</th>
<th>Department 4 Median (L-UQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students who rated each department</td>
<td>87</td>
<td>42</td>
<td>60</td>
<td>67</td>
</tr>
<tr>
<td>Scale 1: Experiential Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A: Opportunities to learn in and through work &amp; Quality of supervision</td>
<td>3.6 (3.0-4.2)</td>
<td>3.9 (3.2-4.4)</td>
<td>4.0 (3.3-4.4)</td>
<td>3.6 (2.7-4.0)</td>
</tr>
<tr>
<td>5. My tasks are suitably challenging for my level of knowledge and skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I receive useful feedback from my supervisors.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B: Preparedness for student entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I received useful induction to this placement.</td>
<td>3.8 (3.0-5.0)</td>
<td>3.6 (3.0-5.0)</td>
<td>3.3 (2.0-4.0)</td>
<td>3.4 (2.0-5.0)</td>
</tr>
<tr>
<td>2. My supervisors were expecting me when I arrived.</td>
<td>3.7 (3.0-5.0)</td>
<td>3.6 (3.0-5.0)</td>
<td>3.6 (3.0-5.0)</td>
<td>3.4 (3.0-5.0)</td>
</tr>
<tr>
<td>Scale 2: Social Participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2C: Workplace interaction patterns &amp; student induction</td>
<td>4.2 (3.5-4.7)</td>
<td>4.0 (3.5-4.7)</td>
<td>3.8 (3.2-4.4)</td>
<td>3.3 (2.5-4.2)</td>
</tr>
<tr>
<td>20. I feel included in the team of people who work here.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Communication between those working here is good.</td>
<td>3.3 (2.0-4.0)</td>
<td>3.7 (3.0-5.0)</td>
<td>3.7 (3.0-5.0)</td>
<td>3.3 (2.0-4.0)</td>
</tr>
<tr>
<td>2D: Equal treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Everyone is treated equally here regardless of cultural background.</td>
<td>5.0 (4.0-5.0)</td>
<td>5.0 (4.0-5.0)</td>
<td>4.0 (4.0-5.0)</td>
<td>4.0 (3.0-5.0)</td>
</tr>
<tr>
<td>24. Everyone is treated equally here regardless of gender.</td>
<td>4.0 (4.0-5.0)</td>
<td>5.0 (4.0-5.0)</td>
<td>5.0 (4.0-5.0)</td>
<td>4.0 (3.0-5.0)</td>
</tr>
</tbody>
</table>

### Overall

- **Dept. 2 & 3** more opportunities to learn in and through work experience
- **Dept. 3** most prepared for student entry
- **Dept. 4** rated poorest overall
- **Depts. 1, 2 & 3** reported as inclusiveness and social participation
- **Depts. 2 & 3** students reported feeling a part of the team
- **All depts. scored good for equal treatment**
Discussion

• Results valuable for directing improvements:
  • Fed unit specific data back to individual clinical depts. to initiate and direct improvements (e.g. tailored discussions and workshops around optimising their LEs for medical students)

• Applies UCEEM to new context:
  • Reflects prior research (e.g. welcome introductions, sense of belonging, student-centred supervision and team work) (9)
  • Requires further evaluation in other contexts and settings
  • Valuable for directing further in-depth qualitative research (e.g. role of belonging and tensions between service and training)

Concluding Remarks

• What it adds:
  • UCEEM is a useful tool for evaluating medical student perceptions of CLEs
  • Theoretically robust, it is straightforward to administer and score
  • Used to collect baseline and comparative data for evaluation and improvement purposes

• Areas to consider:
  • Think about your own unit’s educational ethos – how might learners perceive this (UCEEM)?
  • What are the expectations of students and trainers in terms of tasks and interactions – are these different?
    • How are student induction and learning opportunities organised?
  • How are students made to feel welcome and part of the clinical team
    • Consider impact of teacher/trainer behaviour on learner perceptions?
  • Learner tasks planned and evaluated?
  • Think about the impact that you have on your own LEs – you all are important parts of the LE!
Questions?
Thank you for listening!

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