

# Medical Education Group Newsletter

## Eureka! Threshold Concepts in Medical Education

May 2019



### Notes from Meeting



Thank you to those who were able to come to our May Medical Education Group meeting!

We were privileged to hear from Dr Lucy Hammond this month, who talked with us about threshold concepts in learning, specifically in medical education. She began the session by asking who in attendance was familiar with threshold concepts, and while some in the room were familiar, others were less sure. Threshold concepts are those transformative "eureka" moments in learning where once the concept is understood, the learner's perspective is truly transformed - a shift occurs in perception of a subject or how an individual sees the world. At their core, threshold concepts involve seeing things in new ways. Dr Hammond pointed out that these are often centered around difficult concepts, and emphasized that when students do 'get them', it is almost like a gateway into the discipline itself. A student can begin to 'feel' like a doctor, 'feel' like a biologist, 'feel' like a public health advocate, 'feel' like an anatomist.

Dr Hammond went on to explain that threshold concepts, regardless of discipline, have five core characteristics that help to define them. Specifically, they are learning areas that are:

1. Transformative
2. Irreversible
3. Integrative
4. Bounded
5. Troublesome

**Transformative:** because having "Aha!" moments changes how a student sees the world.

**Irreversible:** because once you have that "Aha!" moment you cannot (or it is hard to) unlearn what you have come to learn. **Integrative:** because it makes connections clear and allows students to bring together concepts as connected phenomena that are related. **Bounded:** because outside the discipline that that threshold concept is related to, it may not be considered a threshold concept. **Troublesome:** because the knowledge initially feels alien and/or counterintuitive, and it is information that students really have to grapple with.

Dr Hammond then led the room in a discussion about what threshold concepts are in medicine. The group came up with both general and subject specific threshold concepts. Some of these included: 'seeing' anatomy in 3-dimensions, understanding fluids/fluid balance, the autonomic nervous system, thinking like a doctor, embracing the idea that failing while learning doesn't make you a failure, and learning that medicine isn't black and white.

Conversation then turned to how threshold concepts can be utilized to assist medical educators, teachers and learners. Ultimately, as educators, if we can identify threshold concepts in our subjects we can better focus and structure student learning around these transformative and conceptually difficult ideas. In addition, identifying threshold concepts can help us locate the bottlenecks in troublesome concepts and break these concepts down in order to facilitate student learning. Finally, in identifying threshold concepts in the material we teach, we can intentionally engage students in thinking with, rather than about, the concept. It was a great session which was very useful and illuminating! It inspired many of us to think about how we can target our teaching towards threshold understanding.

LINK to Dr Hammond's slides:

<https://www.dropbox.com/s/mu3ooxyva7ti6mz/Eureka%20presentation%20LH.pptx?dl=0>

### Upcoming Events

Next meeting:

Wednesday 19<sup>th</sup> June

13:00 - MTC 005 & 007

Dr. Michelle Machado

### Check out the New Group Website!

<https://warwick.ac.uk/fac/sci/med/study/ugr/teaching/meig/>

### Quote of the Month:

*"Threshold concepts have been described as being like a portal: opening up a new and previously inaccessible way of thinking about something."*

### Research Article Spotlight:

*"What are threshold concepts and how can they inform medical education"*

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