

Transformational Learning

Troublesome knowledge and Threshold
Concepts → Transformational
(shift in learner's attitude / understanding/
view)

Please interrupt!

GP Tutor Conference 21.10.21

David Lewis, GP and CCT



Today's session

What are threshold concepts, troublesome knowledge and transformational learning?

Some theory, our own experience, some research

Can we use these ideas to help learning?

As a learner would you prefer to answer a question right or wrong? and get positive or negative feedback? say why!

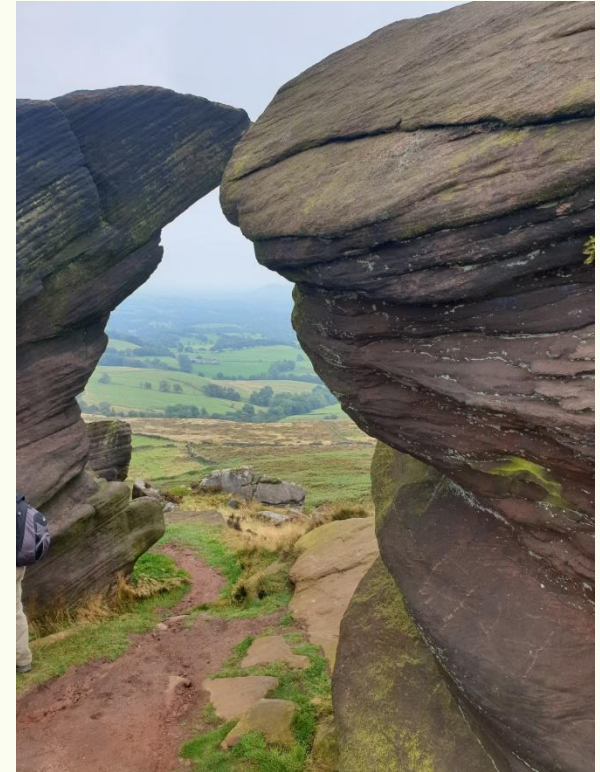


(Meyer and Land 2003)

Threshold = doorway (liminal space)

Often

- Transformative
- Irreversible
- Integrative
- Troublesome (not always!)
Alien knowledge? Examples
Tacit knowledge?





Journey through
liminal space may
be long / short,
obvious / hidden,
easy / treacherous)



Troublesome knowledge

Think of a learning or teaching experience where you / learner found something troublesome / difficult. Maybe you were 'stuck'

And then try to remember what it **felt** like

What was troublesome?

How did you or the learner feel?

Troublesome Knowledge / threshold concepts

Iron studies (ignore the iron!)

P-values (risk, and lots of other statistics)

Uncertainty, no single right answer

Surrogate markers

Shared decision making

Time as a diagnostic tool

Focus on patient priorities

Consultation = conversation (and listening!)

Diagnostic tests are not perfect – less is more.

Thinking like a GP v secondary care specialist

Some published examples of medical threshold concepts

Uncertainty

Caring

Evidence based practice

Clinical reasoning

Patient centredness / holistic approach

Health inequalities, social determinants of health,
purposeful inaction.

Transition from student to doctor

Teaching is about learning (obvious but ...)

Less is more

(from primary school teachers but applies to adults)



Counterintuitive

Inert

Alien

Ritual

Troublesome language

Complex concepts

Tacit

Nettlesome

Threshold Concepts and Troublesome Knowledge Sarah E. M. Meek, Hilary Neve, and Andy

Wearn

On a positive note

Think of a rewarding teaching or learning experience that maybe involved troublesome knowledge or a threshold concept.

Maybe something that fundamentally changed your or your student's understanding. Or maybe something that just worked well!

**Think of a rewarding learning / teaching experience, that
maybe involved troublesome knowledge or a threshold
concept**

How does it feel?

All different

Liminal space can feel stuck, unpleasant, frustrating.

‘boring / stupid / irrelevant / too hard for me’. Students may feel confused, frightened, lost, angry.

BUT could be exciting, stimulating, creative, transformational.

As a teacher – ‘light bulb moment’

Student and tutor quotes

Transformative

Finally, suddenly, it all made sense

It all came together when ...

Liminal

We had to go over this again and again until we got it

Troublesome

It was frustrating as it didn't fit with what we were taught at school

Irreversible

It seems so obvious now

Could be simple:

lots of statistics or knowledge things

Know a chest / neuro exam → understand and interpret findings

Isolated facts → Scaffold / structure that pulls everything together.

or complex skill learned over time:

Ask about ICE → actually use it to steer consultation and management

Accept uncertainty

Empathise → Be comfortable not solving the unsolvable, just listen.



How does this help anyone?

Teaching students about Threshold Concepts may help them understand their learning (?)

Students say they want to understand difficult areas and know it will help their learning. (Darias 2021 <https://faseb.onlinelibrary.wiley.com/doi/abs/10.1096/fasebj.2020.34.s1.0028>)

Teachers and academics may be surprised by what topics students identify as TCs.

Small groups, safe environments, ok to say you don't understand

Students can be uncomfortable – need support (and challenge too).

Balance between excitement / challenge and feeling overwhelmed

Model good, realistic practice: ok not to know everything, look things up if you need, be open to questions.

Spiral curriculum – revisit topics in different ways

Provoke and challenge students – stimulate, encourage.

Identify and address bottlenecks

Integrate learning, connect ideas, see patterns

Analogies, multiple examples

Acknowledge threshold concepts



1. Activating event – trigger
2. Opportunity to identify current assumptions
3. Critical self reflection
4. Critical discussion with students / teacher
5. Opportunity to test and apply new perspectives.

Students may be reluctant to abandon current paradigms if have worked well for them so far → need to create environment that encourages and rewards intellectual openness.

We may be rocking their foundations

Thank you.

Questions, comments?

Suggested References

Sarah E. M. Meek, Hilary Neve, and Andy Wearn. Threshold Concepts and Troublesome Knowledge.. *Clinical Education for the Health professions*. 2020. https://link.springer.com/referenceworkentry/10.1007%2F978-981-13-6106-7_25-1
(thorough review)

Neve. Learning to become a primary care professional: insights from threshold concept theory. *Education for Primary Care*. 2019. <https://www.tandfonline.com/doi/abs/10.1080/14739879.2018.1533390?journalCode=tepc20>
(good summary, easy to read)

McGonigal. Teaching for Transformation: From Learning Theory to Teaching Strategies. *Speaking of Teaching*. 2005. <https://studylib.net/doc/18169927/from-learning-theory-to-teaching-strategies>
(useful teaching tips)

Meyer J H F and Land R 2003 'Threshold Concepts and Troublesome Knowledge 1 – Linkages to Ways of Thinking and Practising' in *Improving Student Learning – Ten Years On*. C.Rust (Ed). <https://www.research.ed.ac.uk/en/publications/threshold-concepts-and-troublesome-knowledge-linkages-to-ways-of->
(Meyer and Land first described the concepts of Threshold Concepts and Troublesome Knowledge. Ok but not that easy a read!)

And if you are really interested. Threshold Concepts website: information/discipline specific papers
<https://www.ee.ucl.ac.uk/~mflanaga/thresholds.html>