

Practical strategies for ... Teaching about Wicked Problems

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<http://www.wickedproblems.ed.ac.uk/>

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Today's programme

- Wicked problems
- The Wicked Problems Project
- Strategies for teaching
- Curricula for wicked problems
- Working with students to hope and persist

Wicked problems

- Messy, ill-defined, dynamic
- Incomplete or contradictory information
- Multiple stakeholders, incompatible perspectives
- Interconnected with other problems
- Health inequality, climate emergency, conflict ...

(Rittel and Weber)

Discussion in small groups:

- What wicked problems are you teaching about?
- What wicked problems would you like to teach about?
- Be ready to share.

The wicked problems project

<http://www.wickedproblems.ed.ac.uk/>

- 35 university teachers across subject areas
- Semi-structured interviews
- How do teachers facilitate students' capabilities to handle wicked problems?

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With thanks to the Principal's Teaching Award Scheme and Development Trust

Our participants' strategies for teaching about wicked problems

- Authentic learning and assessment
- Diverse group work
- Controversial and relatable topics
- Understanding complexity and mess

Our participants' strategies for teaching about wicked problems

[...] give students an understanding of just how multidimensional and complex these [agricultural] problems are [...] and my background is very much more on the production side ... but I think there-in lies a lot of the problem because if we are going to fix these challenges, far more of the focus and initiative needs to come from the consumption side [...] and that brings in gender, power, political, institutional structures [...] (Participant D)

Our participants' strategies for teaching about wicked problems

the idea is that with group work [...] maybe some are maybe more quantitative, some are more qualitative, some are more into [one aspect of this subject], some are into [another aspect of this subject] – so they come together to use that expertise, different expertise to help each other and that's how real world [wicked problems work]– that's how it's kind of interdisciplinary so you bring your expertise together to form a group and use that expertise to try to solve the challenge that has been put before you.

(Participant E)

Our participants' strategies for teaching about wicked problems

- Expose students to multiple perspectives
- Being authentic & sharing personal experience with uncertainty
- Modelling congruent values

Our participants' strategies for teaching about wicked problems

what we hope to do is connect with some of our partners in the global south so that we can skype [name of country] or involve people in some way which is perhaps less technologically risky in videos or something like that, so that we can really bring a sense of the perspectives of people in [name of country] dealing with the [wicked problem] (Participant D)

I would not always manage my waste perfectly, you know – or you might think, you know my carbon footprint in terms of flying may make me uncomfortable ... so there's lots, so you might bring in your own personal stories in getting people to think about it in their own lives [...] (Participant F)

Discussion in small groups:

- What teaching strategies could you use?
- What questions do you have about this?
- Be ready to share.

What I mean by curriculum

- What is being learned
- How it is being learned
- Why it is being learned
- Where it is being learned
- When it is being learned

(adapted from HEA, 2007; Hicks, 2008)

Ongoing social practices, not a fixed entity

Curricula for Wicked Problems

- Ways of thinking, doing and being
- Balance between openness and structure
- Boundary crossing
- Critical and research minded
- Participatory and dialogic
- Reflexive and contemplative

Video with more detail:

https://media.ed.ac.uk/media/Curricula+for+Wicked+Problems+/1_ypw0dy1d

Curricula for wicked problems

[...] a lot of people will kind of reach a kind of barrier where they're not then speaking the same language as other groups [...] so actually you want to develop people that can sit in the middle and almost act like a translator [...] (Participant B)

I feel like I haven't done my job properly if they haven't really [...] understood what a life change climate change is going to be [...] to not just see it as a head exercise, but something that they need to care about to a personal level as well [...] (Participant R)

Helping students to have hope and supporting them to persist

What our participants did:

- gave students an expectation of challenge
- gave examples of success
- ‘controlled’ experiences of wicked problems
- create supportive communities
- offered frameworks

Helping students to have hope and supporting them to persist

For them to then think “well, I can get into this messiness of this conversation [about sustainability] because this is a lifeline, a tool, a rope, a model that I can follow that will help me not to feel lost [...]”
(Participant C)

Helping students to have hope and supporting them to persist

- What the literature suggests:
 - using contemplative pedagogies (Litfin)
 - supporting engaged action through transgressing boundaries (Lotz-Sisitzka)
 - critical hope: critical reflection on wicked problems combined with help to imagine better futures (Ojala)
 - giving examples of unexpected positive long term impacts (Solnit)

Helping students to have hope and supporting them to persist

Hope locates itself in the premises that we don't know what will happen and that in the spaciousness of uncertainty is room to act. [...] Hope is an embrace of the unknown and the unknowable, an alternative to the certainty of both optimists and pessimists. [...] It is the belief that what we do matters even though how and when it may matter, who and what it may impact, are not things we can know beforehand. We may not, in fact, know them afterwards either, but they matter all the same, and history is full of people whose influence was most powerful after they were gone.

(Rebecca Solnit)

Helping students to have hope and supporting them to persist

Contemplative pause (you won't be asked to share about this):

- take a few slow deep breaths
- notice what you feel right now ... all feelings allowed 😊
- ask yourself the question “Who am I in relation to all of this?”

Helping students to have hope and supporting them to persist

Individual reflection:

- Can you think of a time when you've acted in the face of a challenging problem?
 - What did you feel before and after you acted?
 - What helped and hindered your action?
- Think about what you want to share.

Helping students to have hope and supporting them to persist

Discussion in small groups:

- What does thinking about this suggest for your teaching?

Sources

Karen T. Litfin (2018): The Contemplative Pause: Insights for Teaching Politics in Turbulent Times, *Journal of Political Science Education*, DOI: 10.1080/15512169.2018.1512869

Lotz-Sisitka, H. Wals, A., Kronlid, D., and McGarry, D. (2015). Transformative, transgressive social learning: rethinking higher education pedagogy in times of systemic global dysfunction. *Current Opinion in Environmental Sustainability* 16, 73-80.

Ojala, M. (2016). Hope and anticipation in education for a sustainable future. *Futures*
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