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Notes in-depth Sustainability Dialogue on Education

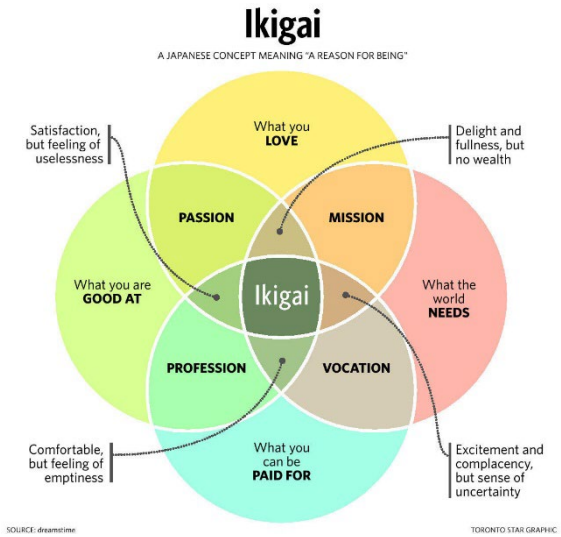
36 participants, 3 moderators, 1 note-taker :-)

April 6th 2023

Cheryl de Boer:

"Prepare and empower students to contribute to a better world through the analysis and use of technology in a societal context." So much going on, and still a few opportunities: VU-UT collab, ATLAS, EngD, and more..? How to move forward? And: where do we put our effort?

- BSc Anthropocene Studies & Climate in Development → VU-UT partnership
- Climate Education Ikigai



What we need: Climate Solutions, Skilled people, Design interventions

[Addition: and a deep-rooted knowledge and understanding of the problems causing the climate & ecological crisis]

Alex Baker-Friesen:

Some inspiring examples:

- UC Berkeley ('Sustainable and just future'): education program created by a 19yo student, solution-based and hope-oriented.
- Black Mountains College (Wales): whole-scale institute example. *"Empowers students to re-engineer our future, with a deep understanding of our social and ecological context."* BMC degree Sustainable Futures – combining Arts and Ecology.
- University of Barcelona: mandatory Climate Change module from 2024 onwards.
- Closer to home: Radboud University Nijmegen, standard part of curriculum in all study programs. Think about climate crisis from your own discipline.

1. **Connect to the story that Cheryl shares, and what do we mean with education for sustainability and climate?**

"Most of what we do is non-sustainable; what we have to do is mainly 'unlearn'."

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Beware of greenwashing, to be able to unlearn.

Mandatory Climate Change course at UT

Ties: UT Ambassador Network – firms like Shell and ConocoPhillips (etc.) use this UT network to platform and promote professionals as successful examples for graduates to emulate.

Scrutinise what we are currently teaching

Robotics/AI: Transdisciplinary research for societal challenge

Struggles: yes, change and prepare for challenges ahead, if that's sustainability and the climate crisis, however there are other challenges too, such as inequality, poverty, discrimination etc. [this speaks to the problem of 'climate myopathy']

As a scientist and educator, you want to be the best researcher you can be, but we still fail to communicate and convince policy-makers – we also need reskilling".

Invoke critical thinking, systems thinking. Help students think better of complex topics.

Reframe sustainability as system change.

What is the 'border' of climate change? How does it relate to other challenges?

How can we better influence policy makers, as students as well as researchers?

SU: how can we better inform students? Many state that they don't have a clue what is going on and where to find information on this topic.

SU wants to help Dutch students get more knowledge on sustainability. Students tell [Quinty] they don't have a lot of knowledge on the matter.

Incorporate more students in the Eco-Challenge – it's about education in the curriculum and outside of it. Not just as part of the curriculum, but also outside of education.

What do we mean by education – it shapes and develops a person

it's about teaching people to understand the different perspectives involved in helping people to relate to the world. This comes from his degree in philosophy.

It's the story we tell ourselves. We need to teach and learn about a new relationship with the world around us

Learn about different perspectives - to relate to what other people are 'seeing', and overcome (or even use) differences.

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Theory on this topic is 'really dry', adding perspectives and applications can help students to overcome just dry data. Also: system integration – as context of a much bigger system. Learn how you relate (to climate change but also other challenges).

Trade-offs in technical sustainability e.g. charging electric cars off main-grid electricity that is not generated renewably.

Perspectives are good – but we also then need system integration [a meaningful synthesis – a weaving together of these perspectives]

Misses the diversity in perspectives in their programmes – especially the perspectives of many different stakeholders

[addition/reflection: not only companies and activism/civil society - there are many more that also need to be democratically included]

Professor of Separation Tech: Biodiesel – biorefinery → alternatives to oil.

Over the years scientists have also learned, and learn every day. Life long learning: our challenge is to offer engineers as well a life long learning curve.

Not for cutting the ties with industry per se.

Current curriculum: we teach on social sciences and social aspects of sustainability too.

Role of university: Stand in the centre of society to reach out to students and to industry

In our current curriculum we have a great link to behavioral studies, which helps to make a 'complete picture'.

Difficulty: 'I have to be hopeful and positive.' - I don't like that forced upon me.

Focus on solutions: industry-focus / that's not per se the focus that is needed to adapt to climate change.

There is a risk to thinking in solutions and being close to industry that gives them a particular idea about being sustainable at the pace of their choosing.

A lot of UT staff and students do not know the scale and scope of the problem and the pace of change required to remedy it.

We shouldn't just focus on skills, but also on specific understanding of the science.

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The most important thing to cope with climate change is knowledge of the root problem and cause

'Consider the whole system': gives you insight into all the impacts – and would be worthwhile to include that in all programs.

Work with our own definition of 'sustainability'.

Part-time UT staff and Scientist Rebellion/Extinction Rebellion member

Suggests/recommends the example of the Climate Fresk

Links to consequences – how climate change is occurring

It can be harsh if we only talk about the problem [see/connect with above dialogue on 'forcing positive/solutions talk']

We need to provide a clear overview

UT Student also studies at Nijmegen/Radboud. Embedded knowledge

Did the climate change course at Radboud that was cited as an example in the intro talk

It also teaches how industry can influence a sustainable future

Replying to Boelo Schuur - Climate impact of every single step (in the supply chain)

See and evaluate with the whole system in mind

That also means seeing and assessing all the impacts of industry too

BUT: there is a lot of potential to work from within industry; we have to be very careful about how we let industry define how we set our goals (for net-zero, becoming sustainable, climate action etc.)

2. **How can we motivate and equip students with the knowledge and tools to lead sustainable transformation in their respective fields? (Start with?)**

Work with actual challenges! CBL is a nice way to do this. Real local stakeholders. How can we make it suiting for international students if we work with local stakeholders. The dilemma is how to make this attractive and feasible to do for international students as well since the language barrier with local Dutch citizens is there for them.

Get an idea of what is the current gap between problem and possible solutions – how can we help lecturers to contribute to that gap in their education?

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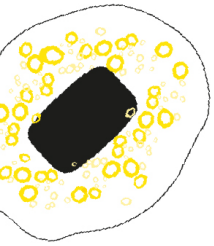


What are evaluation metrics in current education?

We need to help lecturers start teaching sustainability and climate in their curricula

An idea is to have a sustainability statement that is officially connected to the existing discipline

Work with current evaluation metrics and put in specific sustainability metrics [Rubrics of Education assessment for Sustainability & Climate Crisis readiness]

There was an SDG survey with the Young Professionals team and the response rate was very poor

It's hard to approach teachers – disappointingly low rates of engagement in our efforts to inventorise sustainability in education since 2021 at Green Hub.

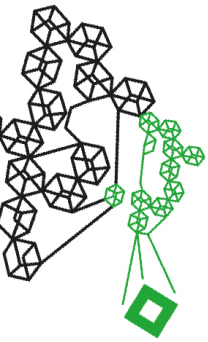
How to spark the motivation

Top-down leadership engagement – we need more leadership involvement in getting the overview we need.

Teach all students what sustainability is about – then ask course coordinators to connect to the core sustainability conceptualisation.

This is what the core models and frameworks of sustainability are and this is how your program fits in.

Establish common ground for what sustainability is and build core courses that involve students from different programmes



[see parallel relevant process for Position Paper of Sustainability Transformation which was set up for this purpose]

We're in a bubble here in this room

We need to motivate students who don't necessarily know about sustainability and climate change

Make sure they care. The University has to become more sustainable itself. If the organisation cares then students will also become more motivated.

All students would need education in this topic, and also from the perspective of your own discipline, so you can better learn to understand your own contribution.

Value: diversity of knowledge / expertise in CBL teams. Transdisciplinary, but with common ground of what sustainability is.

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How do we motivate people? Sometimes we can't. We shouldn't spend our efforts there, but invest in the mission because it's too important.

Privilege, class, race, gender intersex. Not everyone has time to stop, or has the opportunity – sometimes we have to work to make enough money to stay in uni and that prevents students from being able to engage in these very activities in the first place. Realise and be aware of our privileged positions.

To underline importance: be more sustainable as UT itself. Change ourselves to inspire our students.

3. **During the introduction a few examples from different universities and countries have been presented. What can we learn from them? Should (Could) something similar be implemented at UT? If so, what and how?**

Learn about SDG's in relation to your study.

Introduction course to SDGs

What is going on and how it [SDGs] relate to the study per subject, also beyond that 1st year foundational SDG course (more specialised)

We need a page with all sustainability-related courses – this is a big gap

There's not only one sustainability eng' tech' course at the UT but that is how it appears without a clear overview page

What are the existing elements that also connect to the SDGs/Sustainability

Not everybody can do this on their own

Have a page that shows all courses, apparently students don't see what's there. Not everything can be found, also because we frame differently (sustainability / resilience / climate change). It feels like there's competition. We need to bring it together, and promote collectively.

Attention for this in each and every study! Also combine studyprograms.

Example - Leiden: Law students developed an elective that focussed on climate litigation. This is an example of where disciplines that we do not think have a connection to sustainability, sometimes actually do have a clear link. If students developed their own elective in Law. If that's doable, then we could also do that for other topics!

One-page proposal, 5 ECTS, compulsory, not just sustainability (also degrowth, systems thinking, climate/social/racial justice)

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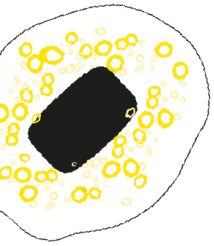


Actually ensure sustainability and climate are embedded in every course

Example: Course on Climate Crisis in Radboud

SustainaBul – Dutch University sustainability assessment and ranking initiative. UT scores poorly in education

It's possible in every course to find this connection. Even in maths! – e.g. climate modelling

We're in a privileged position here in NL at the UT

What can the UT do to help people who think less about this in other places? E.g. elsewhere in Europe

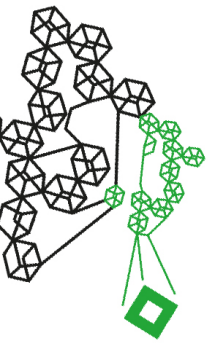
Proposal 5ECTS Compulsory Course on Climate & Ecological Crisis

- Explain the problem

Do something that's impossible to do

SDG Critique: Enshrined in ideology – i.e. economic growth [Development Paradigm – W. Sachs]

4. **How can we offer open, interdisciplinary education on the climate and ecological crisis and broader systemic change?**
    a. **How can we incorporate sustainability into courses and programs that do not have a direct link to sustainability, such as engineering or business? (sub question)**



4a: back in the days we also all learned the same paradigm ('money'), we could also choose to relate sustainability to other courses

    b. **How can universities work with other stakeholders, such as government, industry, and civil society, to promote sustainability education and make it more relevant to real-world challenges? (could tie to training portfolio and lifelong learning)**

4b: we can of course collaborate, but also have to say goodbye to some current industries we are involved with.

    c. **How can we ensure that sustainability is taught in a culturally inclusive way that addresses social and environmental justice issues? (sub question)**

Coordinator of Study Tours IBA

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They prepare students for study exchange and work with the SDGs. They create a broader worldview through travelling - also in interdisciplinary teams.

Crossing Borders (Course) – students sometimes choose it just to go abroad. How do we get them to choose this more intrinsically?

Insert sustainability & climate change via design constraints to an engineering problem – you can embed it in different ways e.g. not per se content, but in the goals and ends of the course.

They also worked with TU Delft – it's good to position and work with other universities one-on-one.

Not just address as Twente, but probably also good to do this collectively with other universities – could be 4TU, but also Radboud for example.

Not just about forging positive things

We have to say goodbye to unsustainable relations too

Consider all the legal and scientific evidence

This is hard in universities with strong historic ties to fossil fuel industry e.g, the ambassador's network – it's about who we set as role models for our students.

It's really hard

It takes a different mindset. We have to be experimental within our own university. We have to support teachers.

We can use gamification and roleplay to learn how to inhabit other perspectives – e.g. the ITC 'Nuts' game

It takes a lot of time and energy and hard work and dedication

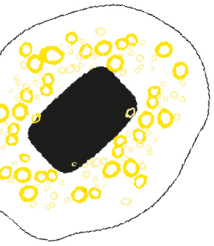
There needs to be a support service to help with the transition

We need to share our experiences & service stories

Energy Transition Minor is a great example but it was a gamble – we did not know if it would work out.

Be willing to make that gamble and experiment

Interdisciplinarity is difficult, as a teacher – there are many tools, but it takes something to work with it. So we should share more of our experiences, and dare to experiment.



Be aware of culturally defined standards. This is part of the culture we are introducing students to. We have to bring the culture we want to inhabit through other forms.

Universities have a lot more power than we think we do

We can have influence!

5. **Given what has been discussed, what are the next steps to implement this? How do we envision these changes happening at the UT concretely? What should be our priorities?**
    a. **How can we measure the impact of sustainability education on students' knowledge, attitudes, and behaviour, and what metrics can we use? + (sub questions practicalities)**

Efia: play based experience (e.g. ITC 'Nuts' game) to take neighbours and environment into account. (students learn about the Tragedy of the commons.)

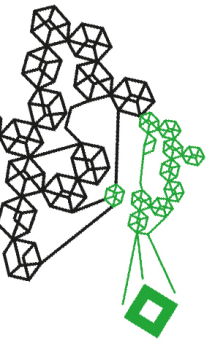
Students need to process the knowledge and experience of the non-sustainable lifestyle. See the long chain, and have the opportunity to experience different perspectives.

Process the knowledge & experience. Be present and live in the moment.

It's about rebuilding and being present with the relationship with ecosystems

We have to teach students to make change in the long-term

Help them to learn how to ponder over what they have learned. Then you have a feeling about it too.
Share what we have lived with each other



Broad ecosystem approach – society, economy, environment (we have to go for everyone). 17 goals is not enough. It's climate change, and *more* parameters. Teach about other crises beyond climate and ecosystem too! Incl. biodiversity, inequality etc. There is a species component. Everything is combined and interconnected.

Slow down: don't just rush towards your PhD and beyond.

Self evident that universities have to be embedded in the dynamic world around them. And yes: it's hard, but we have to modernise. Not just education, but also in informal and non-formal ways. Beyond limits of what you can do in curricula. Prepare students for future impact. Activism and entrepreneurship in equal measure are needed!

Be Concrete: XR - it's not only about disruptive action, it's about providing information too. Every study track

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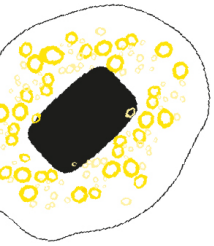


Way forward: be careful which steps we take

We need nuance = yes, don't work with fossil fuel industry – but we can work with them and 'take them by the hand'.

Mandatory course on Climate; teach students to come up with solutions from their discipline

Measure the impact of the (new) sustainability and climate courses on students by taking readings before and after the courses. See how they feel about climate change. See at what level this information/knowledge actually sticks.

Incentivise Study associations: you get less money if you are not actually promoting climate action.

"Study associations: you get more money if you promote climate activism!"

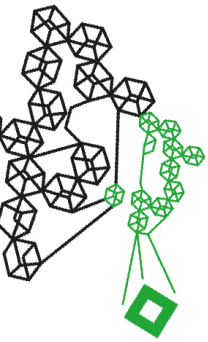
Consider how to make the most impact, and use industries for example to leverage what we want to achieve. We would lose time if we don't involve them.

One mandatory course 5EC, relevant to your studytrack and related to business / industry plus how to improve.

Green Hub perspective:

5 ECTS – Start with teachers! Greenhub is giving basic courses now - workshops for teachers. What is sustainability as a systemic concept and where does your programme fit in. Leadership as taking people by the hand, not by enforcing.

- Faculty Green Teams can help implement this. We are setting them up now.



XR perspective:

- We can find common ground on the 'Shell question'. Yes, they are indeed a necessary part of the work to become more sustainable: if they don't change we don't meet the goal. They have to earn our trust back. Don't be naive and truly know them and what we are dealing with.

Alumni: what kind of impact UT students have after graduating

Measure: what kind of story people have, after they leave the UT. What career do they choose?

<u>Tom V. rounds off:</u>

Action! See what's happening in education! Awareness is the mandatory part! See how we can embed that! We are a small uni, we need to work together – and we will find a way to do so.

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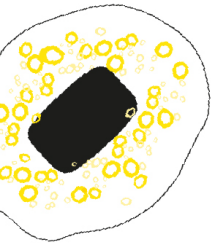

Discover all the nuggets. The devil is in the details, Make Mandatory Awareness

No quick promises, but action will follow!