Teaching & learning for a better future: Education for sustainable development (ESD)

The purpose of the following 9 slides is to tell you about:

1) Why all higher education teachers should know about sustainable development & should implement ESD into their own teaching.

2) How you, irrespective of your discipline, can address the topic sustainable development in your own teaching.

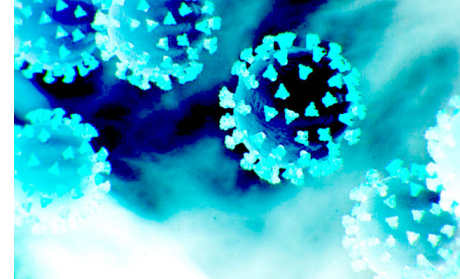3) Places where you can find more information & teaching resources.

Slide 1/9: The global challenges we face today

Are the students of today attending the schools of yesterday, being taught by the teachers of the past to solve the problems of the future?
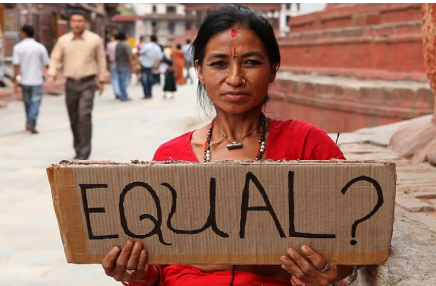
EQUAL?

1938 T. J. Hileman photo Courtesy of GNP Archives   1981 Carl Key photo USGS   1998 D. Fagre photo USGS   2009 Lindsey Bengtson photo USGS

Slide 2/9: Why should I care?

1 **You** are educating **future change agents** who will shape our society, environment, and economy in the future. It is important to not only teach them to do well in academia, but to do well as citizens of the world.

The United Nations formulated [17 Sustainable Development Goals](#) (SDGs, see slide 6) in response to the [risks the world faces today](#). SDGs are *the* internationally agreed political agenda; it is crucial that we are **all aware** of the goals and explore/learn about ways to achieve them. **2**

3 You might already be taking into account principles of sustainable development (SD) in your private life, but have you ever thought about SD in your professional life? The [UN calls on **all teachers**](#) to embed SD into their teaching and higher education institutions are in a key position to facilitate the process of SD!

Slide 3/9: So what is SD/ESD (in a nutshell)?

The UN definition for sustainable development (SD):

- SD is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- SD is a continuous negotiation process to identify compromises and to achieve a balance between the three intertwined sustainability dimensions, thus **socio-cultural**, **environmental**, & **economic** interests.

And education for sustainable development (ESD)?

ESD is an interdisciplinary approach to (lifelong) learning which aims at developing **knowledge, skills & willingness** for sustainable development.

→ SD is a continuous process of searching, learning, and shaping our world. Its aim is to solve conflicts peacefully through consensus.

→ ESD should empower learners to take informed decisions and responsible action for environmental integrity, economic viability & a just society, for present & future generations.

https://en.unesco.org/themes/education-sustainable-development/what-is-esd/sd

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Slide 4/9: Is it legitimate to address SD in my course?

Maybe you are hesitating to address SD in your teaching because the concept of SD includes a normative compass of what is "good" & "bad" (values). And you might think "shouldn't I be neutral when teaching, address facts only"?

"Education is … never neutral, and its fundamental purpose is intervention or behaviour change. This is what makes teaching a moral profession" (Hattie, 2009, p. 254).

Facts are socially constructed & always embedded in belief systems (e.g., the paradigm of economic growth)! The current educational system prepares for the job market. This is not neutral, yet it is widely accepted. It is necessary to also consider counterweights like "social responsibility" to account for all societal goals & values.

→Yes, freedom of thinking is a high good at any university - accountability to society is another one! Consider both aspects in your work by addressing SD in your teaching & by reflecting on this transparently!

Slide 5/9: And how can I address SD in my teaching?

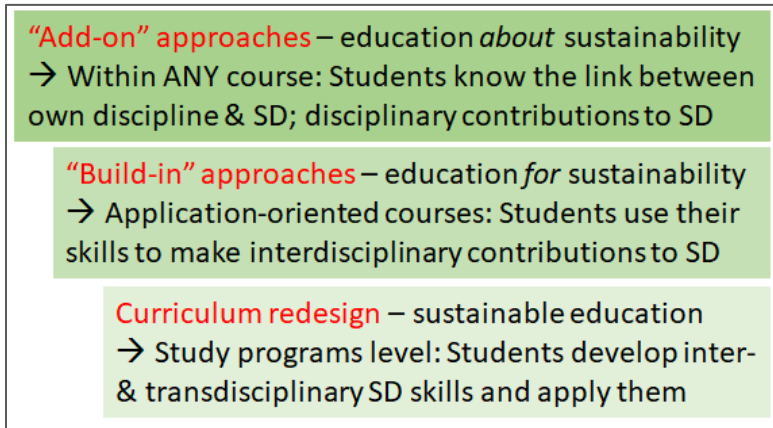There are different levels and approaches how one can address SD in teaching:

"Add-on" approaches – education *about* sustainability
→ Within ANY course: Students know the link between own discipline & SD; disciplinary contributions to SD

"Build-in" approaches – education *for* sustainability
→ Application-oriented courses: Students use their skills to make interdisciplinary contributions to SD

Curriculum redesign – sustainable education
→ Study programs level: Students develop inter- & transdisciplinary SD skills and apply them

Figure 1: Levels of intensity of integrating SD into teaching; based on Herweg et al., 2017

Promote & teach knowledge, awareness, behavior & values linked to SD ("instrumental approach")

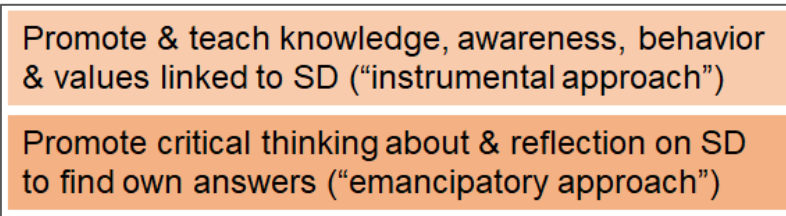Promote critical thinking about & reflection on SD to find own answers ("emancipatory approach")

Figure 2: Different learning orientations in education for sustainable development

To implement ESD, follow one or more of the following steps:

a) Identify educational content
Address how your discipline/topic is linked to SD (→ see slide 6)

b) Identify application areas
Let students work on SD-related problem (→ see slide 6)

c) Address relevant competences
Let student acquire SD-relevant competences (→ see slide 7)

# Slide 6/9: Identifying links between a discipline & SD

→ Look at the *Doughnut Model* and/or the *UN Sustainable Development Goals* (SDG)

→ Use the following guiding questions to identify links:

- To which thematic areas shown in the Doughnut Model and/or the SDG can your teaching/research topics be linked?

- What dimensions of SD (environmental, sociocultural, economic) do/could your topics affect directly or indirectly? Who will be affected and how in the global North and South?

- How could students be able to contribute to SD in their future fields of activities after completing the study programme/course?

- Is there a link to practice? And which actors and other scientific disciplines would be interesting partners for collaboration?

→ **Teach knowledge about SD links in your class & use SD related problems** (*see p. 8 & 9 for examples*).

Picture source: Herweg et al., 2016

Slide 7/9: Address SD-relevant competences

To know about SD is important, yet it is not enough. To actively contribute to SD, students need to acquire relevant competences, i.e. **cognitive abilities, skills, & a willingness to act responsibly**.

- Knowledge: What do students know about SD and a discipline's impact on SD?
- Skills: What can they do in their future activities to promote SD?
- Willingness: What factors promote positive values, motivation and attitude towards SD?
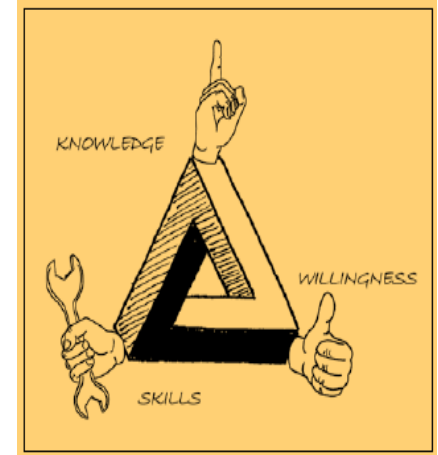
Picture source: Herweg et al., 2017, p. 23

The **ability to participatively shape one's world in a sustainable way** is seen as one key overarching SD competence ("Gestaltungskompetenz"). You can promote it by enabling students to e.g.:

- Cooperate, support others, take over different perspectives, participate
- Reflect, act independently, act morally, be motivated, make complex decisions
- Anticipate, acquire knowledge, deal with incomplete & complex information

De Haan & Harenberg, 1999

Slide 8/9: Examples (see page 9 for more links/examples)

A) <u>Inclusion of SD-topics in an existing course</u>:

- Course "Industrial Chemistry": Students investigate how industrial processes have been / could be improved by environmental legislation

- Maths courses: Students look at climate change data & mathematical modelling of weather patterns, biodiversity & evolution

- Nursing courses: Students look at health inequalities in a changing climate or sustainable use of resources (e.g., vast quantities of cotton used)

B) <u>Creation of a course focussing on SD</u>:

- Course "Criminology for a Just Society": Addressing environmental, social, economic and cultural injustice through critical criminology

- Course "Teaching Special Education Needs & Disability Physical Education in schools": Learn to make sports & exercise more accessible

Slide 9/9: Resources & where can I learn/find more?

Very useful further information (random order):

- Education for sustainable development: Guidance for UK higher education providers, includes many examples: [Embedding sustainability in UK higher and further education](#)
- Sustainicum Collection: Download teaching resources and methods on ESD + upload your own: *www.sustainicum.at*
- SDG Academy Library resources: Professional videos which can be easily used to integrate SDG-related topics into teaching: *https://sdgacademylibrary.mediaspace.kaltura.com/*
- World Economic Forum Strategic Intelligence: A tool for exploring the links between topics and their relation to SD to help teachers identify links between their discipline and SD: *https://intelligence.weforum.org/topics/a1Gb0000000LHN7EAO?tab=publications*
- Uni Bern Guidelines Integrating Sustainable Development into Higher Education (slide sets) *https://www.bne.unibe.ch/material/slide_sets/index_eng.html; https://www.bne.unibe.ch/*
- International Association of Universities resources: Higher Education and Research for Sustainable Development (HESD): [Information](#) and [resources page](#)
- [UNICollaboration.org](#): Website for telecollaboration and virtual exchange in Higher Education to promote exchange across all disciplines and subje ct areas in higher education
- Sterling., S. (2012). *The Future Fit Framework. An introductory guide to teaching and learning for sustainability in HE*. Retrieved from *https://www.sustainabilityexchange.ac.uk/the_future_fit_framework*
- Webinar Changing Curricula to Educate for Sustainable Development: [summary](#) and [webinar recording](#)
- Doughnut Economics Action Lab: [https://doughnuteconomics.org/](#)
- Legacy17 (action learning and action research): https://legacy17.org/
- Our New Economy: [https://www.ourneweconomy.nl/over-one/our-new-economy-english/](#)
- Active8-Planet Model (unconventional approaches towards teaching and learning, empower and mobilize students, enhance transformation in planet-centred interventions): [https://active8-planet.eu/](#)
- Copernicus alliance (European network of universities and individuals committed to transformative learning & SD): [https://www.copernicus-alliance.org/](#)
- Villiers-Stuart, P. & Stibbe, A. (2009). The Handbook of Sustainability Literacy, multimedia version (attributes and skills to develop futures thinking for sustainability), available at: arts.brighton.ac.uk/stibbe-handbook-of-sustainability.
- SDG Academy Library resources: Professional videos which can be easily used to integrate SDG-related topics into teaching: [https://sdgacademylibrary.mediaspace.kaltura.com/](#)
- World Economic Forum Strategic Intelligence: A tool for exploring the links between topics and their relation to SD to help teachers identify links between their discipline and SD: [https://intelligence.weforum.org/topics/a1Gb0000000LHN7EAO?tab=publications](#)

Background, credits & contact

Background: Dr. Sandra Klaperski-van der Wal, lecturer and researcher at Radboud University (The Netherlands), wanted to include SD topics into her own teaching but struggled to find high-quality and useful information on how to do this without spending too much time on this extra task. As she assumed that more people might encounter this difficulty when wanting to address SD in their teaching, she had the idea to create a brief, basic "SD in higher education teaching information package" which would serve as a first entry point into the topic for colleagues teaching at higher education institutions. Together with Dr. Karl Herweg, head of the "Education for Sustainable Development" Cluster at the Centre for Development and Environment (CDE) at the University of Bern, she organised a co-creative lab on this topic at the Higher Education Summit 2020 to collaboratively develop such an information package.

Credits: In this co-creative lab, several people contributed their ideas and a small group consisting of Dr. Anne Zimmermann, Catrin Darsley, Dr. Karl Herweg, Dr. Sandra Klaperski and Teresa Ruckelshauß, joined forces and created this first version of the document.

Contact: We are curious to see who will use and be inspired by this information package, so if you can spare 3 minutes of your time, **it would be great if you completed a brief survey** (please click here). Furthermore, this is just the first version of the SD teaching information package, so if you have an idea on how we can improve the slides, please don't hesitate to let us know! You can send us your suggestions at the end of the survey, or you can drop us an email: sandra.klaperski@ru.nl. Take care and enjoy incorporating SD into your teaching!

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