Sustainability, worldviews and education

Leif Östman
Professor and Director of curriculum studies

Including sustainability education into university programs

- Policy makers and politicians world wide wants to include sustainability into education at all levels

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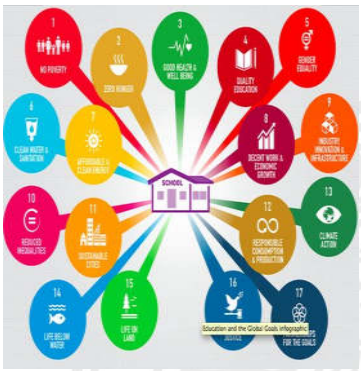
International policy context



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3

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Global Action Programme

- Whole-institution approaches to sustainability education
- Integrating ESD into faculty training to enhance capacity in teaching sustainability issues,
- conducting and supervising solution-oriented interdisciplinary research
- etc.

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4

Including sustainability education into university programs

Some hesitations …

”Sustainability is a normative concept and university should be focused on knowledge”

Investigate

General purposes of education: a framework

- Preparation
- Socialisation
- Person-formation

Preparation

- Knowledge, skills, competences, etc.
- Prepare or qualify somebody for a specific occupation, further studies, etc.

Preparation

”able to use concepts, models, variables, analyses specific to the fields of public economics and macro-economics, on an introductory level.” (‘Economics B in Business Administration)

Socialisation

- The normative – worldviews, values, etc.
- Specific way of seeing, approaching and acting upon nature, human beings, society, etc.

Socialisation

*"**Every way of seeing is also a way of not seeing**. It is better to have a variety of models and archetypes so we stay flexible and open."* (UGent website)

"To have the attitude of scientific problem-solving and critical evaluation." (Chemistry I: Structure of Matter)

Socialisation

"Thinking and acting according to the principles of social justice and ecological sustainability in one's scientific work." (UGent's Competency model)

"Reflecting on one's own point of view on sustainable development." (UGent's Competency model)

Person-formation

- Identity, identification, etc.
- To become someone in relation to the content of preparation and socialisation

Person-formation

I am a person that:

- ”‘Dare to think’ ('Sapere aude’): not accepting truths merely based on the authority/judgement of others” (UGent’s website)
- Is tolerant: ”Tolerance towards divergent standpoints, approaches, paradigms, and theories” (UGent’s Educational philosophy: multiperspectivism)
- Is entrepreneurial (Basic Entrepreneurship)

Person-formation

I am a person that:

- is willing to …

”Willing and being able to foresighting desirable systems as opportunities for sustainable development.”
(‘Sustainable production systems’ in Bioscience Engineering Technology)

Purposes – different activities

- Policy documents: different headlines
- Teaching practices: often focus on preparation
- Didactical theories and learning theories focus on one of the purposes, often preparation

My aim: Illustrate one didactical principles

- Preparation, socialisation and person-formation are companions, they go together in any teaching!
- To open up a reflective discussion regarding the hesitations that is often raised against including sustainability education …

The didactic principle: the general purposes are companions

- Learning – primary purpose
- ”Extra learning” is always happening
- Collateral learning (Dewey 1938/1963)

The general purposes are companions

- Some of these ”extra learning” are directly connected to the content of learning that is in focus for the teaching
- It is an **automatic** and **necessary** didactical connection: it is always there and must be there
- **Companion meanings** (Östman 1995, Roberts & Östman 1998)

Companion meaning

- **Foreground**:
  - Knowledge, skills, etc. (preparation)
- Background/companion meanings:
  - world views (socialisation)
  - Identification, etc (person-formation)

Companion meaning

- **Foreground**:
  - world views (socialisation)
- Background/companion meanings:
  - Knowledge, skills, etc. (preperation)
  - Identification, etc (person-formation)

Companion meaning

- **Foreground**:
  - Identification, etc (personformation)
- Background/companion meanings:
  - Knowledge, skills, etc (preparation)
  - Values, world views, etc. (socialisation)

Illustration: morphology of insects

Foreground: Preparation

- To learn to observe in relation to the morphology of insects
- Material: Stereo microscope, a book and pinned insects

Two girls start to study bumblebees by discussing the eyes and comparing them to the eyes of a beetle.

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- M: Really big eyes if you consider.
- L: Let's check then.
- M: So, big compound eyes then.
- L: Yes. (Laughs).
- M: But perhaps they use vision very much when they look where they should land.
- L: They have of course such, must have . . .
- M: If you compare with this one (a beetle).
- L: . . . such ultraviolet vision.
- M: This one is bigger, isn't it, but has smaller eyes if you compare with the bumblebee.
- L: Mmm.

Illustration

'**Factual' differences and similarities are created**:

- Bumblebee – "bigger, smaller, vision, etc."

Not:

- Bumblebee – "beautiful"
- Bumblebee – "ugly"

- No emotions or attitudes

Illustration

- 'Factual' way of talking

- Only words that describe 'thing-like' qualities are used in the creation

- They are using a scientific way of talking and handling the insects

Scientific discourse-practice

Norms for how to investigate and talk about nature (von Wright, 1991):

- Investigating subject/object of study
- Nature = an object, a thing

The students are starting to talk and treat nature in accordance with this norm and not in accordance with other norms connected to other ways of approaching and talking about nature

Companion meaning

In order to learn scientific knowledge (preparation) you must:

- Learn to treat and talk about nature in accordance with a specific view on nature: a reified view (socialisation)

Socialisation – as a background – is necessary for the preparation

Companion meaning

In order to learn scientific knowledge (preparation) you must:

- Learn to become a manipulator of nature (person-formation)

Person-formation – as a background – is necessary for the preparation

Companion meaning

Person-formation also include:

- Like or dislike
- To be good or not good
- Etc.

Person-formation: in relation to the content of preparation and socialisation

When the person-formation is resisted

- Field excursion to the west coast of Sweden
- Collecting animals and plants from the sea and put them into aquariums
- Preparation: studying the behaviour, etc. of the animals
- Background: manipulator (person-formation)

Karin: Hell, for crying out loud. It feels awful when you pull them loose.
Ellen: So what is it?
Karin: A sea urchin.
Ellen: It's stuck.
Karin: I don't know. It seems weird. We've got to learn to pick them off with our hands.

When the person-formation is resisted

- Moral reaction – an unmediated action (you just react)
- It is connected to a strong bodily feeling: "feels awful"
- She does not want to pick animals any longer: it has become morally wrong
- She talks to the teacher: She does not want to be a manipulator

When the person-formation is resisted

The background of person-formation comes to the foreground!

Creates a clash between different values:

A. You “must” manipulate the animals to create and learn scientific knowledge about them
B. It feels morally wrong to do it

It becomes a moral dilemma

When the person-formation is resisted

- It shows that the worldviews and identities that we take for granted in producing and learning scientific knowledge can always be approached and experienced as moral and political issues
- Companion meanings are potential objects for critical (moral and political) discussions
- The history is full of examples: race biology in the 30:ies …

Hesitation?

- Is it possible to avoid worldviews and person-formation in university education?
- Is sustainability education different to other educational content?
- Is it logical to exclude sustainability education from university programs?

An excursive: didactical reflections

Questions for any university teaching:

1. What knowledge, etc. do we offer?
2. Which socialisation content do we offer?
3. Which identifications do we offer?

An excursive: didactical reflections

When foreground and background starts to rock

- Identity - professional choices
- It opens up for interesting ethical and political reflections, deliberations, etc.
- Potential educational moments in a sustainability perspective

How to design sustainability education?

- How to do it?

How to design sustainability education?

Different ways:

- *How to understand a sustainability problem?*
- *How to solve them?*
- *Knowledge – Problem solving*

Enlightenment

Sustainability problems = knowledge problems

All sustainability problems can be solved by more and better knowledge

Enlightenment

Knowledge → Problem solving

Sustainability education = understanding

Contains dangerous substances:

- nicotine
- etc

Scientism

Sustainability problems = Knowledge and value problems

True facts → Correct values

All sustainability problems can be solved by more and better knowledge + correct values

Scientism

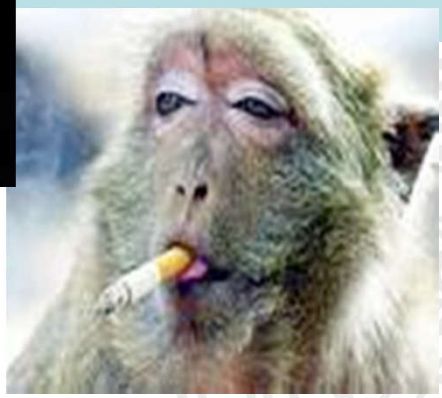
Knowledge + correct values → Problem solving

Sustainability education = student who understand and accept ”necessary” values and changes

Contains dangerous substances:

- nicotine
- etc

Non-smoking generation: Per Gessle, Dustin Hoffman



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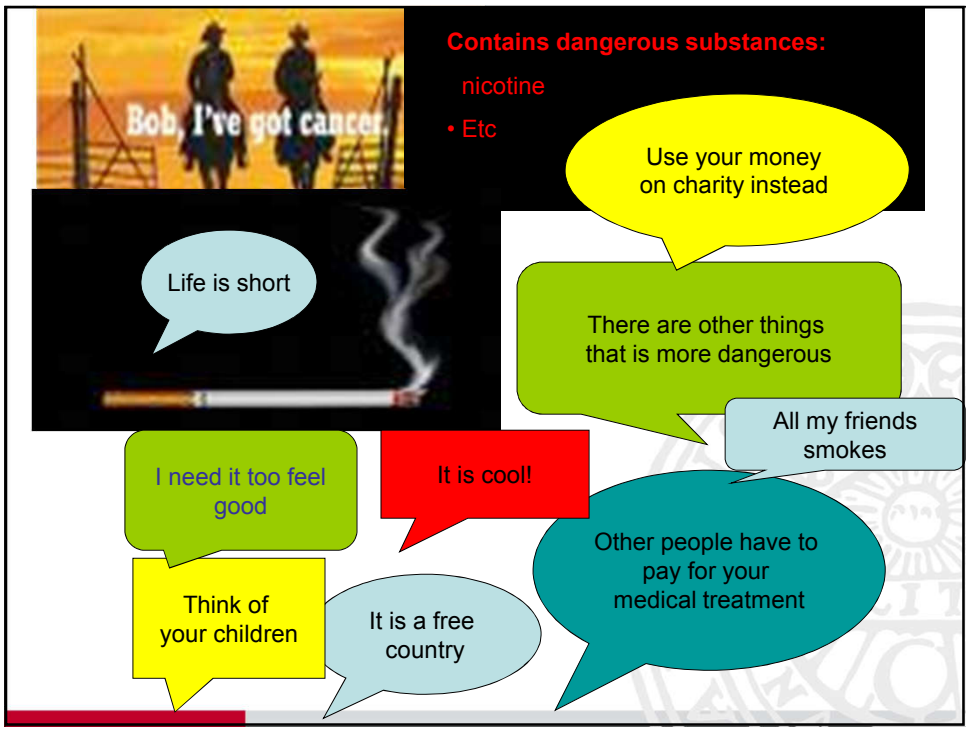
Pluralism

Sustainability problems = Poltical problems

- Conflicts between different groups
- Knowledge, worldviews and values

Argumentation → Problem solving

Sustainability education = students who have the competences to investigate critically and to deliberate on different alternatives



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How to do it?

- At least 3 different ways
- Built upon different ideas
- Which one to choose?
  - Reflective discussions necessary?

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Thanks for your attention!