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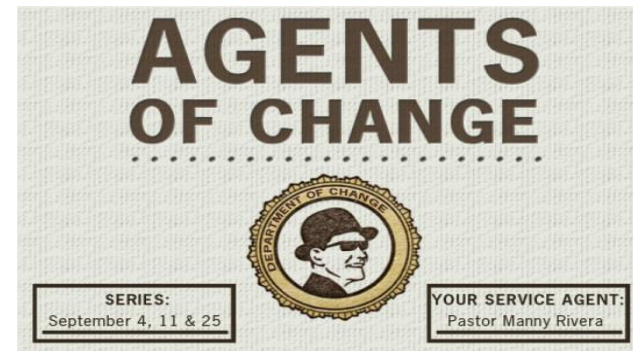


# Transformative Education

*..or why knowledge is not enough..*

# What kind of students do we need?

We need **agents of change** who are able to work at the interface between science and society.



# But...

- What does this mean for us as university teacher?
- What (and how) shall we teach you in order to help our students to becoming skilled and educated change agents?



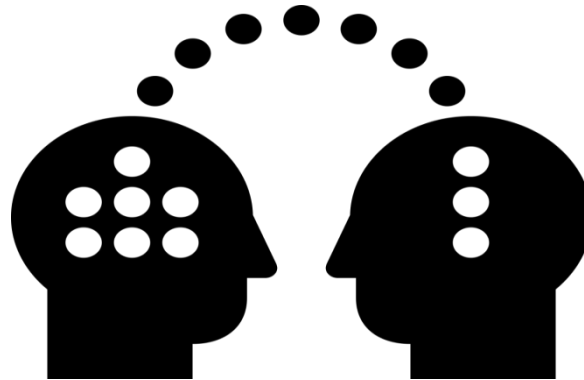
# The classical approach

- Universities produce state of the art knowledge
- We have to teach you this knowledge



# Transferring knowledge

First, we transfer knowledge to students, than as new experts, students transfer knowledge to the people...



# The related approach to sustainable development...

Sustainable development is a problem of insufficient knowledge and technology. Therefore, science (expert knowledge) and technology are the answers to our current sustainability problems.



# The related model of reductive science

- Precise numbers and solutions
- Linear cause-effect relationships
- Calculated risk (no uncertainty)
- Predictability and control
- Knowledge transfer through experts



# Knowledge as input factor

This focus is very much in accordance with mainstream economics and its focus on efficiency gains. Knowledge is seen an input factor which shall help us to produce more efficient and more cost-effective. Knowledge shall improve our economy and enhance “sustainable growth”





# The classical purpose of education

- **Socialisation:** Reproduction of culture / promotion of citizenship (*consumership*)
- **Vocational:** Preparing for economic life
- **Liberal:** Developing individual's potential

# First order learning

If education is mainly about improvement, efficiency and the conservation or the reproduction of a particular socio-economic model, we speak of transmissive education and **first order learning**.

# First order learning means...

- Learning within a particular paradigm
- Improving a system (efficiency)
- Incremental change
- Change within particular boundaries (without examining the assumptions)
- “Doing things better”

# First order learning & sustainability

Unsustainability is the lack of adequate knowledge and technology. If we have enough knowledge and technology, we can go for win-win solution and can control environmental problems (*doing things better*).

# The more the better...

We need MORE knowledge, MORE education!  
And of course, knowledge and education are  
“good things”.



# But...

Most environmental damage, exploitation of nature and social injustice is done by very well educated people!



# But...

Sustainable development is not simply achieved through more knowledge and more scientifically educated experts who are transferring potential solutions to citizens. Sustainability is also about values, participation, social learning, new competencies and a dialogue between different domains of knowledge and legitimated interests.

# The failure of education

*"The fact that we see (social and environmental decay) as disconnected events or fail to see them at all is evidence of a considerable failure that we have yet to acknowledge as an educational failure. It is a failure to educate people to think broadly, to perceive systems and patterns, and to live as whole persons". (David Orr)*



# Education and sustainability

- Earth Summit Rio (Agenda 21): 1992
- World Summit Johannesburg: 2002
- UN Decade on Education for Sustainable Development (2005-2014)
- SDG 4: inclusive and equitable quality education (2015)

# At the eve of a new paradigm

*"Education for sustainable development (ESD) is holistic and **transformational education** which addresses learning content and outcomes, pedagogy and the learning environment. It achieves its purpose by **transforming society**"*

(UNESCO 2015)

# Transformative education

- To be transformative, education systems must transform themselves
- Transformative education is more as knowledge about sustainable development. It is also about the underlying **values** and about the **skills** to engage in sustainable change

# A new purpose of education

- Vocational: Preparing for economic life
- Socialisation: Reproduction of culture / promotion of citizenship (*consumership*)
- Liberal: Developing individual's potential
- **Transformative: Education for change, for a "better world" (education to empower change makers)**

# Levels of learning

First order learning	Effectiveness/ efficiency	'Doing things better'
<b>Second order learning</b>	<b>Examining assumptions &amp; Paradigm change</b>	<b>'Doing better things'</b>

# Transformative learning setting

A transformative learning setting is typically associated with learning experience that are direct, personally engaging, and stimulate reflection upon experience.

# Transformative learning needs three levels

- Content (what to teach?)
- Pedagogics (how to teach?)
- Learning environment (where to teach?)

# Transformative learning is...

- problem-driven
- transdisciplinary
- holistic learning processes (head, hands, heart)
- “painful”



# And it's about....

Reframing young scientific minds when facing the  
“unscientific” (irrationality, power relations, politics,  
etc.)

# Finally, let's go out and enjoy educating!

