

Learning to shape the future

Green Pedagogy in Vocational Education



Digitalisation and Connectivity as Megatrends

(M. Horx, Zukunftsinstitut)

Studies by *Bock-Schappelwein, Huemer, WIFO*:

- In the past two decades, manual routine activities have been replaced by machines
- within the next 20 years, cognitive routine activities (administration, administration) will be replaced ...
 - Particularly affected: people with a medium education, women ...
 - This phenomenon will have great impact also the field of education (presentations, ..)

Analytical and interactive non-routine activities will increase

Social and technical changes ask for entirely new questions about "education"

previous focus of VET:

- Development of practical skills and knowledge (also for routines).

Digitalization, individualisation, globalization are changing vocational education (Univ. Prof. Allmendinger):

- Education must preserve curiosity - let us say farewell to "2. Educational path ": For a lifetime there is only one educational path to go
- Resilience is a key competence in a rapidly changing world
- Education has to enable people to deal with diversity - the sooner the better

Learning to live in the Anthropocene

- Handling complex contexts is asked too much for sectoral, “classical” lessons

"A value-adding chain in education must be established ... from the awakening of interests (eg. through emotional approaches), an understanding of scientific approaches ... appropriate special knowledge (e.g. about systemic interactions), knowledge of scenarios and options for action ... to ethical aspects (world society, Intra- and intergenerational equity) ".

(Leinfeldner, FU Berlin)

- In order to generate local solutions, scientific knowledge and experience must be interlinked

SDGs require profound changes in thinking and behavior

(Marco Rieckmann, Univ. Vechta)

Social goals

- Stop poverty and hunger
- Ensure health,
- Enforce gender justice

Ecological goals

- Sustainable consumption, prevent climate change
- Protecting oceans and seas, protecting land ecosystems

Economic goals

- Sustainable economic growth, promotion of industrialization ...

2 goals as a prerequisite for other goals

- Education, Global Partnerships



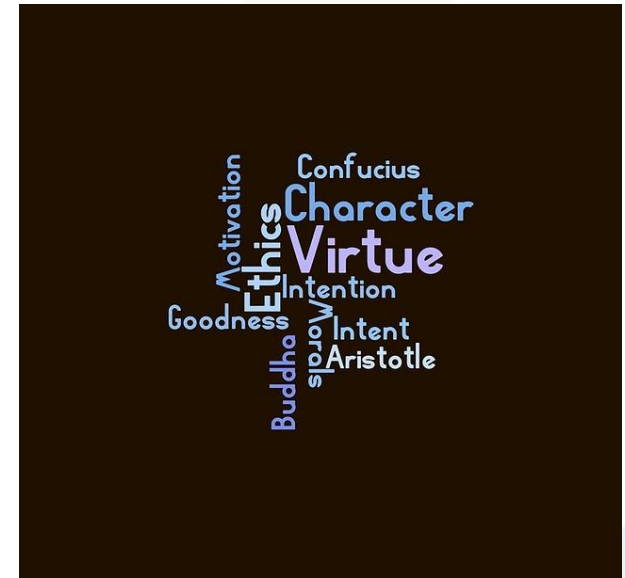
Abb: Millenniumsziele, UNESCO)

Make life worth living - and live it smartly

Vocational training is more than adapting young people to the flexibility of the markets

- Looking at competencies is helpful when it comes to concrete skills and abilities
- Education also has virtues to promote: compassion, prudence, gratitude: with them we cultivate "humanitas", humanity

Geoff Hayward, Cambridge University



Competences for shaping a sustainable future

Shaping and Participation Skills (de Haan, UNESCO; Examples)

- Assess the consequences of changes
- Check, how fair decisions are for others people.
- Assess dangers of change
- Ability to work with people from different fields while learning from each other
-

Basic Capabilities (Martha Nussbaum; Examples).

- Being able to use the senses, to imagine, think, and reason
- Being able to form a conception of the good life and to engage in critical reflection about the planning of one's life.
- Being able to live with concern for and in relation to animals, plants, and the world of nature.
- Being able to laugh, to play, to enjoy recreational activities.....

And here poor fool, I stand once more
(no wiser than I was before).....
(J. W. v. Goethe)

ideas and concepts urgently needed:

- How to develop design competence?
- How to promote basic skills?
- How to teach and learn virtues?
- How to preserve curiosity?
- How to enable multi-perspectivity?

... and all in 45-minute intervals in every days school life



Foto: Pixabay

Green Pedagogy - or trying to accept the listed challenges

Green pedagogy is an attempt to meet current requirements of agricultural and environmental education as well as nutrition and consumer education in order to...

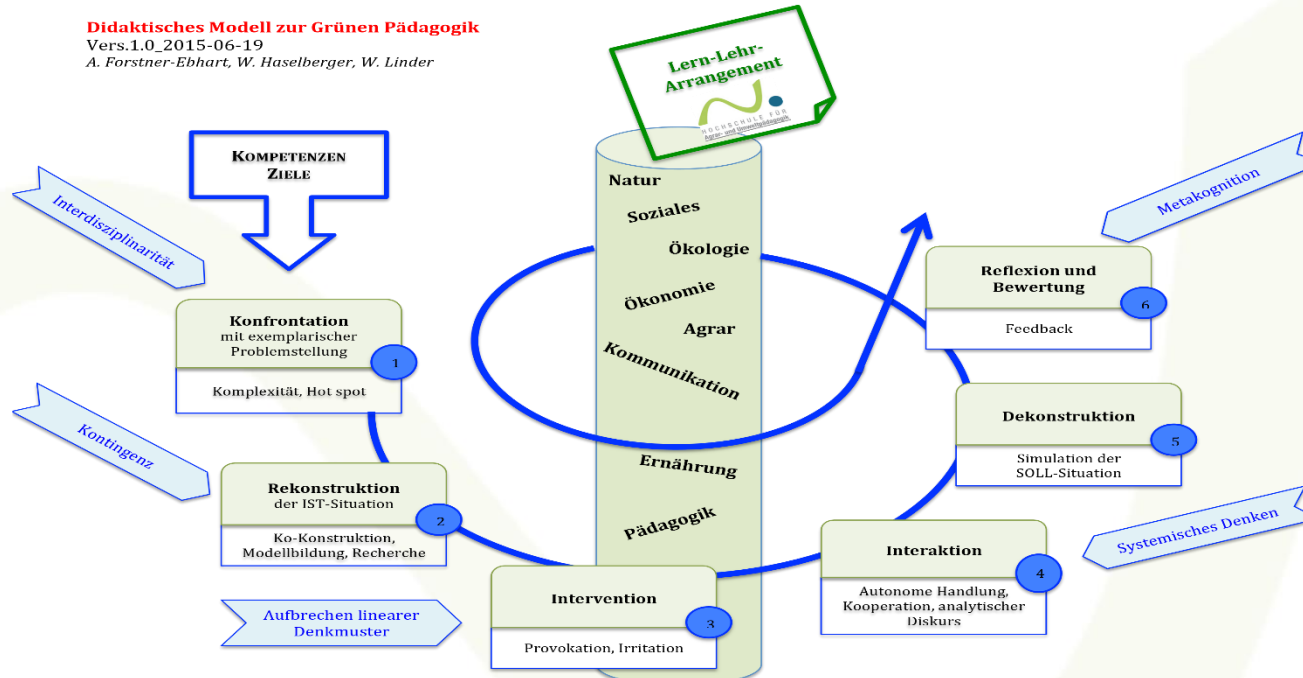
- combine the concepts for the development of shaping and participation skills and of basic capabilities with the concept of constructivistic didactics
- develop guidelines, concepts and examples of learning systemic thinking, creativity and innovative ability, of dealing with contradictions, as well as cooperation and participation skills.
- To address sustainability in a double sense: as an idea of a resource-saving, fairer society and as a concept that focuses on the sustainability of learning.

Green Pedagogy: a workflow concept

Didaktisches Modell zur Grünen Pädagogik

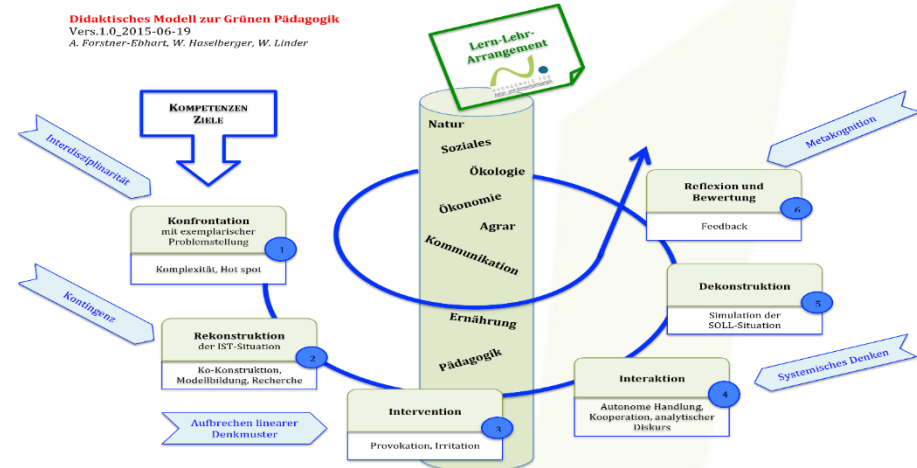
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A. Forstner-Ebhart, W. Haselberger, W. Linder



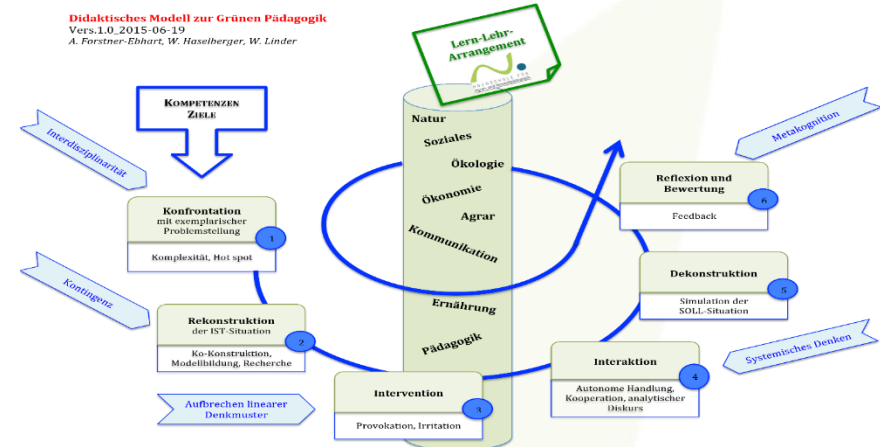
Core Items

1. **Confrontation:** it needs interesting questions at the beginning! Such ones that make you curious, that affect us!
2. **Reconstruction (K. Reich):** The competences, the experience of the group are activated: knowledge is merged, the experiences of others are understood. Typical task: research
3. **Intervention:** The results of reconstruction are questioned, are thought "one step further" irritations, provocations are frequently used methods (no construction without provocation K. Reich). Irritation as well as encouraging may be needed (just let us try ...)



Core Items

4. **Construction, interaction:** the learners develop new perspectives in an analytical discourse
5. **Deconstruction (criticism and self-criticism)**
The findings of the construction phase are subjected to a critical examination, frequently used methods are scenario techniques, simulations
6. **Reflection: what did we do?** What was the goal of the learning arrangement? Which results did we achieve? - This phase is the starting point for new confrontations - the spiral continues.



Everyday life conceptions of students are starting points

Hans Rosling: Factfulness (Ullstein 2018)

- Questionnaire on issues related to global development: births per woman, education of girls, distribution of the population etc.
- Results even among managers (Davos) regularly worse than statistical expectation
- Ignorance leads to wrong conclusions, to wrong priorities in questions of sustainability



Abb: Amazon.de

Everyday life conceptions – an example Rösling: „divided world“ in our mind

Image of a divided world:

- Developed countries vs. developing countries
- low infant mortality here, high infant mortality there.....

But this picture is no longer correct!

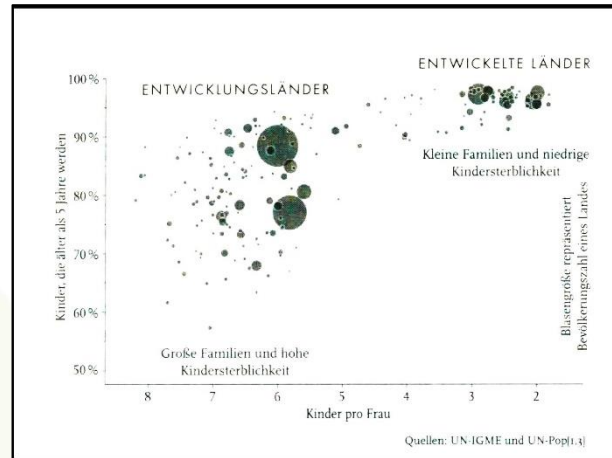


Abb: aus Roesling: Factfulness 2018

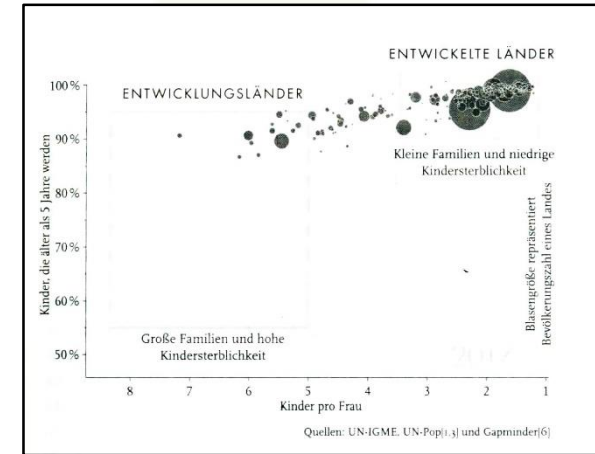


Abb: aus Roesling: Factfulness 2018

Everyday ideas are deeply engraved in our minds.
You cannot ignore them...

(Kattmann, Gropengießer)

Everyday ideas are directly relevant to the life of students

- Vocational qualifications: learners bring their own experiences – sometimes in contradiction to "school knowledge"
- Farming: illustration in textbooks often do not reflect the reality
- Nutrition: everyday life concepts for healthy diets, allergies, food intolerances etc. are sometimes very different from scientific explanations.
- Environment: climate protection, biodiversity loss, etc. ∴ between science, "fake news" and conspiracy theories?

Green Pedagogy picks up on everyday ideas, uses them, either as a correspondence or as an exciting contrast.

Irritation questions everyday ideas

Everyday ideas can not easily be exchanged - learners have to experience contradictions, for example

- Science learning: "logical" contradictions between observation and imagination
- Social sphere: contradictions between individual values and collective behavior

Green Pedagogy deliberately focuses on questioning "simple" solutions



Abb: Pixabay

„The way you feel is the way you learn“

Hannes Münchow, Univ. Würzburg

Awakening emotions has great significance and a long tradition in environmental education and education for sustainable development. Concern is caused e.g. by media (plastic planet), by role plays, the footprint calculator etc.

- Magnitude of unsustainability causes feelings of powerlessness, helplessness (study by Brooks, Univ. California)
- Moralization leads to rejection, to apologies
- Fear, powerlessness or stress does not lead to creative knowledge (Susanne Scheja, TH Nuremberg)

Green Pedagogy not only arouses emotions but develops strategies for dealing with negative emotions in particular

As much construction as possible

One of the biggest barriers for learning ... is that learners are not allowed to design sufficiently independently

(Neubert, Reich, Voß 2001)

Education for Sustainable Development is mostly about conveying "right" knowledge (Studies by Lydia Kater-Wettstädt, 2015)

- Calls for sustainable behavior (for example, moral consumption) are verbally agreed, but they are not translated into real action (rejection, excuse and legitimacy strategies ...)
- Not knowing is a chance. Learners need opportunities to develop options for action and to reflect against the background of socio-political framework conditions

Green pedagogy gives students the latitude they need for own ideas and conclusions

Example: Teaching-Learning Arrangement: No room for wolves?

Divisive issue

- In our cultural landscape, there is no room for wolves, it will lead inevitably to conflicts, the protection of grazing animals is not affordable, even threats to humans can not be ruled out
- Wolves are part of nature, the Alps are a traditional habitat. Fences and herd dogs for the protection of sheep are very possible
- It is a fundamental issue: how can we demand that India protect tigers if we can not cope with a few wolves?



Foto: Pixabay

The challenge: controversial everyday life ideas of learners:

- Ecological balance is understood as a constant state in an untouched nature, whereas humans are understood as "troublemakers". Without humans nature is harmonious (Elke Sanders 2003). A wolf is a symbol for an unspoiled nature.
- Landscape needs to be cultivated as a habitat for humans: hunting, the regulation of wildlife is necessary, it needs farming of alpine pastures to protect biodiversity, it needs foresters who fight against pests (Werner Bätzing et al.)

Different values and visions meet when dealing with such an issue

Starting point: At night, when the leopard come (Spiegel 2/2018)

15 million people live in Mumbai - and another 13 million in the suburbs, it is one of the largest cities on earth. But there are also about 40 leopards living in the center, in a city park. Why nobody calls for their launch?

Read the article and create a mind map: find out, which criteria facilitate the coexistence between humans and wild animals.

Alienation removes emotions, makes a topic arguable.



Irritation: Is this the balance of nature ...?

...

- Groups 1: Thinking Like a Mountain (Aldo Leopold): The mountain knows that its forests are in danger when the wolves are exterminated because the deer will eat the seedlings.
- Groups 2: Agriculture throughout centuries has created unique habitats in the mountains. If this management is abandoned, the "original state" does not return, rather erosion and impoverishment threaten (Werner Bätzing: Die Alpen).

Discuss on the basis of given sources of literature: Is there a natural balance? How would you describe or represent this balance (e.g. draw an image, write a parable, ...)

Construction - systemic thinking: Is there a place for wolves in Austria?

Form new groups (mixed from 1 and 2) and discuss:

- Who needs the wolf? Collect the different arguments (pro, con), discuss based on results of the previous discussion on "ecological balance".
- Is it possible to live with wolves? Are experiences with leopards applicable? Go through the mind map.

Make a recommendation: Under what circumstances will life with wolves succeed? Is there a chance for success?

Reflecting the learning process: A new picture, an old picture ?

What do we protect? (Reinhard Piechocki 2010)

- *Nature as a resource?*
- *Nature as a home?*
- *Nature as landscape?*
- *Nature as a wilderness?*
- *Nature as an ecosystem?*
- *Nature as a service provider?*
- *Nature as a process?*

Form small groups and select a specific view on nature. Did this view change? What role does the wolf play now in it?

Produce a phrase: "Nature is _____, There is (no) room for wolves in it, because _____"

Experiences

... next time.....

Summary:

Save the world with shaping and participations skills save yourself with a capability approach....

- Shaping and participations skills are prerequisites for the development of a sustainable society: estimating risks, motivating oneself and others to become active
- Capabilities are prerequisites to lead a livable life: to develop an idea of the good, to plan one's own life, to use one's senses and reason, to laugh and play

Green Pedagogy is committed to the educational ideal: "strengthen people, clarify things" (Hartmut von Hentig)

There is an alternative ...

Graeme Maxton (the Growth Lie, Change), Secretary General of the Club of Rome

- *"We've been trying for more than 40 years to achieve a value change in society. But we failed with that gentle tour. »*
- Maxton proposes "a hard way": he does not see an alternative to bans, to restrictions of democratic rights ("emergency regulations") are needed in order to avoid an ecological collapse

Education for Sustainable Development - and Green Education - are committed to freedom and responsibility. "Only a gentle tour of enlightenment and education is sustainable

Green Pedagogy is based on cooperation: THANK YOU!

The considerations presented are the result of joint work of a team:

- Christine Wogowitsch, former Vice-Rector, initiated and promoted Green Pedagogy
- Walter Haselberger, the former director of the institute, has anchored the Green Pedagogy at our university college
- Angela Forstner-Ebhart has conceived and substantiated the pedagogical and didactic approach of Green Pedagogy

Many other colleagues have delivered important contributions and examples, e.g. for green care, for household and nutrition, for agriculture and innovation, for work with emotion, for working with everyday ideas, with new media