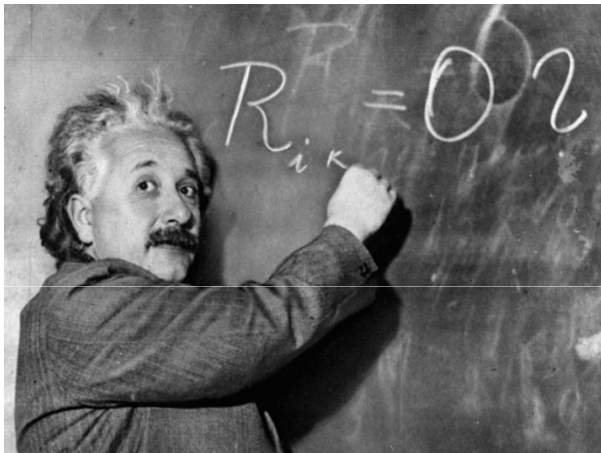




LEUPHANA
UNIVERSITÄT LÜNEBURG



Higher Education and Sustainability Research for RCEs

**Establishing a Regional Centre for Expertise on Education for
Sustainable Development in the Czech Republic**

Ústí nad Labem, 10. February 2012

PD Dr. phil. Maik Adomßent



Responsibility – not only as a scientist

S/he who has knowledge about sustainable development,
can no longer linger in the
paradise of standpointlessness.

according to

Hans Joachim Schellnhuber

Director Potsdam Institute for Climate Impact Research (PIK)



Developing the learning citizen at three levels



1. the individual level

a learning person who has skills and plays a role in society leading to sustainable behaviour (*new knowledge, new skills*);



2. institutional level

within a learning organisation which tries to improve the quality of its own structure and performances in sustainability (*new priorities, new procedures, and new practices*);

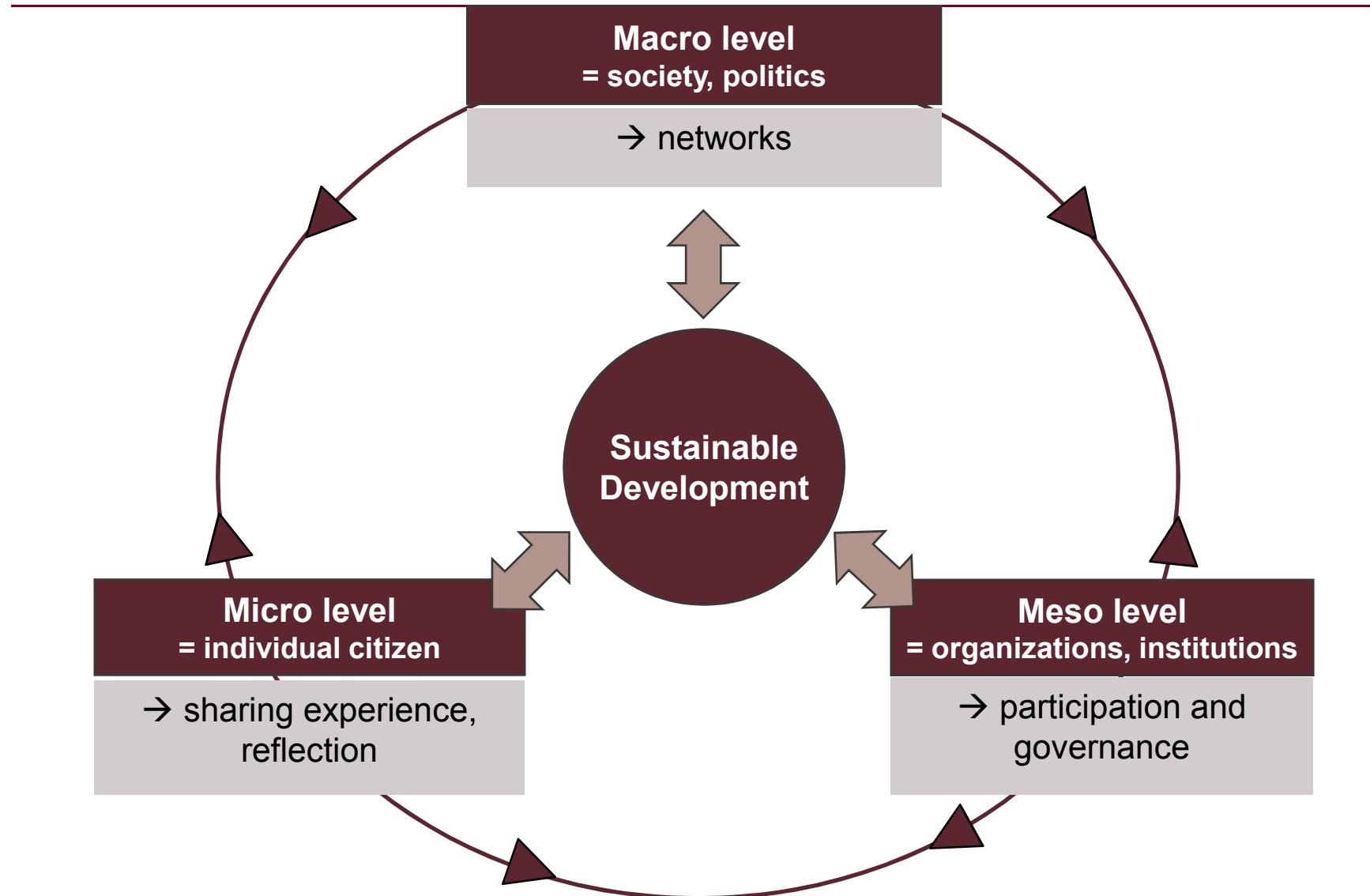


3. social level

within the learning society in which there is an addition of learning processes of different organisations and individuals with their own perspectives in which there is a cumulative effect (*creating new agendas, new partnerships, new ways of interaction and participation*)

Source: Goldstein (2005, p.7)

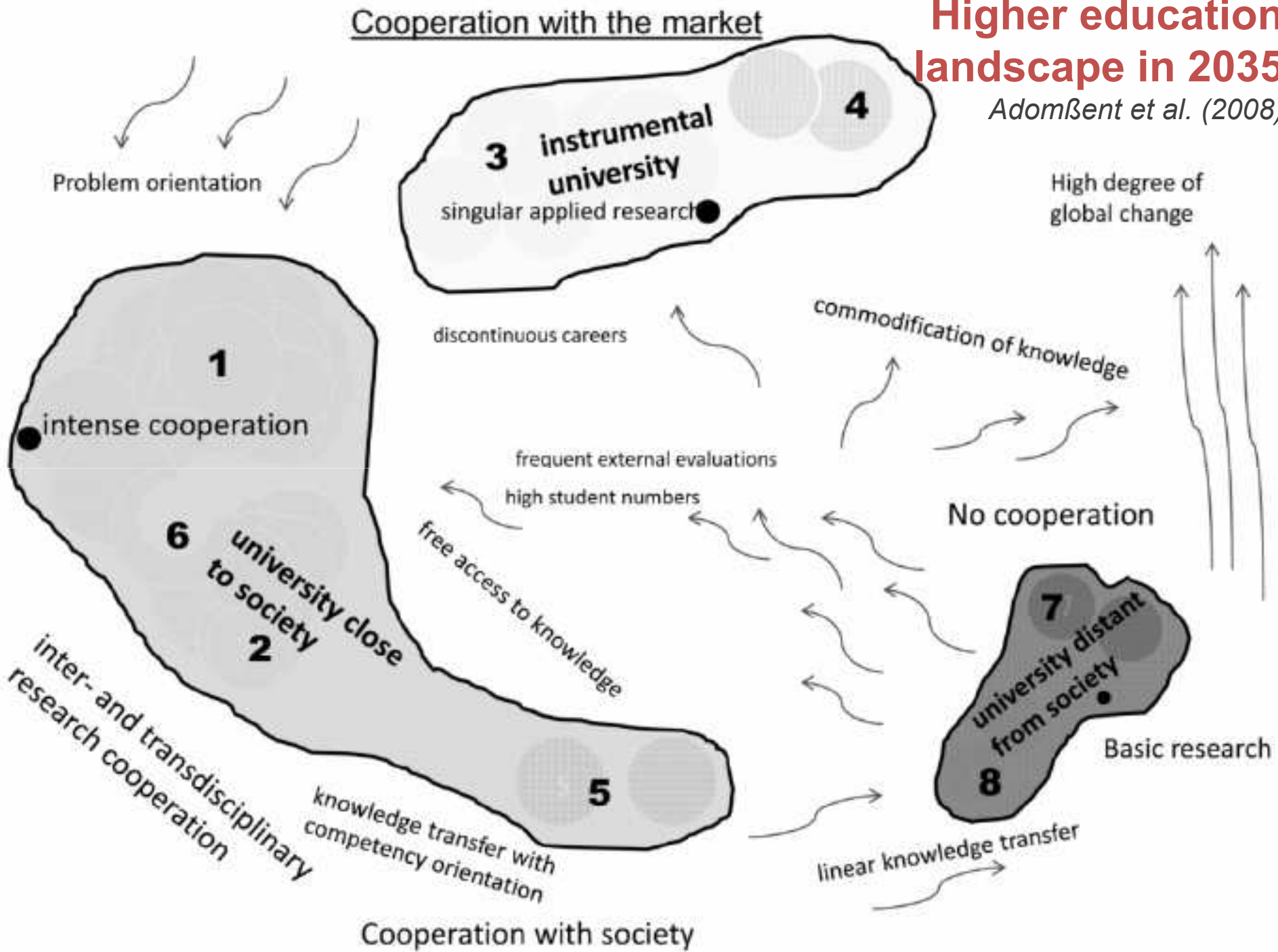






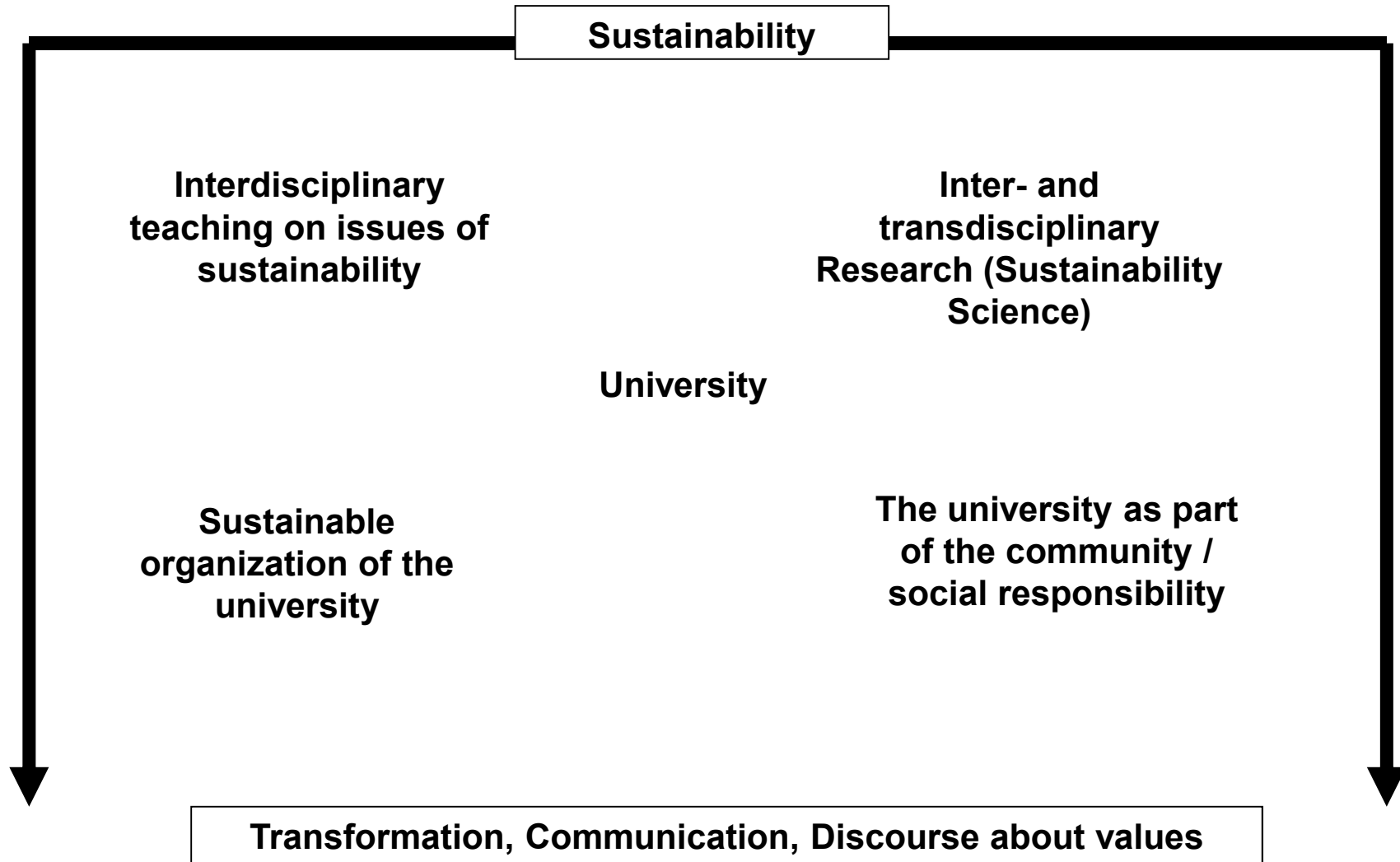
Higher education landscape in 2035

Adomßent et al. (2008)





Implications of Sustainable Development for Universities





Quality criteria in science

Necessary, ...

- **Objectivity:** the extent to which a test result cannot be influenced by the principal investigator with regard to implementation, evaluation and interpretation; or if several/many researchers are producing matching results.
- **Reliability:** an investigation / a measurement method is described as reliable if a repetition of the measurement under the same conditions and at the same objects comes to the same conclusion.
- **Validity:** quality criterion that indicates the degree of accuracy with which a test records what it's supposed to record (e.g., personality traits or behaviors).

...but no longer sufficient conditions in order to guarantee validity of knowledge.

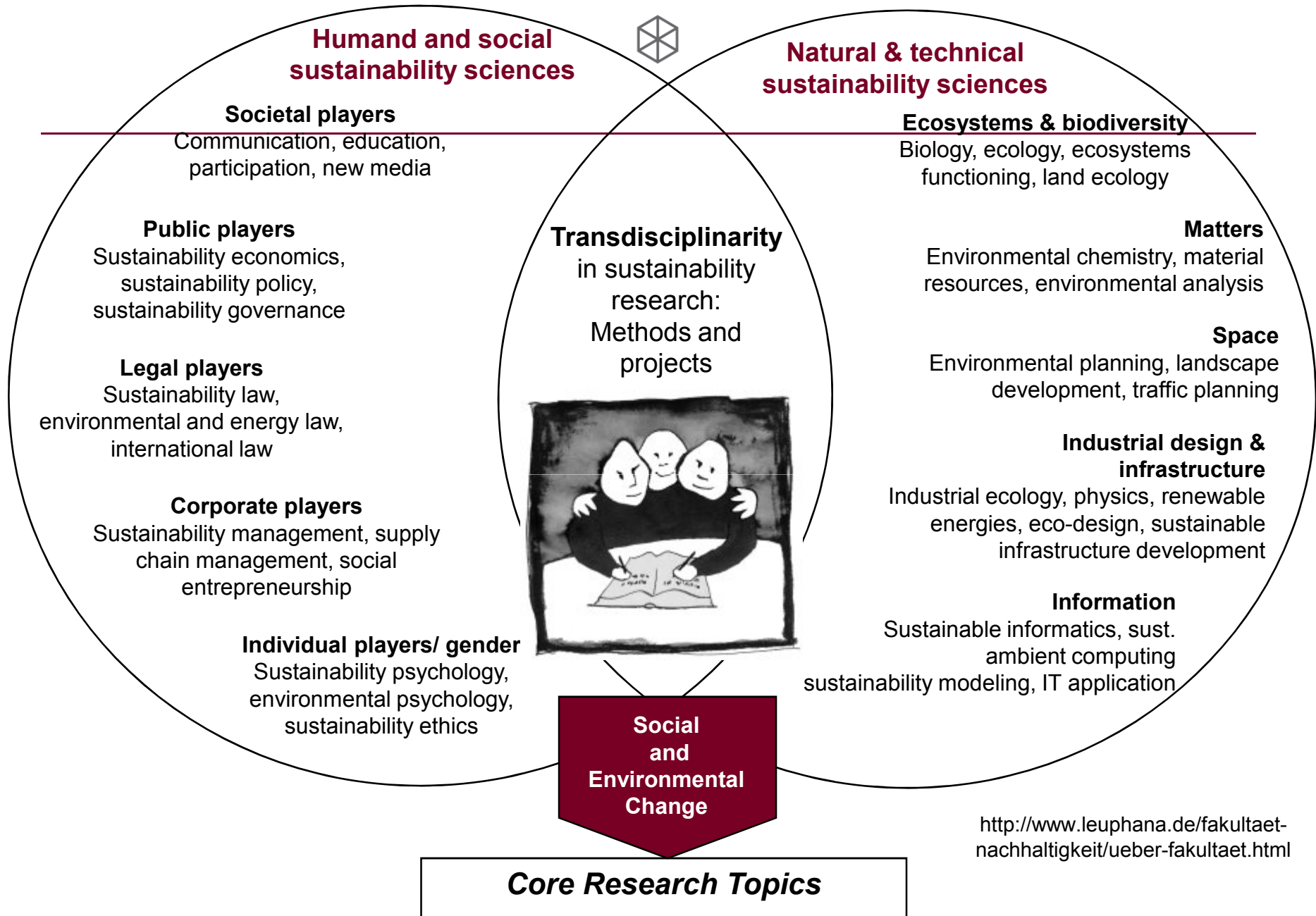
- **Accountability of research:** more than ever science has to take its own implications and limitations more into account.
- **Responsibilisation** of researches: social control through (self-) control and (self-) ascription of responsibility



Core elements of knowledge production within research for sustainability

- **Problem orientation:** Translation of existing societal problems into ensembles of scientific problems.
 - **Actor orientation:** consideration of actors' constellations and their possible ways of action // proactive design of problem horizons instead of repairing of damages
 - **Problems of integration** form the focus of interest.
 - **Self-reflexivity:** Making substantial normative premises and interests transparent // Reflexion of knowledge boundaries / limits.
- ➔ **transdisciplinary, participative model / understanding of science**

Source: Jahn (2001)



<http://www.leuphana.de/fakultaet-nachhaltigkeit/ueber-fakultaet.html>

Everyday Knowledge	Science Knowledge
is used for orientation in the world	is used to understand and explain the world
not systematically test based on knowledge nicht-systematisch hergeleitetes Wissen	is systematically derived and verified through research and experimentation
immediacy of everyday practice	systematic distance to every day practice
avoidance of doubt	systematization of doubt
assurance of what is known	doubt in the known
avoidance of alternatives	detection and search for alternatives
experience-near language	language distant from experience
findings revealed in the subjective and/or collective consciousness and especially communicated verbally	findings predominantly communicated in writing



Science as a craft

- Method: from gr. *méthodos* (actually »the way toward a goal«)
- Tool: mhd. *ziuc*, *ziug* »material, equipment, device«, but also *gitiuh* »expense«, and *ustiuhan* »complete«

It is tempting, if the only tool you have is a hammer,
to treat everything as if it were a nail

Abraham Maslow (1966)

<http://cakeheadlovesevil.files.wordpress.com/2011/02/stephane-bureaux-clou-chocolat-2.jpg?w=490&h=485>



Modes of knowledge production in transdisciplinary sustainability research

Position of observant:	non-participating observant	participating observant	observing participant
Science type:	traditional ideal of science	formative and evaluation research	problem and solution oriented research
Construction of reality:	independent from observant	varies according to understanding of science -	observable world is dependent on observant



»Ilmenau Cycle Path: Developing and designing points of interest in the counties of Uelzen, Lüneburg und Harburg«

Framework condition and content

- Summer term 2008: designing different cultural- und natural points of experience along the river Ilmenau (characteristics and problem areas).
- Winter term 2008/09: conceptual design of audio-points of experience (hasn't been implemented in this form in Germany (and beyond) before)
- complex teaching/learning arrangement: many local and regional actors have become active participants in the development of creative ideas and their implementation..
- Collaboration of students with pupils from three counties participated in two semesters essential part of the project



Jeder weiß, wie Störche aussehen...

Aussehen

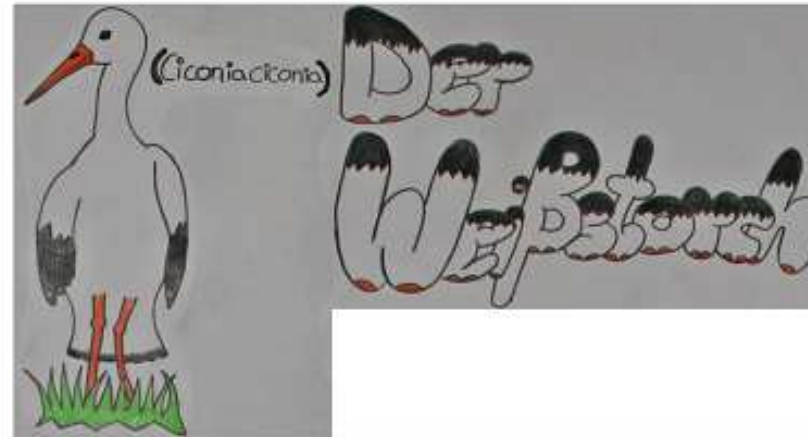
Der Weißstorch ist 80cm bis 100cm lang und hat eine Spannweite von etwa 200cm bis 220cm. Sie haben ein weißes Federkleid und schwarze Schwungfedern. Schnabel und Beine sind rötlich.

...aber was essen sie?

Ernährung

Der Weißstorch ernährt sich von Kleintieren, wie Regenwürmern, Insekten, Fröschen, Mäusen, Fischen und Aas. Seine charakteristische Jagdmethode macht ihn schon aus weiter Entfernung erkennbar: Er schreitet auf der Suche nach der Beute umher und stößt dann blitzschnell mit dem Schnabel zu.

...wie und wo brüten sie?



Nist- und Brutverhalten

Der Weißstorch nistet auf Felsvorsprüngen, Bäumen, Gebäuden und Strommasten. Er besiedelt offene und halboffene Landschaften. Dabei bevorzugt er feuchte und wasserreiche Gegenden, wie Flussauen und Grünlandniederungen. Der Weißstorch brütet in Europa von Spanien bis Russland, in Nordafrika und Vorderasien (Türkei bis Kaukasus).



Wußten
Sie
schon...?

Welche Storchmythen kennen Sie?

Legenden

Der Storch gilt als Glücksbringer. Der Sage nach werden Kinder vom Klapperstorch gebracht. In Thüringen übernahm der Storch die Aufgaben des Osterhasen. Im Elsass ist der Storch ein regionales Symboltier und „inoffizieller“ Wappenvogel. Vom Storch überbrachte Kinder werden nur dort abgesetzt, wo die Störche noch Elsässisch reden hören, sonst ziehen sie weiter.

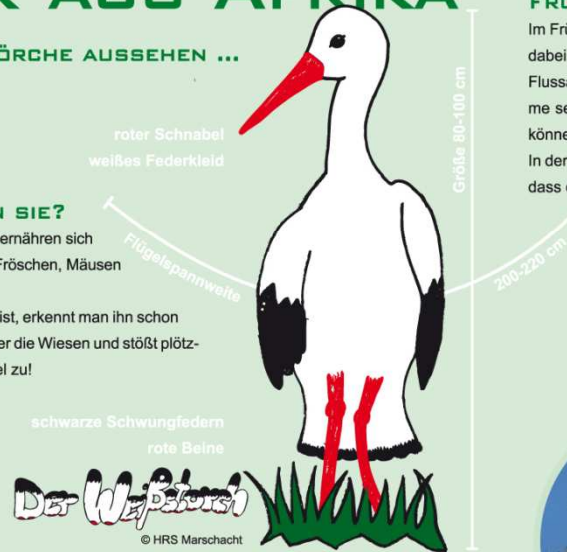
ADEBAR AUS AFRIKA

JEDER WEISS, WIE STÖRCH AUSSEHEN ...

... ABER WAS FRESSEN SIE?

Störche sind reine Fleischfresser! Sie ernähren sich von Insekten, Würmern, Schnecken, Fröschen, Mäusen und anderen Kleintieren.

Wenn der Storch auf Nahrungssuche ist, erkennt man ihn schon von weitem: Er schreitet bedächtig über die Wiesen und stößt plötzlich und blitzschnell mit dem Schnabel zu!



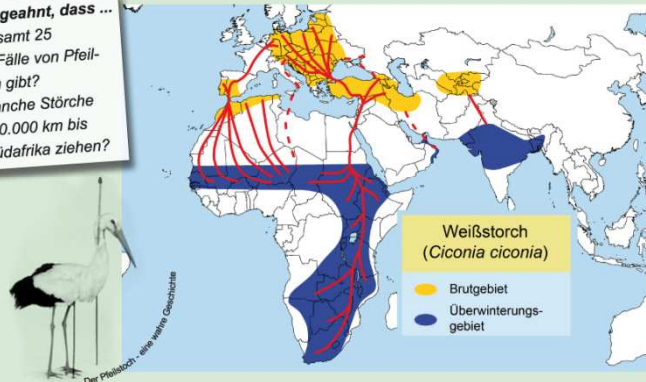
UND WO BLEIBEN DIE STÖRCH IM WINTER?

Warum sind im Winter keine Störche zu sehen? Halten sie Winterschlaf am Meeresgrund?

Diese Theorie erscheint uns heute abwegig, wurde aber vor Jahrhunderten noch ernsthaft diskutiert.

Im Jahre 1822 wurde dann aber bei Klütz in Mecklenburg ein Weißstorch erlegt, in dessen Hals ein Pfeil aus Afrika steckte. Der Storch war mit diesem Pfeil im Hals die weite Strecke nach Deutschland geflogen! Dies war der endgültige Beweis dafür, dass unsere Störche im Winter nach Afrika ziehen (siehe Karte).

Hätten Sie geahnt, dass ...
... es insgesamt 25 belegte Fälle von Pfeilstörchen gibt?
... dass manche Störche bis zu 10.000 km bis nach Südafrika ziehen?



FRÜHLING AN DER FLUSSAU - STÖRCH MÖGEN ES FEUCHT

Im Frühsommer brüten die Störche auf Hausdächern oder Nisthilfen in Mitteleuropa (siehe Karte). Sie sind dabei sehr ortstreu und kehren jedes Jahr zielsicher an ihren Brutplatz zurück. Die feuchten Wiesen der Flussaunen bieten den Storchfamilien reichhaltige Nahrung. Allerdings sind diese besonderen Lebensräume selten geworden, da der Mensch viele Flächen trockenlegt, um sie besiedeln oder bewirtschaften zu können.

In der Elbtalau ist die Storchenvelt noch vielerorts in Ordnung. Die Menschen geben hier besonders Acht, dass die Feuchtwiesen erhalten bleiben!



WELCHE STÖRCH-MYTHEN KENNEN SIE?

Der Storch als ...

- ... **Kinderbringer** ... Der Legende nach holte der Storch die Kinder aus einem Brunnen und biss anschließend die Mutter ins Bein, damit sie ins Bett musste, in welches er dann das Kind legte.
- ... **Frühlingsbote** ... Der Storch wurde als Frühlingsbote sehnsüchtig erwartet und oft jubelnd begrüßt. In einigen Gegenden soll der Turmwächter zu seiner Ankunft sogar eine Fanfare geblasen haben.
- ... **die beste Medizin** ... In der Antike wurde Storchkot zur Behandlung von Epilepsie verwendet.
- ... **Ostertier** ... In Thüringen übernahm der Storch die Aufgaben des Osterhasen.
- ... **Glücksträger** ... Sein Spitzname Adebar stammt von dem Althochdeutschen Wort *odaboro* - Segensbringer. Im deutschen Wörterbuch der Gebrüder Grimm von 1891 heißt es: „Wer das Glück hat, dass die Störche ihr Nest auf sein Haus oder Schornstein bauen, der wird lange leben und reich werden.“



„Ich mag Störche!“



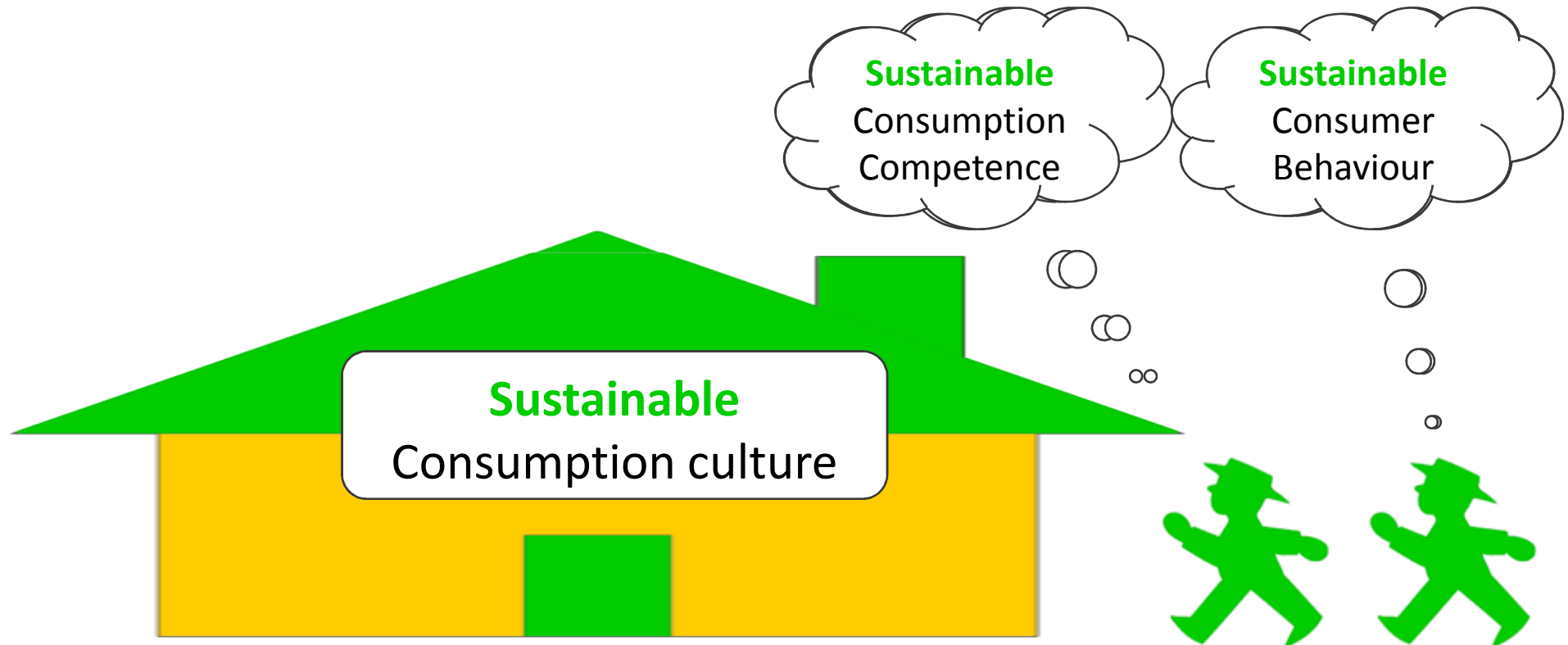
„Ich mag Frösche!“



The Scope

Organisational Changes

Individual Changes

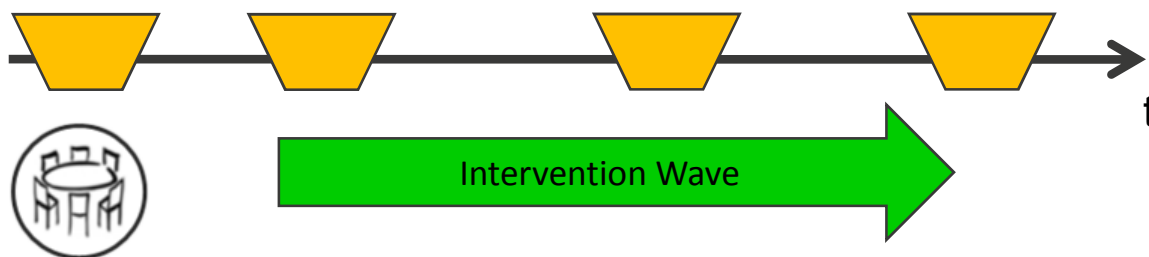




The Process

The Process

- Establishing steering groups
- Kick-Off-Workshop
- Planning: Intervention workshop
- Ongoing: working meetings & materials
- Accompanying: exchange & reflection
- Research partners as consultants

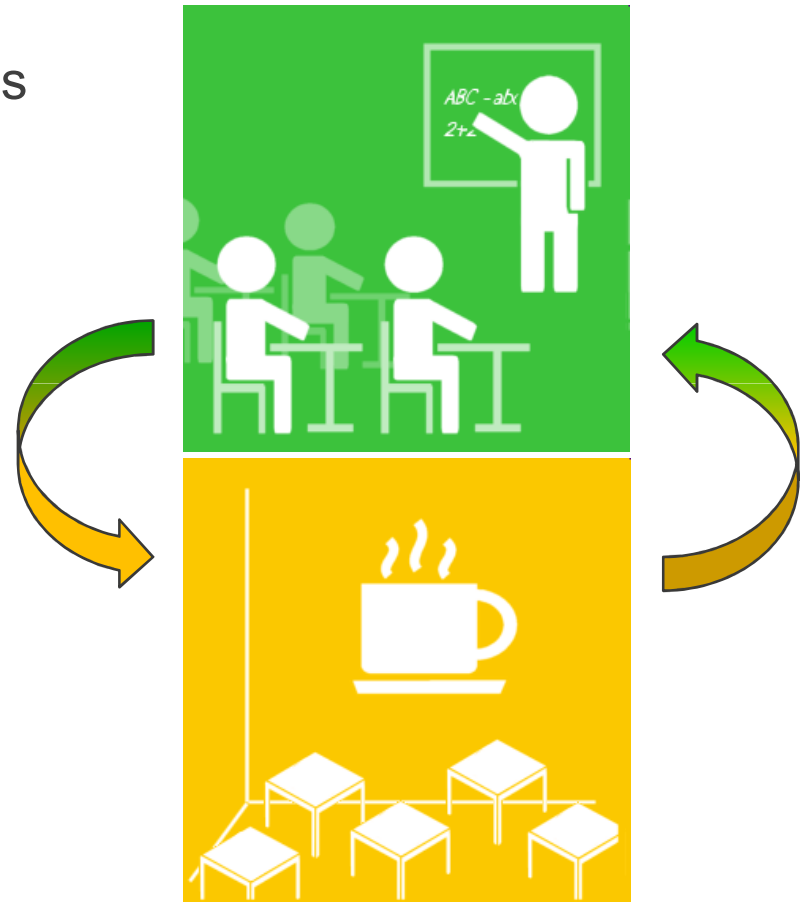




Consequences: Starting points for educational measures: BINK Approach

- *Formal and informal Learning*
 - Combining in-class and out of class learning Learning

 - *Individual and situative Aspects*
 - Knowledge and Attitudes
 - Incentive systems
 - Organisational Offers
 - Feedback-Mechanisms,
 - Options for Experiencing and Testing
- Broadening the view!





Products of the BINK Project

■ Manuals

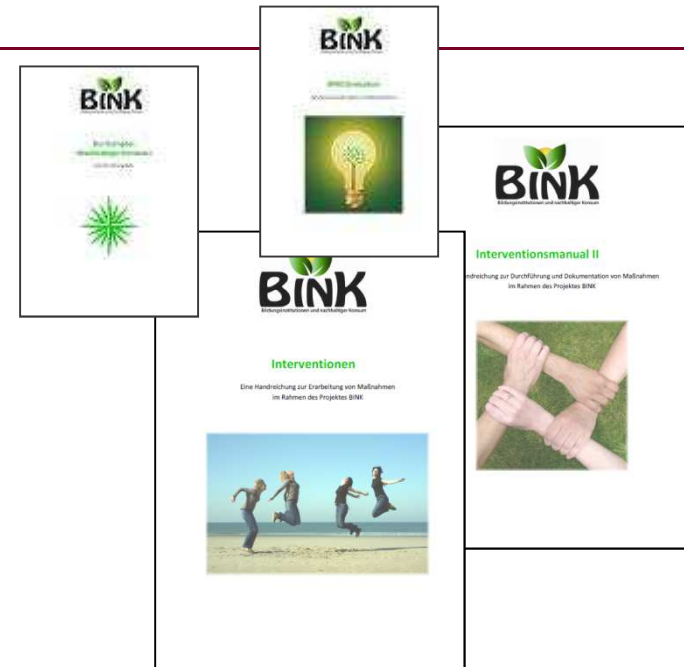
A guidebook has been developed bringing together BINK experiences and research results and providing ready-to-use educational stakeholders.

- Compass sustainable consumption
- Youth and sustainable consumption
- Intervention planning
- Change Management
- Process evaluation and continuation
- Good Practice

■ TV-Documentation

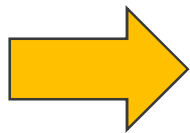
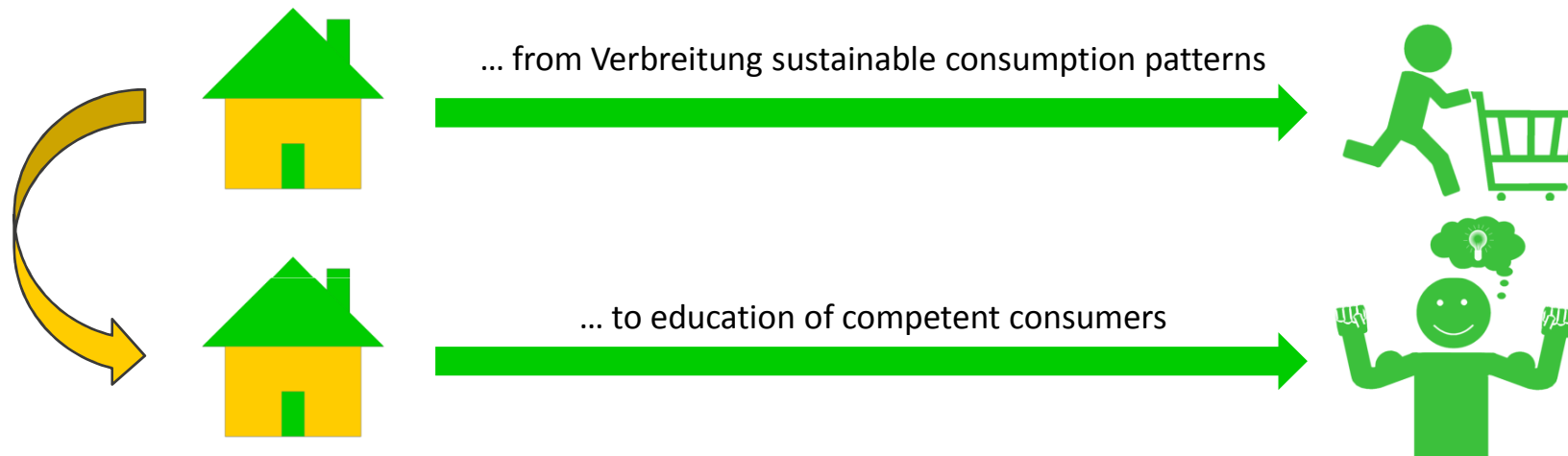
- Motivation and inspiration for change processes

■ Teacher (continuing) education





Education as *Enabling* of sustainable development



Education finds its limits in the *Enabling* sustainable and just/fair-minded action.

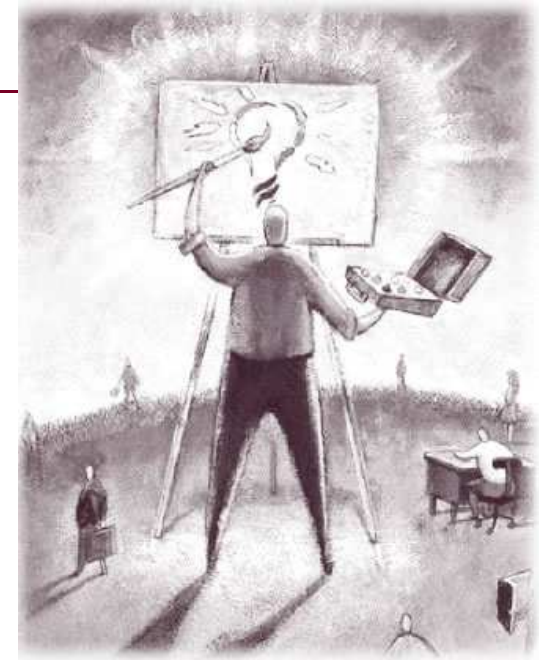
Characteristics of a Community-of-Interest in contrast with those of a Community-of-Practice (after Fischer & Ostwald, 2005)

Characteristic	Community-of-Practice	Community-of-Interest
Nature of problems	Different tasks in the same domain	Common task across multiple domains
Members	From the same domain (novices and experts)	From different domains (stakeholders)
Knowledge development	Exchange of knowledge within the practice; refinement of domainspecific knowledge system	Exchange of knowledge between domains; integration of multiple knowledge systems
Learning	Growing from novice to expert	Reaching shared understanding
Major objective	Growth in domain-specific knowledge	Resolving a complex problem
Threat	group think	No real communication
Opportunity	Fast progress due to shared background	Creative and robust solutions by making all voices heard



Roles of HEIs in networks

- prime movers
 - gatekeepers
 - spokespersons
 - bridging institutions or intermediaries
 - independent monitor
-
- promoting “**conscientization**” of local problems
- ➔ engage in a reflexive self-assessment of their own knowledge production practices, also in relation of those of the other participants





Plea for a regardful usage of words

The use of phrases like: *concrete results* or *let us be very concrete* does not reflect a sustainable approach. Concrete is a not reusable and not sustainable material.

We should instead use phrases like: this is *crystal clear*, or *let us get this crystal clear*. This refers to the features of crystals: very balanced, unique, transparent and re-usable.

Jim Taylor (WESSA, South Africa)

Relativity of Perspective





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