



Higher Education for Sustainable Development (HESD)- Experiences and Perspectives in Germany

„From project to structure“ – From personal commitment
of individual scientists to Sustainable Universities

Looking back and moving forward!

0. *Environmental Education* (1972 ...)
1. What does ‚*Education for Sustainable Development*‘ (ESD) imply?
2. Seminars in Pedagogy on Environmental Education (EE)/ ESD (1978-2011)
3. Non-university practice of EE /ESD (1985-2015 ff) (Transdisciplinarity)
4. HESD at universities in Germany 1992-2005 – an interim balance
5. Strong impetus by UN-Decade ESD (2005-2014)
6. Global Action Programme: Goals and immense challenges for all universities (conclusion)
Annex: Sustainable universities: Examples, Literature,...

Text of a lecture (long version of 24.11.2015) - **Download** <http://www.bne.uni-osnabrueck.de/Becker/LBNE>

is a process in which individuals gain awareness of their environment and acquire **knowledge, skills, values, experiences**, and also the **competences**, which will enable them to act - individually and collectively - to solve present and future environmental problems, for example:

- ✚ protection of animal, plant species and (natural) landscapes
- ✚ **prevention of waste** and the careful handling of **valuable resources**.
- **Prevention of Pollution** (car traffic ,...)
- **good healthy nutrition**

For every issue: precise didactical aims and methods
for all fields of Education and Vocational /professional training

Usually ecological aspects, rarely social aspects!



1. Sustainable Development (SD) - Education for Sustainable Development (ESD): History

Environmental Education

(UNESCO, Tiflis 1977, Moscow 1987,...)

Education for all

(World Declaration UNESCO 1990, Jomtien)

Development Education –

(since 1960 approx.)

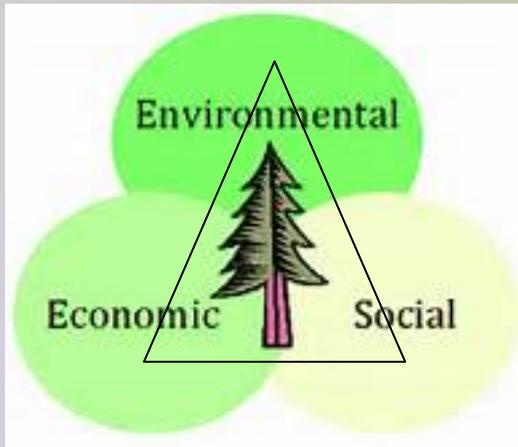
Global / intercultural Education



Agenda 21/ Chapter 36 (1992): PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING



Education for Sustainable Development (ESD)



3 Dimensions of SD



6 Dimensions of SD

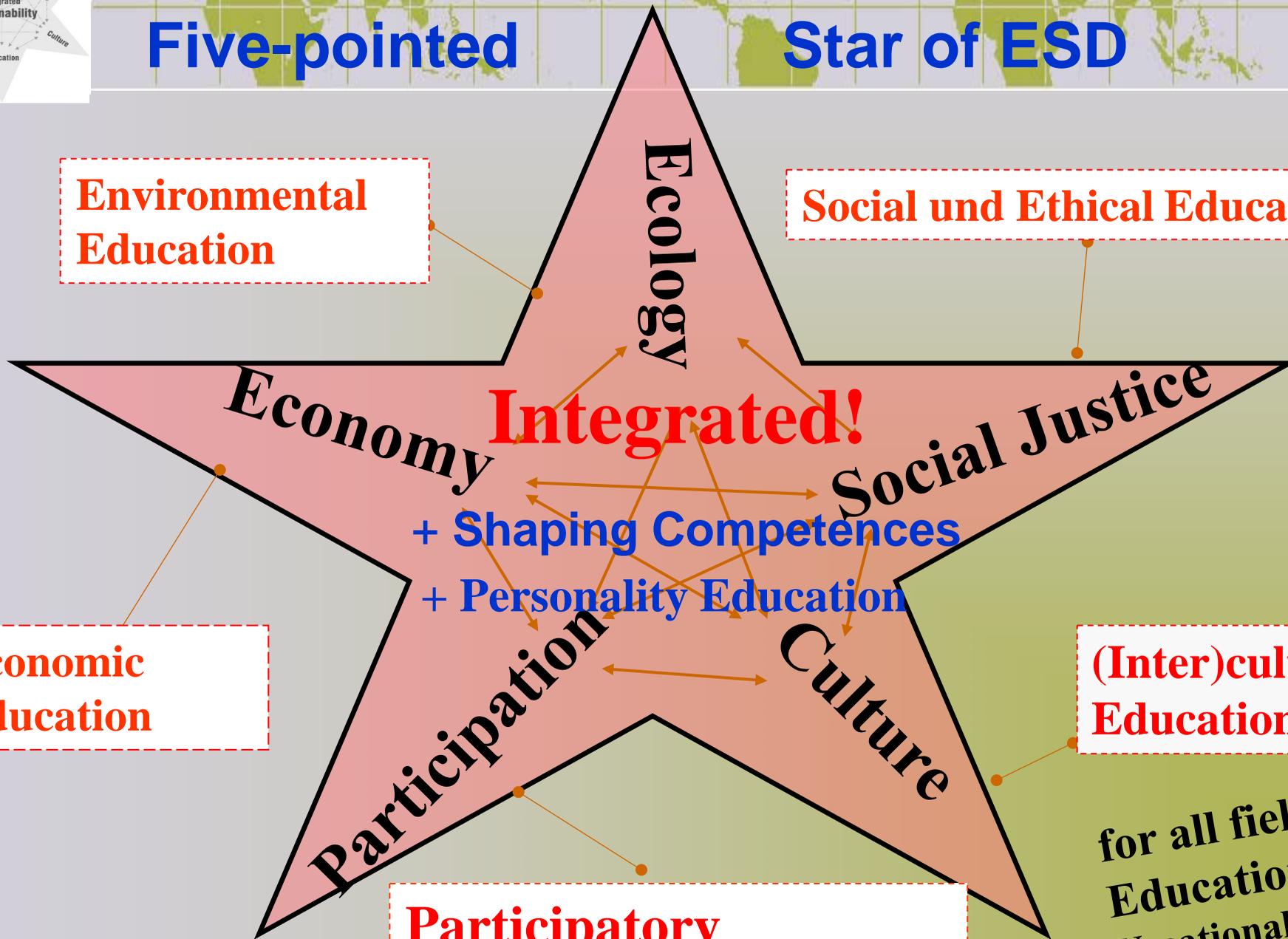
Global Action Programme ESD (GAP ESD) 2015-2019/24



What does Education for Sustainable Development imply?

Five-pointed

Star of ESD



Environmental Education

Social und Ethical Education!?

Economic Education

(Inter)cultural Education

Participatory Democracy Education

for all fields of Education and Vocational /professional training!!



Objective of ESD: Shaping Competence!!

(in German: **Gestaltungskompetenz**)

Shaping Competence is the ability to apply interdisciplinary knowledge (Ecology, Economy, Culture, ...) of **sustainable development**, to identify problems of unsustainable development as well as to be able to draw conclusions for individual and common behaviour and action in all areas:

- everyday life,
- School, Professional /Vocational Training and Education,
- Professional Work,
- political action at local, national, international and global level.

Shaping Competence: 12 Key Competencies for ESD

(most common in Germany)



Learning for Sustainable Development and Learning *as* sustainable development!



Shaping Competence (differentiated): 12 Key Competencies for ESD

1. Acquire knowledge with an **open outlook on the world** and the ability to integrate new perspectives
2. Think and act in an **anticipatory** manner
3. Acquire knowledge and act in an **interdisciplinary manner**
4. Ability to identify and reflect on **risks, threats and uncertainties**
5. Ability to plan and **act together with others**
6. Ability to reflect on action strategies and **goal conflicts**
7. Ability to be part of **decision making processes**
8. Ability to motivate oneself and others to get active
9. Ability to reflect upon one's own **(cultural) principles** and upon those of others
10. Ability to reflect on questions about **equity** and to use it for decision making
11. Ability to plan and **act autonomously**
12. Ability to show **empathy and solidarity** with disadvantaged

Didactic implementation in HESD, TESD, Schools and other fields of Education!?

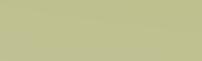


2. My Pedagogical Practice 1978-2012:

from Environmental Education to ESD

Overview:

fundamental conflict with the Institute
of Pedagogy of University Osnabrück

- Since 1978: each semester, an **increasing number of seminars/courses/lectures** on different pedagogical aspects of Environmental Education (EE) on basis of a social **critical, sociocultural concept**
- Since 1985 approx: Regular cooperation with projects on education practices with non-university partners – **Advanced Teacher Training** (see foil in Part 3) 
- Since 1990 approx: **Regular study courses** „Environmental Teacher Education” (School Pedagogy, General Didactics, General Educational Theory, practical projects) within all my courses/seminars,... (**Study programme EE for all students**)
- 1990: Development and establishment of **my own scientific discipline** „Environmental Education” within the **Institute for Pedagogy** 
- Since 1992: **Conceptual progression of the study programme on the theoretical basis of ESD** 
- Since 1995 approx.: **Nationwide networking, for example in DGfE (Deutsche Gesellschaft für Erziehungswissenschaft = German Educational Research Association)** 



Example: Course „Education for Sustainable Development“ (SS 2011)

Presentations of students after an introductory lecture on ESD from the background of educational theories with practical exercises (6 weeks approx.)

- The UN-Decade ESD – Examples from the extra-curricular field
- The UN-Decade ESD– International examples
- Is nature-adventure oriented and eco-ethical environmental education in the context of sustainable development out of date?
- ESD and global and intergenerational justice
- On the discrepancy between awareness of sustainability and action
- ESD and knowledge-based society,
- ESD at school – results of the national Transfer-21-Project (4000 schools)
- ESD in subject matter specific instruction (choose one's own study subjects!)
- ESD-Projects of current local issues/topics in Osnabrück (Research + ped. ideas)
- ...

Service: <http://www.nachhaltigkeitsbildung.de>
<http://www.bne-literatur.de> (see annex)



Pedagogical study programme EE /ESD:

Standard types of Courses/Seminars/Lectures (from 1983 approx. to 2006/2011)

by G. Becker

with related options to other courses ... of the Osnabrück University

School Pedagogy I/II: EE / ESD and school development

General Didactics (with the example of EE/ESD)

EE/ESD Global Learning and New Media

EE/ESD
Global Learning
as an education-theoretical basic module and as an interdisciplinary field of education - (2 Sem.)

For all Students

Practical Projects on local issues / Opening schools to the community / extracurricular sites of learning

For all Students

Interdisciplinary series of lectures „Environment – Development – Peace“ (since 1998, each semester)

Other courses and seminars at the University of Osnabrück in some subject areas and teaching methodologies

relevant regional and local projects
local cooperation



EE/ESD

Global Learning

as an education-theoretical
basic module
and as an interdisciplinary
field of education

- (2 Sem.)

(optional) Interdisciplinary Modules
for the „ polyvalent
area of professionalizing“ (2 Semesters)

For all Students

Environment, Development and Peace

- Globalisation, SD, EE,
ESD,...

- or Peace Education
conflict solving,
violence prevention

Intercultural Education

- Migration
- Multilingual
Education,...

Education and Gender

- Gender
differences
- Changing roles

Media – Society

- Media
Socialisation
- IT-Technology
- Education



3. Regional/Local practical projects: cooperation with non-university actors/organisations (transdisciplinarity)



- Since 1987 Offers of the Association for schools: projects and services in the field of environmental education/ESD. *
 - History of environment Osnabrück (NUSO since 1988) www.nuso.de
 - Waste/Litter and other environmental problems (PU since 1997) www.pu-os.de
 - Energy /climate protection (PE since 2005) www.pe-os.de
 - Living „Hase“ (Streaming waters in the city) (since 2002)



- Since 2002: Working Group Environmental Education of the Local Agenda 21* : Thematic impetus by annual themes and competitions (s. www.umweltbildung-os.de), amongst others:

- Water, nouriture
- Living and residing in the city
- Nature in the city, mobility
- **Change of climate (2016 ff)**

- Other partners for practical projects, e.g. cooperation with the Environmental Education Centre in the Museum „Nature and Environment“

* official cooperation partner of the University of Osnabrück at regular term

Impetus and ,informal‘ in-service training for teachers and schools (within the frame of practical projects and services)

+

Regular subject- or project related **offers for teacher in-service training**

+

Relations to **university seminars and exam papers**

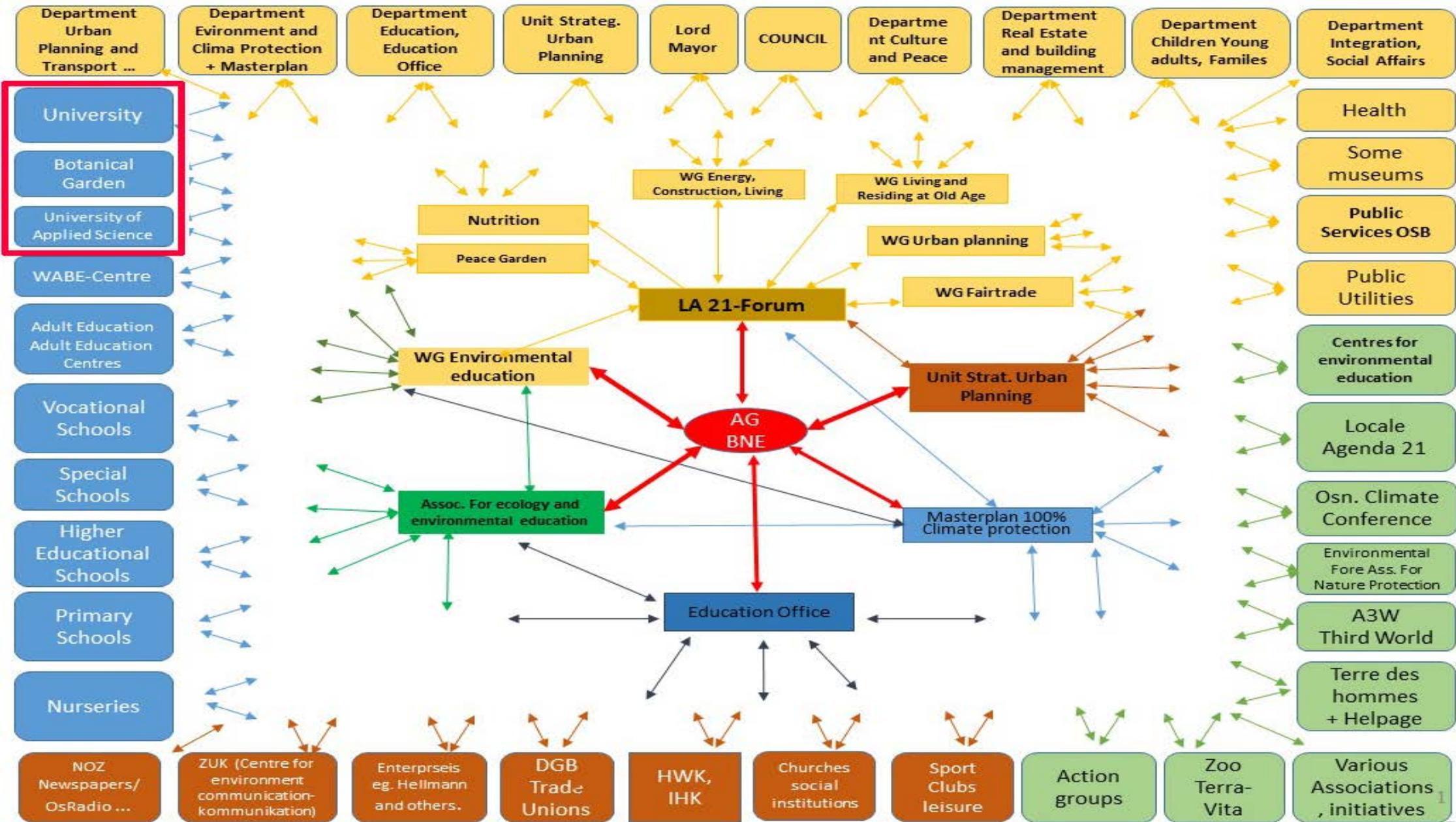




Educational Landscape for SD Osnabrück

Potential and process 2015 - www.bne-osnabrueck.de

Role of the universities and of Higher Education!?





4. Teacher /Higher Education for sustainable development (TESD) – Interim balance 2004 in Germany

Many actors at universities in subject didactics, above all in biology, geography,.... Social studies and Science at school (Primary level) (Sachunterricht) ... and in (school) pedagogy, **also for other students**

Many cooperations with non-universitary actors of ESD

First approaches of national linking of actors in form of networks

e.g: DGfE Memorandum for HESD /TESD (2004) - Model concepts

Result 2004: many thousand students with more or less solid ESD competences who work as teachers/educators in „regular“ schools and in other educational institutions/organisations!

But: very scarce institutional support or guarantee (Study guidelines, academic posts for environment education/ESD; ESD sustainability as general principal of universities and of educational institutions/organisations)

Primarily personal commitment!





Teacher Education (Training) for sustainable development (TESD)– 3 models as examples

Commission ESD of the German Society for Educational Science

(Memorandum on Teacher /Higher Education for Sustainable Development 2004- www.dgfe-bne.de)

- ✦ **Model I:** Starting off from the first semester the subject „sustainable development“ will be dealt with in a **course-related manner** from different disciplinary perspectives and teaching methodological problems **in one seminar (in every semester)**
- ✦ **Model II:** During the course of a maximum of three semesters within the Bachelor-phase of studies, **project studies** on the subject „sustainable development“ are integrated which may deal with a specific syndrome/key subject in an exemplary manner.
- ✦ **Modell III:** Within the Master-phase of studies, a **study semester** on the subject of „sustainable development“ is integrated in which a commonly defined subject will be dealt with in an interdisciplinary manner. Academics of individual disciplines, teaching methodologies, psychology and educational studies will participate in this study semester in equal shares.

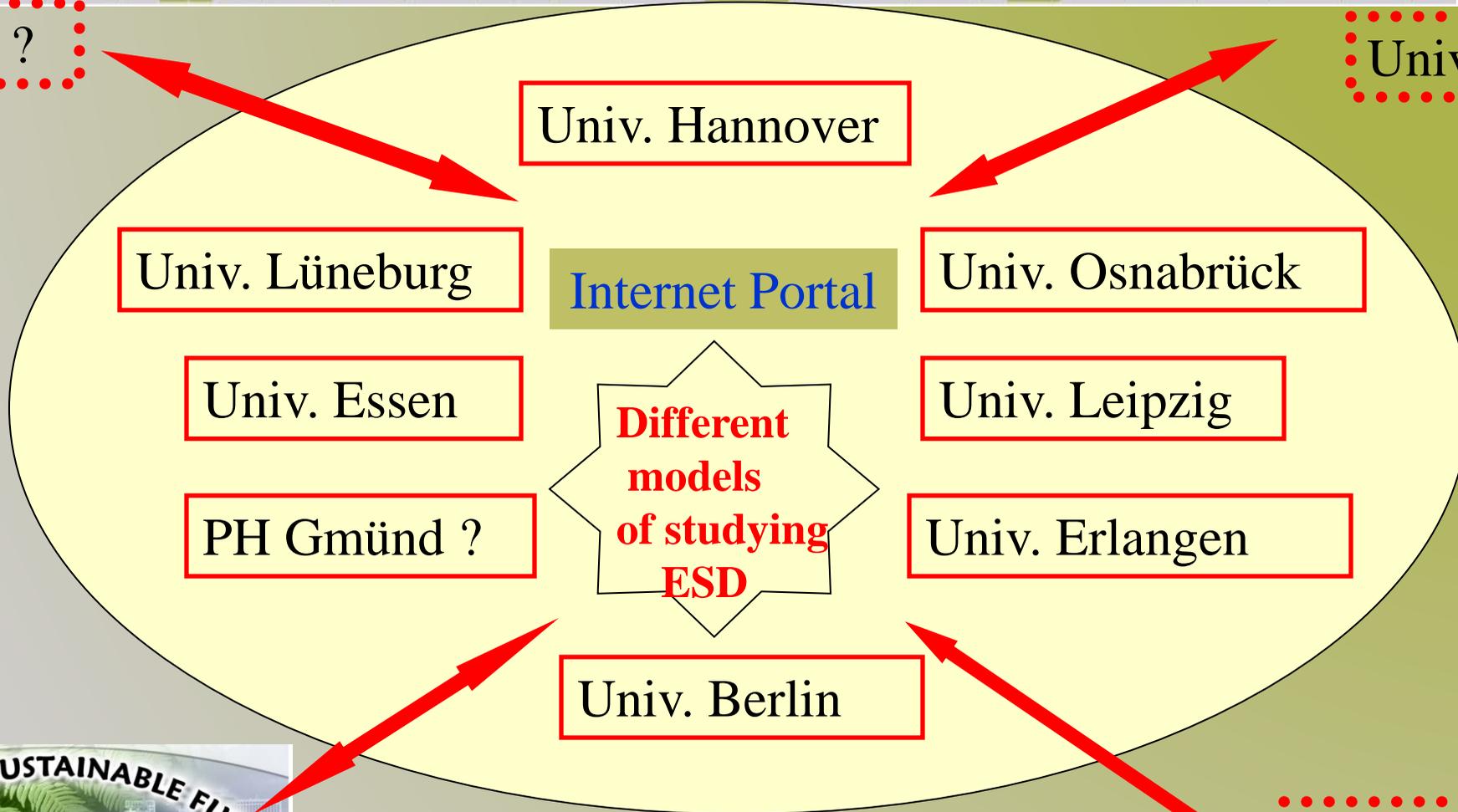
All models are organized in close cooperation with the disciplines of the teaching subjects, **educational studies and teaching methodology and within the frame of a supra-regional model project and competence network of different universities.**



Model Project: Networking of Teacher Education for Sustainable Development: failed attempt 2005!

Univ. X ?

Univ. Y ?



International Cooperation with Universities X, Y, Z,...?

Univ. Z ?

Failed due to reinforced German federalism in education in 2005!



5. UN-Decade of Education for Sustainable Development (2005-2014)

Key issues:

- Biodiversity
- Climate Change Education
- Disaster Risk Reduction
- Cultural Diversity
- Poverty Reduction
- Gender Equality
- Health Promotion
- Sustainable Lifestyles
- Peace and Human Security
- Water
- Sustainable Urbanisation

Different national foci and strategies!!

“Education for Sustainable Development (ESD) allows every human being to acquire the knowledge, skills, attitudes and values necessary to **shape a sustainable future.**”

“It also requires **participatory teaching** and learning methods that motivate and empower learners to **change their behaviour and take action for sustainable development.**“

“ESD consequently promotes competencies like critical thinking, imagining future scenarios and **making decisions in a collaborative way.**”



Sustainable Development and ESD at German Universities: Documents, Activities, Projects and Organisations during the UN-Decade ESD

- ✦ „WG Universities“ of the German UN-Decade ESD (since 2006, Network)
www.bne-portal.de/hochschule/
- ✦ 2000 awarded projects, stakeholders, cities and municipalities of Decade ESD, also university and student projects : www.bne-portal.de/auszeichnungen/
- ✦ Memorandum of the „WG Universities“ of the German UN-Decade ESD (2007)
- ✦ Declaration of the German Conference of University Rectors (HRK)/ German UNESCO: Higher Education for Sustainable Development (2009/2010)
- ✦ Forming of Network Teacher Education for Sust. Development (TESD)
 - ✦ At National and at Federal Regional Level
 - ✦ Network of Students, such as Sustain it!
- ✦ Forming of Network Sustainable Universities:
 - ✦ n – Network for sustainability initiatives of Universities (<http://www.netzwerk-n.org/>) (seit 2011)
 - ✦ Virtual Academy Sustainability
 - ✦ Different Publications „Universities for Sustainable Development“
- ✦ www.bne-portal.de (Dt. UNESCO)
- ✦ www.bne-literatur.de (Becker, UBINOS)





6. ESD and Sustainable Development as comprehensive challenge for Universities and Science Policy Studies

Goals:

1. Sustainability as guiding principle , Programme, Management:
2. (Interdisciplinary) Teacher Education for Sustainable Development
3. Disciplinary and interdisciplinary educational offers in all study courses
4. University as an enterprise (,Eco-Management, everyday life,...)
5. Academic in-service training (at internal and external level)
6. Interdisciplinary/transdisciplinary research on sustainability
7. Regional cooperation (Local Agenda 21, Local Landscape of education, ,Citizens Science‘, ...)
8. International cooperation and networks
9. Intra-university communication (information, reports,...)
10. Shaping the future development of the university in cooperation (cultural, democratic participation)



Higher Education for Sustainable Development (HESD) – Published articles (research, english)

State of the art in research on HESD

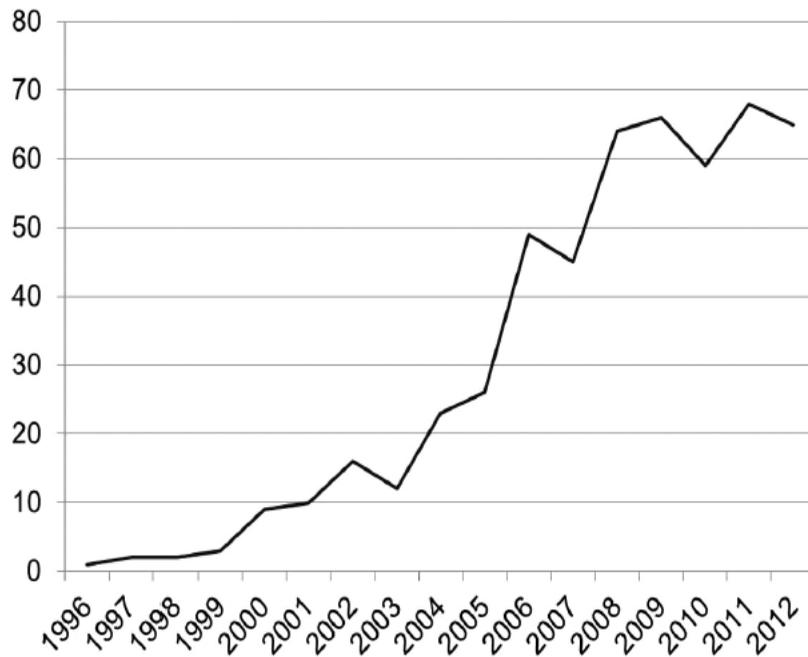


Figure 7.3 Published articles from 1992 to 2012

Table 7.1 Key journals of HESD research

Journal	n
<i>International Journal of Sustainability in Higher Education</i>	171
<i>Journal of Education for Sustainable Development</i>	40
<i>Journal of Cleaner Production</i>	39
<i>Environmental Education Research</i>	33
<i>Sustainability: The Journal of Record</i>	16
<i>Journal of Geography in Higher Education</i>	15
<i>Journal of Teacher Education for Sustainability</i>	14
<i>European Journal of Engineering Education</i>	12
<i>Higher Education Policy</i>	9
<i>Journal of Education for Teaching</i>	8
<i>Sustainability Science</i>	8
<i>The Journal of Sustainability Education</i>	7
101 other journals	148

**Increasing number of published articles in other languages
and of practice-oriented literature of ESD!!?**

- ❖ Despite the countless political initiatives and activities as well as practical projects all over the world, ESD is not yet ‘mainstream’.
- ❖ That’s the reason for continuing the UN World Decade as the new “Global Action Programme (GAP)”: 2015-2019 (perhaps 2024?).



6. UN-Global Action Programme (GAP) Education for Sustainable Development 2015-2019

Priority Action Areas:

To enable strategic focus and foster stakeholder commitment

- 1. Advancing policy:** Mainstream ESD into both education and sustainable development policies, to create a promotive environment for ESD and to bring about systemic change
- 2. Transforming learning and training environments:** Integrate principles of sustainability into education and training settings
- 3. Building capacities of educators and trainers:** Increase the capacities of educators and trainers in order to be able to deliver ESD more effectively
- 4. Empowering and mobilizing youth:** Multiply ESD actions among youth
- 5. Accelerating sustainable solutions at local level:** At community level, scale up ESD programmes and multi-stakeholder ESD networks

Priority Action Areas for Universities and **HESD/TESD:**

- 1. Policies of National universities, Sustainability Guidelines/visions for Universities, sustainability management**
- 2. Holistic institutional approach for Universities (ecomangement, university daily live,...)**
- 3. Integration of ESD as an interdisciplinary concept in all study regulations/in-service training!**
- 4. Training for informal learning/nonformal youth education**
- 5. Local Educational Landscape – Cooperation with Universities**





29. September 2015: Constitutive meeting of the National Platform:

**Expert Forums and
,Partner networks‘:**

- Early childhood education
- School Education
- Vocational Education
- **Higher Education (Universities)**
- Non-formal, informal Learning/
Youth
- Cities and municipalities

„From project to structure“

Awards for

- Institutions,
- Networks
- Cities and municipalities



Framework for Action.
Towards inclusive and equitable quality education and lifelong learning for all



Click on goals to show targets and topics related to the Sustainable Development Goals as defined in Transforming Our World - the 2030 Agenda for Sustainable Development

Thank you very much for your attention!



Universities are like big tank ships, they move slowly and it is very difficult to change their direction (e.g. towards sustainability). Success requires perseverance and strong steering power!

The complete lecture (long text of the speech in Ulaanbaator) may be downloaded at:

<http://www.bne.uni-osnabrueck.de/Becker/LBNE>

Dr. Gerhard Becker, UBINOS, Universität Osnabrück
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Email: gbecker@uni-osnabrueck.de

- **Sustainable Universities**
 - **Lüneburg**
 - **Osnabrück**
- **References /Literature**
- **Literature database ESD**
- **Biographical note**





Sustainable universities: Model of best practice in Germany: Leuphana-Universität Lüneburg

“Sustainable? Nice word. We fill it with life”.

Study structure:

- **Bachelor - major**
 - Environmental and Sustainability Studies
 - Environmental Studies
- **Bachelor: (Interdisciplinary) minor**, e.g.:
 - Sustainability in humanities
 - Sustainability in natural science
- Teacher Training studies with teaching subjects + pedagogy
- For all students:
 - Introductory **semester** for orientation for students of all study courses
 - “Complementary studies with the possibility of changing perspectives under disciplinary and methodological aspects fachlichen und methodischen Perspektivenwechseln.

„Culture, sustainability, entrepreneurship, and education – these are the four thematic focuses in research and teaching through which Leuphana University of Lüneburg addresses the future of social commitment to civil society in the 21st century”.

<http://www.leuphana.de>



Example: Osnabrück University

- ✦ **Core model Sustainability** (<http://www.uni-osnabrueck.de/universitaet/profil/nachhaltigkeit>)
- ✦ **Sustainability**
 - ❖ Institute of Environmental Systems Research, Botanical Garden
 - ❖ Center for Democracy and Peace Research, Institute for Migration Research,...
- ✦ **Vocational Training – Teacher In Service Training**
by the Competence Centre, on subjects such as education and training for sustainable development and others (Association for Ecology and Environmental Education amongst others)
- ✦ **Cooperation with ESD Actors of the City of Osnabrück**
(Association for Ecology and Environmental Education amongst others)
- ✦ **Participation of the University of Osnabrück in activities of the city:**
 - ❖ Participation Local Agenda 21 (Forum and curatorship)
 - ❖ Participation Advisory Council Master Plan 100 % Climate Protection
 - ❖ Participation Round Table Bicycle Traffic
 - ❖ Participation Educational Landscape ESD
- ✦ **Environmental and sustainability management**
 - ❖ Annual environmental and sustainability reports
 - ❖ Everyday life of students and university staff
- ✦ **Sustainability in study courses and in Teacher Education and Training**

<http://www.uni-osnabrueck.de>

Tipps, Berichte, Flyer



Umweltberichte

- 📄 Umweltbericht 2014
- 📄 Umweltbericht 2011
- 📄 Umweltbericht 2008
- 📄 Umweltbericht 2002

Nachhaltigkeitsberichte

- 📄 Nachhaltigkeitsbericht 2006
- 📄 Nachhaltigkeitsbericht 2004

Die Umweltberichte der Universität erscheinen alle zwei Jahre. Sie beleuchten und begleiten die Umsetzung des Programms. Dauerhafte Maßnahmen werden nicht in jedem Bericht erneut erwähnt. Wer also einen Gesamtüberblick über die Umweltsituation an der Universität Osnabrück erhalten möchte, sollte auch einen Blick in die älteren Umweltberichte werfen.