Leuphana University Lüneburg and the sustainability challenge: a review and a preview

Sustainability 2014: International Symposium “Future Urban Development at Different Scales” Karlsruhe, 8 May 2014

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Macro level
→ politics, society

Micro level
→ individual citizen

Meso level
→ organizations
Relationship between educational outcomes and social change

**Type 1 approach**

- Problems humanity faces are essentially environmental
- Learning leads to change once facts have been established and communicated

**Type 2 approach**

- Fundamental problems are social and/or political
- Learning as a tool to facilitate choice between alternative futures

**Type 3 approach**

- What is (and can be) known in the present is not adequate; desired 'end-states' cannot be specified
- Learning must be open-ended

Two Sides of Education for Sustainable Development

**ESD 1**

- Promoting / facilitating changes in what we do
- Promoting (informed, skilled) behaviours and ways of thinking, where the need for this is clearly identified and agreed
- Learning *for* sustainable development

**ESD 2**

- Building capacity to think critically about (and beyond) what experts say and to test sustainable development ideas
- Exploring the contradictions inherent in sustainable living
- Learning *as* sustainable development

*Vare/Scott (2007)*
Implications of Sustainable Development for Universities

- Interdisciplinary teaching on issues of sustainability
- Sustainable organization of the university
- The university as part of the community / social responsibility
- Transformation, Communication, Discourse about values

Inter- and transdisciplinary Research (Sustainability Science)
<table>
<thead>
<tr>
<th>Sustainability transition</th>
<th>Response</th>
<th>State of sustainability</th>
<th>State of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Very weak</td>
<td>Denial, rejection or minimum</td>
<td>No change (or token)</td>
<td>No change (or token)</td>
</tr>
<tr>
<td>2 Weak</td>
<td>'Bolt-on'</td>
<td>Cosmetic reform</td>
<td>Education about sustainability</td>
</tr>
<tr>
<td>3 Strong</td>
<td>'Build-in'</td>
<td>Serious greening</td>
<td>Education for sustainability</td>
</tr>
<tr>
<td>4 very strong</td>
<td>Rebuild or redesign</td>
<td>Wholly integrative</td>
<td>Sustainable education</td>
</tr>
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*Sterling (2004)*
Leuphana University’s leadership has worked out a clear strategic framework.

3) Vision / final goal

2) Institutional arenas

1) Policy & planning

Enduring sustainable university

Research

Education

Partnerships/outreach

Campus & facilities management/administration

Foundation for operational & cultural changes
(history, key principles, master planning, etc.)
Foundation: Leuphana’s sustainability orientation is rooted in a long-term tradition. 

Decisive steps:

- 1997: "Agenda 21 & University" - First 3-year R&D project
- 1999: "Environment" - Constitution of a cross-faculty working group
- 2001: Environmental Coordinator - Creation of a permanent position
- 2003: Campus-wide full survey - Collecting data on sustainability awareness of university members
- 2005: UNESCO Chair "Higher Education for Sustainable Development"
- 2007: Leuphana Bachelor - Introduction of general studies component in SD for all students
- 2009: 2nd sustainability report

Study Programme Sustainability - Interdisciplinary additional study course for all students

New university concept - Focus on Sustainability Research as one of four scientific initiatives

1st sustainability report

Member of Relaunch of Copernicus alliance

Foundation of Faculty for Sustainability Science

01 July 2014
**Foundation:** Basis and objective: Sustainability is one of the key principles for Leuphana University’s development. Its core activities – research, teaching and transfer – are seen as basic academic action areas for the development of a sustainable society.

- **Humanistic university:** Education through scholarship.
- **Sustainable university:** Transformation competence for sustainable development.
- **Action-oriented university:** Analysis, creativity and reflexivity with regard to practical problems.
**Research:** Leuphana University has developed a clear research focus on the sustainability sciences, and, as part of this process, has been establishing the Faculty of Sustainability Science with 25 professorships by 2014.

- **1996:** Establishment of the interdisciplinary Faculty of Environmental Sciences.
- **2007:** Focus on Sustainability Research as one of four scientific initiatives.
- **2009 - 2011:** Appointment of 9 new research oriented professorships as part of the sustainability initiative.
- **2010:** Establishment of the Faculty of Sustainability Science as one of four faculties at Leuphana University.
- **2013:** Kick-off transformative long-term study “2042“ (50 years of sustainability transition)

The sustainability sciences are at the forefront in the acquisition of external funding and the number of publications at Leuphana University, which shows the research staff’s support for the sustainability research focus.
Research approach: In Leuphana’s transdisciplinary research profile “Human and social sustainability sciences” and “Natural & technical sustainability sciences” are given equal weight. Both aim at action-oriented research.
**Education:** Education for Sustainable Development is one of Leuphana’s key principles.

- Between 2006 and 2010 the educational reorientation towards sustainability has been the **president’s special concern** in order to assign top priority to educational matters.

- Three of the five members of the presidential board are **vice-presidents of Leuphana’s three academic schools** (College, Graduate School and Professional School).

- Leuphana’s idea is that, apart from specialist knowledge, academic education needs to support competency acquisition and the development of personal capabilities. Thus, the objective is to educate reflective, critical and active societal members (agents of change).

![Diagram showing the relationship between specialist knowledge and the development of personal capabilities.](image-url)
Education: Higher Education for Sustainable Development has been integrated in the form of a general studies mandatory component for all Bachelor students and different degree programmes.

General studies for all Bachelor students:

1. **Leuphana Semester** covers the first semester of all Bachelor study programmes and is mandatory for all first semester Bachelor students, independently from their major studies. Module “Science bears Responsibility“ accounts for 1/3 of the Leuphana Semester and covers sustainability issues and illustrates ethical behaviour.

2. **Complementary studies** accompany all Bachelor study programmes and cover several sustainability seminars.

Specialisation options:

3. **Bachelor studies:** Major Environmental Sciences
   Minor Sustainability a) in Humanities and b) in Natural Sciences

4. **Master studies:** Sustainability Sciences

5. **MBA:** Sustainability Management

6. **PhD:** Sustainability Sciences

7. **Extra-occupational:** Certificate in “Sustainability and Journalism”
Higher Education for Sustainable Development – how we meet the challenge

- HESD aims at a new learning culture which examines the potential of HE for a sustainable future

- Goal is to promote personal development, enabling students to cope with complex situations, to act upon reflection and to make meaningful decisions

- Basically four steps of integration may be distinguished according to their degree of innovation and implementation

Integration in existing curricula

Stand-alone subjects

New learning approaches

Lecture series
Partnerships / Outreach: Leuphana University supports and encourages strategic partnerships.

- **Research cooperations**
  - UNESCO Chair for “Higher Education for Sustainable Development”
  - Cooperations with universities worldwide (e.g. Asia, Latin America, Europe, USA)

- **City and regional cooperations**
  - Sustainability Council of Lüneburg
  - Partner of the Regional Centre for Expertise (RCE) of the city of Hamburg and region
  - Education projects together with local and regional actors (business, governmental organisations, NGOs)
  - Incubator for innovation (93 mio € EU project for regional development)

- **Educational cooperations**
  - COPERNICUS-Alliance member
  - Awardee of 13 official German projects of the UN World Decade “Education for Sustainable Development”
  - Partner universities in Asia, Latin America, Africa, Europe, USA

- **Business cooperations**
  - Environmental Management Accounting Network (EMAN)
  - EMA-SEA – Environmental Management Accounting

An example of an **incentive** to establish partnerships are the “Best Teaching Award”, “Service Learning” and “Transfer Award”, in which cooperation with regional actors is a critical assessment criterion.
The What: Campus & facilities management activities.

Leuphana’s mission is to serve as ‘living laboratory’ for staff and students to foster organisational and individual sustainability learning processes.

**Action areas**

- **Campus development**
  - Campus design, renewables, sustainable facility design

- **Environmental coordination**
  - Coordination of environmental activities by special team

- **Energy**
  - Reduction of energy consumption, efficiency

- **Infrastructure**
  - Transport & waste management

- **Awareness raising**
  - Consumption of resources, health aspects

**Concrete examples**

1. **Sustainable campus design**
   - (central building by D. Libeskind, Campus concentration)

2. **Solar project**
   - (20% of electricity, 300 tons CO₂ savings/year)

3. **Cafeterias** for organic food

1. **EMAS certification**
2. **Sustainability report creation**
3. **Coordination of energy, infrastructure & recycling activities**

1. **Organization al measures**
   - (e.g. flexible cleaning time)
2. **Technical measures**
   - (e.g. efficient equipment)
3. **Behavioural measures**
   - (e.g. awards, campaigns, CO₂ sig. light)

1. **Direct bus-service to railway station**
2. **Car sharing and free bike station for staff & students**
3. **Waste separation system**

1. **CO₂ signal lights in seminar rooms**
2. **Posters about resource consumption & health aspects (e.g. in lifts)**
3. **Guideline “studying sustainably”**

01 July 2014
The How: Implementation processes.
A systematic combination of top-down and bottom-up approaches enables a widely accepted and supported implementation process.

**Integration of education activities**
Continuous seminar topics / seminar series in “sustainable university“

**Integration of research projects**
Interdisciplinary research project “climate neutral university“

**Participation / social integration**
Stakeholder dialogue in different projects

**Incentive system**
Recognition of innovative and sustainable organisational commitment

**Evaluation processes**
Comparison of sustainability targets with achievements

Concrete examples:

- **1)** Architecture
- **2)** Mobility management
- **3)** CO₂ compensation measures
- **4)** Energy saving measures
- **5)** Adoption of renewable energies

For research projects:

- **1)** Technologies for energy issues in buildings
- **2)** Energy efficiency
- **3)** Eco-social examination of user interactions

For participation:

- **1)** Sustainability report preparation
- **2)** Student initiative for solar project
- **3)** General meeting & discussion for everyone

For incentives:

- **1)** Transfer reward
- **2)** Various competitions
- **3)** Best Fundraiser Award

For evaluation:

- **1)** EMAS certification
- **2)** Sustainability report
Energy Saving Campaign “Save It!”

Die Universität Lüneburg:
Vier Standorte - Ein gemeinsames Ziel!
6 % weniger Energieverbrauch
Machen Sie mit!

Es geht ganz einfach:
Schließen Sie die Fenster beim Heizen und schalten Sie Licht, Drucker, Computer, Kaffeemaschine etc. in Pausen aus...

Als Gebäudepatin oder -pate können Studierende und Mitarbeiter/innen Preise gewinnen und bestimmen, wofür das eingesparete Geld verwendet wird.

Alle Infos unter:
www.nix-verschwenden.de

Zum Fenster raus!

Seminarräume, Büros, Toiletten etc. ab und zu mal lüften ist gut, auch wenn's draußen kalt ist. Jedenfalls solange die Heizung nicht aufgedreht ist. Das spart bis zu 15% Energie...

Also: Wenn Fenster auf - Heizung aus!

Werden Sie Gebäudepatin oder -pate. Weitere Infos unter:
www.nix-verschwenden.de

Alles schläft, einsam wacht...

Auch Drucker, Kaffeemaschine, Monitor & Co. verdienen ihre Ruhe - daher in Arbeitspausen oder über Nacht einfach mal abschalten oder eine Zeitschaltuhr anschließen...

Werden Sie Gebäudepatin oder -pate. Weitere Infos unter:
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Reflection of and communication about sustainability

*Culture and Sustainable Development*

- Integration of theories of culture in the sustainability discourse
- Art projects that address university reform and criticism of unsustainable (university) development
- Exhibitions on issues of sustainability

*Communication and knowledge transfer*

- Newspaper "Campus Courier"
- Radio program on sustainability issues
- Making events
- Production of video clips
Sustainability initiatives and activities on campus

- Days of Action
- Events
- Green Students‘ Club
- Students‘ photovoltaic initiative
- Other student groups dedicated to sustainability issues (Greenpeace, Amnesty International, SNEEP ...) International, SNEEP,...
- Sustainability conferences organized by students
- ...

...
Sustainable University: A strategic reorientation of the university’s activities towards sustainability can only be ensured by a continuous process of institutionalisation.

Leuphana’s critical landmarks for the institutionalisation of an academic sustainability culture can be seen in:

- Strong internal promoters;
- Integration of sustainability into the university’s principles;
- A “strategic development unit“ for the consideration of sustainability principles;
- A substantial number of scientific staff that supports the idea of becoming a sustainable university;
- Academic dialogue and active participation of the academic community;
- Support by university’s management board;
- Sustainability centres and initiatives for research;
- Creation of national and international networks that stabilise the external visibility of the university profile and support in its turn the internal commitment to sustainability;
- Internal competitions as incentives.
A hierarchy of learning as a starting point?

- **Awareness** of sustainable development, as well as the range of views of interpretations of sustainable development and the implications for these differences
- **Process** - encourages to begin to question (and analyse) how the principles of sustainable development can be made to work;
- **Integration** - beginning to use the principles of sustainable development extensively in assignments and other class-work linking to real world issues in the community
- **Transformative** – without direction, students operate as critically reflective practitioners of sustainable development.

„At this level, the curriculum becomes an expression of the cultural change that is sought.“

*Sterling/Thomas (2007)*
**Sustainable University:** Leuphana University has been given several awards for its various sustainability activities.

**Selection of International & National Awards**

- International Sustainable Campus Award (Category Leadership) in 2010
- The energy efficient and sustainable concept for the new central building, planned by Daniel Libeskind has been selected as one of the German exhibits for the Shanghai World Exhibition 2010.
- UNESCO Chair “Higher Education for Sustainable Development” in 2005 to Prof. Michelsen, Institute for Environmental and Sustainability Communication.
- Award of 13 projects for the UN Decade of Education for Sustainable Development. (Leuphana University is the most successful German university)
- Leuphana University was winner of the German's former federal president's (Horst Köhler) initiative “365 Landmarks in the Land of Ideas“ six times in a row from 2008-2013.
- Award of the Institute for Environmental and Sustainability Communication by the Altnere Combecher Foundation for Ecology and Peace.
- Award-winner in the category KNOWLEDGE of The science magazine ZEIT WISSEN and the initiative „Mut zur Nachhaltigkeit“ (Encouraging Sustainability) as „best-practice“ project that contribute in a significant way to sustainable development (2013)
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