Structure of the teaching method: Students write and review papers according to the following scheme: first one individual paper, then a discussion in groups of three and finally a discussion in groups of seven. The number of students in the group have to be changed according to the total number of participating students. It is assumed that the total number of students is 21 for this teaching method. Objectives: learn transdisciplinary skills and evaluation competencies for complex issues. Content: professional justification in transdisciplinary discussions of different topics and three perceptions of the future (optimistic – realistic – pessimistic)

Recommendations for the course

(assumed conditions: 4 hours/week during a semester, 3 lecturers – to be
Introduction: Find out what the students already know about the topic and their opinion thereon (anonymously over the web platform). This allows you to monitor their progress later on.

The lecturer starts with a course that gives an overview on the subject and the contents of the course (for example in form of a PowerPoint presentation which is also available on the web platform.) The students should be able to critically reflect sources of information and acquire knowledge independently.

First part: students select one of several given topics (7x3 = 21). Each student has to select one topic of his/her discipline and area of specialization. Each student deals with one aspect of the general topic. It is important that each student writes a paper on the given topic.

Each lecturer represents one research area on the overall topic of the course. Each research area is divided into three scenarios – optimistic, realistic and pessimistic – representing the basic attitude of most environmental perceptions of the future). The structure of the course is illustrated in figure 1 [only available in German].

<table>
<thead>
<tr>
<th>Szenarien:</th>
<th>Fachgebietsgruppen:</th>
</tr>
</thead>
<tbody>
<tr>
<td>lo (optimistisch)</td>
<td>naturwissenschaft, wirtschaftswissenschaft, geisteswissenschaft, (z.B. sozio-ökonomisch, energiew., wirts., klimatisch, geophysisch.)</td>
</tr>
<tr>
<td>middle (realistisch)</td>
<td></td>
</tr>
<tr>
<td>hi (pessimistisch)</td>
<td></td>
</tr>
</tbody>
</table>

Abbildung 1: Matrix-artige Gesamtstruktur der Lehrveranstaltung: 3 Disziplinengruppen (betrifft Heimat der Vortragenden, aber auch der Studierenden) und drei Szenarien-Neigungen.

Figure 1: Matrix-like structure of the course: 3 research areas (according to lecturers and students) and 3 scenarios.

Second part: Seven groups of 3 students (3x7 = 21) are formed according to the disciplines and the focus of the students. In each group the three scenarios should be discussed and established. The students have two weeks to find a common ground for discussion).
They continue with gradually revising their work (collaboratively not competitively). In the matrix of figure 1, this process can be displayed vertically and horizontally. The process is guided, moderated and supported by a lecturer. The results should be balanced and complete statements.

The students have two weeks to discuss their opinion and results on an intradisciplinary level (figure 2 [only available in German]). Their reasoning should become sound and consistent.

Figure 2: Intradisciplinary group-work to work on individual opinions.

After another week, the students discuss their opinion and results on an interdisciplinary level, whereas the students all work on the same type of scenario (see also figure 3 [only available in German]). The students should discuss assumptions within the scenario and the consequences.

Figure 3: Interdisciplinary group-work where individual opinions are revised.
once more.

The structure of the course should generate a gradual horizontal and vertical balancing process as well as reflect the according socio dynamics.

The students present their results within their groups where interdisciplinary relations are formed. After another two weeks, they present their final results to the whole class.

**Didactical Description of the Method**

**Interdisciplinary collaboration**

**Trained competencies:** professional competencies, ability to change perspectives, taking responsibility, communicative competence, organizational competence, ability to work in a team.

**Web platform:** all platforms that offer a discussion forum (with the possibility to attach files) can be used.

**Please notice:** All attached files and links only available in German!

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**Type of teaching method**

- Discussion / debate
- Reflection

**Type of teaching method**

- Discussion / debate
- Reflection

**Preparation**

Low

**Related Teaching Resources**

No specific previous knowledge / related resources required
Topics of sustainability

For courses that focus on the environment or on developing processes: “Interdisciplinary trainee program“ as for example “A Changing World? Comparison of Social-economic, Climatic and Technological Future Perspectives“

Strengths of the method

The students should holistically understand complex chain effects, e.g. the greenhouse effect. They should be aware of other perspectives and be able to integrate constructive criticism in their own opinion and paper.

Assessment / evaluation

According to the individual paper but also to the collaborative result of their discussions.

Sources and Links


- Passiv- und Niedrigenergiehäuser: [http://www.uni-](http://www.uni-)
Ein Klima um zu handeln!: http://www.uni-graz.at/usw1www_ip4_endbericht_klima_handeln.pdf


Funded by

Funded by the Austrian Federal Ministry of Science and Research within the framework of the call "Projekt MINT-Massenfächer" (2011/12)