

## **Interdisciplinary and transdisciplinary teaching at Leuphana University of Lüneburg: Exploratory research on educational provision and pedagogical methods**

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This exploratory research seeks to better understand the role of interdisciplinary (ID) and transdisciplinary (TD) teaching environments at Leuphana University. It also addresses challenges of transdisciplinary knowledge creation and its institutionalization to foster campus cultures at universities.

The specific objectives are:

1. To analyze the current state of inter- and transdisciplinary teaching formats and pedagogies at the university taken as a case study.
2. To get to know the professors and lecturers who are active in inter- and transdisciplinary teaching and learning at Leuphana University and consolidate a network.
3. To make visible and transfer knowledge and experiences of inter- and transdisciplinary teaching to the Leuphana community.

We analyzed the courses and seminars published in the platform „mystudy“ from Summer Semester 2017, Winter Semester 2017-2018 and Summer Semester 2018. In total there were 27 courses related to inter- or transdisciplinary provision and 39 lecturers and professors who were contacted to be interviewed. We conducted semi-structured interviews to lecturers and professors representing the four Faculties. All interviews were conducted face to face and typically lasted between 30 and 40 minutes.

Some of our findings are:

- We registered two definitions of the concept of transdisciplinarity during the interviews. One definition is related to participation of other actors or stakeholders in research projects. In this case, interviewees considered “transformation” and “communication” as main features. The second definition of TD considers it as the possibility of transcending disciplines and building a new perspective on a problem with no disciplinary boundaries. This was also the case in the discussion maintained in the Leuphana Salon on “Transdisciplinary teaching” held at Leuphana University on the 3<sup>rd</sup> July 2018.
- The differences between the two definitions also influence the teaching and learning processes. The two ways of understanding TD induce possibility and need of offering heterogeneous perspectives on research and learning processes to students.
- Interviewees acknowledged the relevance of integration in the teaching process to achieve interdisciplinary and transdisciplinary goals. We registered different levels of integration and steps in the process in interdisciplinary seminars mainly due to different aims pursued and also of the teaching process that must be followed



to assure this goal. Students are asked to be responsible for integrating the contents of the course in the majority of the cases.

- Interdisciplinary and transdisciplinary education is seen to manifest themselves in a spectrum of pedagogical activities that range from traditional lectures to campaign design and work in local orchards. Co-teaching and the application of innovative didactic strategies are the basis for all the seminars and courses under study.
- In some cases, curriculum enhancement, integrative and interdisciplinary learning and teaching represent different goals and require different sets of well-aligned competences in learning and teaching. Integrative skills are mainly related to reflect on a problem / topic from different perspectives and to find the main topics presented by each discipline.
- in a few cases, interviewees mentioned intercultural skills and collaboration as key competences to be developed in these courses. It is associated with seminars and courses that work on a transdisciplinary basis.
- Communication skills were considered relevant for building strong relationships with stakeholders and other actors outside academia. Group formation skills and conflict management also appeared as the main set to be included in to transdisciplinary courses and seminars.
- A relevant aspect of the teaching process is evaluation. In very few cases, the assessment has been adapted to the teaching process and offers a real innovative perspective to students. 90% of the courses that were studied use essays and oral presentations in a traditional format to evaluate the students' performance.
- Almost all interviewees agreed that successful interdisciplinary and transdisciplinary learning and teaching is resource intensive and time consuming. The development of a coherent ID or TD course takes time, not only from professors developing the course but also from students who are asked to perform different learning processes. This needs to be recognised, for example, in models of workload.
- Challenges and issues that arise in interdisciplinary and transdisciplinary teaching were explored, particularly through an open question in the interview. We categorise these challenges into two groups: (i) teaching and learning and (ii) administrative and institutional.
- Participation in interdisciplinary and transdisciplinary teaching generates real enthusiasm among academics. Nearly all the programme respondents agreed that they and their colleagues "feel a sense of excitement when teaching an interdisciplinary programme", and no one disagreed.