

Experiences with integrating Education for Sustainable Development into Higher Education – examples from the University of Hildesheim

Since today I will talk about my personal experiences with greening the curriculum at my own university, I will give you a short overview about the University of Hildesheim. The university is located in a city just over 100.000 inhabitants in the southern part of Lower-Saxony which lies in the north of Germany. In Germany the universities are in the responsibility of the federal states and not the central government. It started as an institute for teacher education just after the war and became a university in 1989. In 2003 it became the Stiftung Universität Hildesheim. This means there is now a foundation that has the responsibility for the university. This has quite a lot of legal implications. The university where I serve as a member of the senate now for nearly ten years has the right to appoint its professors by decision of its faculties and the senate without having to ask the ministry of science beforehand for approval. We own our grounds and buildings and have the right to plan and build new buildings in our own responsibility. We have a yearly budget of nearly 60 million euro coming in part from Lower-Saxony's ministry for science, but a growing part is coming from diverse national and international programmes for financing scientific research where you have to compete with other universities for the money. We have four faculties, now around 8.500 students, 100 professors and over 400 scientists. About one third of the students are in teacher training. In implementing the Bologna process that started in 1999 we changed the curriculum to bachelor and master degrees, a bachelor taking three years of study and a master two more years. As a biologist I am a member of the institute of biology. We are teaching students in both bachelor and master in teacher training. Together with the institute for geography we are responsible for a bachelor in environmental protection and a consecutive master programme in nature conservation and environmental science. Within the master programme, I am responsible for advanced studies in education for sustainable development and the communication of nature conservation.

So let me tell you that integrating Higher Education for Sustainable Development HESD into institutions of higher education isn't always easy. One challenge you will face in the beginning is that most of your colleagues are not familiar with the whole concept of „sustainability“ and „education for sustainable development“. That is nothing to be ashamed of, because most of the people working in higher education and science have more to do than they can handle on a daily basis. When you had the chance to explain it to them, a lot of them will say that it sounds quite interesting, and yes, on the whole even necessary, but they as scientists and educators aren't affected directly by this change. If you ask them why, most will tell you that the established disciplines of biology, geography and engineering are the ones to handle the sustainability challenge. It will come as no surprise to you that these colleagues are no biologists, geographers or engineers. So you will have to persuade them that sustainability and HESD are not exclusively the domain of these three disciplines, but that the overarching concept of sustainability and the associated change in what education means and how education is done affects all scientific disciplines and the institutions as a whole also. This may take some more time, but today in Germany you will find very good examples for HESD in a very diverse field ranging from German or foreign languages acquisition, linguistics, mathematics, art, music, philosophy, primary school education, history or sociology to specialised fields as economic informatics or cultural studies.

Another challenge to be confronted is that some of your colleagues will argue that sustainability and all kinds of education for sustainability are normative concepts deeply rooted in an anthropocentric ideology and, since science per se isn't a normative but a pure concept, they can't

agree that something normative should be taught at university. Those mostly are your colleagues from basic or pure research. They have a good point, but in the end every form of education is inevitably normative since society and the people inside the institutions of education decide what to teach and what not and in which context to put the knowledge. So education is always a means to an end. Traditionally designed to equip students with the necessary knowledge to function smoothly in society and prepare them for a successful working life. And on another level the societies that finance the higher education institutions and schools with their tax money have a right to expect that science is serving the society for their money and giving them something back aside basic research. Especially in times of crisis. So there are very good reasons why higher education should include ESD.

I will give you a personal and practical example from my university in detail. When ten years ago I and a colleague, not to surprisingly from the institute of geography decided that we must finally implement HESD in our teacher training, we started to look for allies at our university. In the beginning we did not find many, but a professor for primary education. Now we were three and we started to ask around in other disciplines within teacher training if someone would participate in a new course on education for sustainable development. We had to explain the concept several times, we had to clear up quite a few things about how many credit points the students would get in our nowadays modularised study programmes and where to place this new course within the curriculum, we were not successful with all the disciplines we asked, but in the end students in teacher training from biology, chemistry, economic education, geography, physics, technics and primary education could all choose this new course. But this took us almost a year, so the lesson to learn here is that the change towards sustainability takes its time. So don't get frustrated when things aren't changing as quickly as you want. You will have to stand much frustration along your way, but that is part of the game.

We gave the course the somewhat complicated title „Project-based learning for ESD in teacher training“. In this course we start with a seminary part to introduce the concepts of sustainability and ESD. Since the students have very different previous knowledge levels this also is necessary for a more homogenous understanding of the topic. We then give an overview what sustainability means from the perspective of the different scientific disciplines. And then the students must give us their understanding. Afterwards we work on an interdisciplinary understanding of sustainability. We give them an introduction into project management and into project-based education in school teaching. After that the students must work in mixed groups of four to five persons so that learning is really in an interdisciplinary manner. They must create a project of their own that meets the criteria for ESD and that they must realize at a school of their own choice.

We as teachers now have only the role of mentors: they can ask us for advice if they want but if they can work independently they are free to do so. Students are completely free in their work with three limits: every year we set an overarching theme like water, energy, biodiversity, and in this years course poverty. Second, as a group we make sure that the projects really are planned and realised in a way that they are ESD. Every group has to present their project to the whole course before they start and to convince students and teachers alike that they are doing good ESD. And third, students have to document the progress of the group and the project in detail so that they can learn in retrospect and through reflection what went good and what went wrong. So they acquire quite a lot of the competencies we want to transmit. They work in interdisciplinary teams in a transdisciplinary way because they work with schools, teachers, headmasters and other experts in diverse fields from outside university. They do so in a future-oriented way and open-minded, they have to overcome

obstacles on their own, they have to motivate themselves and others, they have responsibility and its also self-directed learning and learning that is relevant for the students, local schools and school children. In the end they conduct their project in school. It can be some lessons in the classroom, it can be a project in the afternoon or it can be a whole project day at school or an outdoor experience with a school class. This course is now running for nearly a decade and we had over 40 successful projects as diverse as school gardens, films, and theater projects to name but a few.

Just let me give you some more short examples. We invented the project course „Sustainable University“ where students also work in mixed groups on self-defined projects but this time on changing the university to become more sustainable. Here we achieved a change towards using recycling paper in the whole university, made a booklet for all first year students on how to live more sustainable during their time at university and so on. Together with colleagues from history we have seminars on the history of sustainability and on the challenges of sustainability in the present age. And over time colleagues from other faculties and institutes followed so that we now have enough courses to offer a separate certificate in sustainability studies for our students.

After we worked together in teaching and got to know each other better, we founded a working group for research in sustainability and education as a next step. So now we are working together on a interdisciplinary research agenda and organize conferences. Next month we will hold a conference on challenges in sustainability education for junior researchers in Hildesheim. And two years ago a very dedicated group of four students was able to raise money to found a so-called Green Office where now six students and two scientists work with the mission to implement sustainability in teaching, research, the student community and university operations.

So how did this happen? First of all you must find like-minded colleagues so you know you are not alone. Then you must take responsibility and start with what you have. Do not wait for things to happen, make them happen. Take small steps and integrate sustainability topics into your teaching. Start doing research in your field that also asks questions connected to sustainability. Talk to colleagues and superiors about it. Invite distinguished scientists that promote sustainability as speakers from other universities and invite senior staff and the members of your university's steering committee to the lecture. If you ask me if things change top-down or bottom-up I would argue both ways. In the end you will need support from the president, so it won't work or only on a small scale if there is no assistance from the top. But without bottom-up, meaning here support for sustainability from students, student groups, colleagues from diverse parts of the university and engaged persons from other universities or outside university, things won't change either.