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1. Formal pedagogical education

- 2019 (March-May): PhD supervision course "process, methods, and tools", University of Southern Denmark
- 2013 (January-December) University Lecturer Training Program, University of Southern Denmark
- Courses in E-learning: use of electronic student response systems in teaching situations. Tools: Shakespeak, Socrative, Padlet.com etc. Lorem ipsum dolor sit amet
 - Peer-supervision
 - Awareness of body language during lecturing
 - Supervision on a distance. Use Adobe Connect to enable supervision and teaching on-line over the internet
 - etc.

2. Experience with organization and management of teaching

- 2021-now University of Southern Denmark, Odense, Denmark
- As Head of Research, I have the responsibility of managing the teaching activities of the 8 clinical associate professors that are employed to teach, 2 professors, 2 associate professors, 1 assistant professor, 3 PostDocs, and 6 PhD students.
 - As Head of Research, I have the overall responsibility for for the planning and execution of the B12-module for medical students, but also our teaching activities in general.
- 2002-2006 Friedrich-Schiller University, Jena, Germany
- Responsible for planning, setting up, and executing biochemistry laboratory course for 4th semester biochemistry students (30-40 students)
 - Responsible for planning, setting up, and executing literature seminar in biochemistry for 4th semester biochemistry students (30-40 students)

3. Experience with teaching, supervision, and exams

TEACHING

University of Southern Denmark, Odense, Denmark

- 2013-present B12: From healthy to sick - Faculty of Health
- Medicine & biomechanic students – bachelor level
 - Spring and fall semester
 - 2h lectures for 4-5 groups per semester
 - 1h electronic lecture - flipped classroom
 - Topic: pathology of human bone diseases
 - Use Poll-Everywhere and flipped classroom for active learning
- 2022-present SU811: Molecular Patophysiology - Faculty of Health
- Biomedicine students - master level
 - Fall semester
 - 1h lecture
 - 1h electronic lecture - flipped classroom
 - 1h journal club - student presentations
 - Topic: Bone metastases
 - Written assignment: a group of student work together to write a report on the topic of the lecture
- 2019-present SU803: Pharmacology – Faculty of Health
- Biomedicine students – master level
 - Fall semester
 - 2h lectures
 - Topic: Drugs targeting bone metabolism – pharmacokinetics & -dynamics & side-effects

- 2013-14, 2019-2021 SU810: Human Pathophysiology – Faculty of Health
- Biomedicine students – master level
 - Fall semester
 - 3h lectures
 - 1h electronic lecture (2013+2014)
 - Topic: Cancer metastases and bone
 - Use Poll-Everywhere for active learning
- 2019-2021 BMB829: Introduction to histology and cytology techniques – Faculty of Science
- Biomedicine students – master level
 - Spring semester
 - 3h lectures
 - Use Poll-Everywhere for active learning
 - Topic: Research strategy and discoveries - osteoclasts

Friedrich-Schiller University, Jena, Germany

- 2020 Biochemistry laboratory course - Faculty of Science
- 30-40 biochemistry students – bachelor level
 - Spring semester
 - 50h teaching and laboratory supervision
 - Hired two older students as assistants
 - Topic: hands-on experience with classical biochemistry procedures
- 2002-2006 Literature seminar in biochemistry – Faculty of Science
- 30-40 biochemistry students – bachelor level
 - Spring semester
 - 30h teaching and supervision
 - Topic: Learn how to critically read primary scientific literature and give a scientific presentation
- 2002-2006 Lectures in basic and advanced biochemistry - Faculty of Science
- 30-40 biochemistry students – bachelor and master level
 - Spring & fall semester
 - 2h lectures
 - Topic: DNA damage, the cell cycle, and p53

National Research Center for Environment and Health, Munich, Germany

- 2005-2006 Training of scientist to become toxicologists
- 20-30 scientists
 - Spring & fall semester
 - 2h lectures
 - Topic: DNA damage, the cell cycle, and p53

SUPERVISION

University of Southern Denmark, Odense, Denmark

- 2006-present Main supervisor
- 1 PostDoc, 2 PhD-students, 2 Research Assistants, 7 Master projects (biomedicine students), 2 Master projects (medical students), 5 Bachelor projects, biomedicine students, >15 Individual study activity projects, biomedicine students, 3 technicians
- 2006-present Co-supervisor
- 2 postdoc, 21 PhD-students (national and international), 2 Master of Science students, 2 Research Assistants

Friedrich-Schiller University, Jena, Germany

- 2000-2006 Main-/Co-supervisor
- Department of Biochemistry, I have supervised many students. Since 2000, I de facto had my own group within the Department of Biochemistry, specializing in topoisomerase I and p53 related research. This was not the speciality of Professor Große and I therefore managed this group with a great deal of independence. During my time in the department, I supervised the following number of academic students: 1 PhD-student (2003-2007), 8 Master students (2001-2006), around 30 students on brief visits in the group for a few days or up to a few months (1998-2006). For the last five Master students I gave them their final grade for their thesis as their supervisor. For the three first Master students I gave professor Große a recommendation for a grade.

EXAM

2013-present: University of Southern Denmark, Odense, Denmark

- Multiple choice questions (4 or 5 answers)
- Short text questions
- Essay questions
- Full reports
- Oral examinations
- PhD, master, and bachelor theses

2002-2006: Friedrich-Schiller University, Jena, Germany

- Laboratory reports
- Evaluation of presentations
- Full reports
- PhD and Master theses

2005-2006: National Research Center for Environment and Health, Munich, Germany

- Multiple choice questions (4 or 5 answers)

4. Methods, materials, and tools

Lectures are very challenging on a professional and intellectual level because you as a lecturer must try to bring over complicated diseases, treatments, and biochemical pathways in a simplified form for the students to comprehend and which must be adjusted to the anticipated level of the students. Lectures must be complex, challenging, and simplified at the same time. In my initial preparation for these lectures I spend weeks to consider the learning objectives and how I can best communicate this to the students. I carefully search for and read scientific papers (both pioneering work and recent) to prepare an up-to-date lecture. During my teaching I use my body language to motivate and activate the students, I ensure eye contact when possible, I ask questions and await an answer, I use anecdotes, I relate the topic to their possible future job function etc.

Flipped Classroom using E-lectures These were prepared in order to give students a chance to get a basic knowledge before the lectures I give in class/auditorium. In these E-lectures I present basic information about bone and the cells that make up bone. I do not only use slides but also show myself and use my body language and voice to maintain the attention of the listeners. I have had great success and feedback with this approach.

Activation of students is anticipated through the use of e.g. Poll Everywhere, flipped classroom, questions in plenum, journal club presentations, written assignments, literature, and/or discussions.

Lab-courses are very work intense and demand a great deal of preparation. On the other hand you get a very good contact with the students and you get a good impression of the students' skills and sometimes their lack of skills. This is especially the case if you teach the same students both in lectures and lab-courses. You have to be well prepared. In my lab courses I tried to be friendly, open hearted and informal, but at the same time strict. The latter was necessary since you would always have a few students who were up to make fun or walk out if you did not make your expectations and limits clear. All protocols were followed by questions in which the students had to write down the results and find answers to more "exam like" questions. Furthermore, I let the students make some of the buffer solutions themselves and asked them to write down all calculations as well as calculating the final concentrations of buffers, salts etc. in the enzymatic reactions. It was my experience that many students found it hard to answer these questions and to do the calculations, but it was also my experience that they after the course had a good understanding of how to work with concentrations, dilutions and molarities. I find this is very important since it is the basis of any proper biochemist.

Literature seminars did not give the same contact during the teaching hours since the students presented their lecture during the seminar, but at the end I asked them questions and gave critique (positive as well as negative). However, during their preparation I had the chance to get good contact with the students in the small groups of 2 or 3 people in which they prepared for their presentation.

Supervision is a delicate and complicated balance between guidance, to ensure effectiveness (but without dictating), and supporting creativity and favor independence. I have also experienced that supervision has to be very strongly adapted to their personality and their culture. I have experienced that you have to take a very different approach and strategy when you supervise German students compared to Danish students, so the culture and the personality of the person has to be taken into consideration and makes supervision fundamentally different from the aforementioned teaching methods.

5. Teaching philosophy and reflections

- Different cultures: I have experience in teaching across different academic cultures, both in Germany and Denmark. From 2002 until now, I have developed my teaching skills, gained more experience, and adopted a more mature approach to teaching. In Germany, the focus was on imparting knowledge and skills to the students, covering a broad range of areas in biochemistry that were not necessarily related to my research. Teaching in Germany was generally less oriented towards independent thinking. However, in Denmark, students are accustomed to being responsible for their own learning, and they are more inclined to question the knowledge being taught (at least in my experience). Therefore, my teaching approach in Denmark has been different, particularly because I teach within my area of expertise, which requires a different approach compared to teaching a broad range of topics (which did not involve my research) as I did in Germany.
- General: In all my teaching, I always have it as my major aim to motivate. I try to do so through several means. I intentionally use my voice, body language, and eye contact to motivate the students to pay attention, become active, and learn. I feel this is very important – and it works! I also focus on motivation through design of my teaching, where I always

try to highlight the relevance of the topic. I do so by e.g. using anecdotes, by using cases in my teaching, as well as e.g. health statistics from Denmark, Europe, or throughout the World, but also by relating the topic directly to their future job-related functions. I always make sure that my teaching is up-to-date by updating all of my previously used lectures several weeks before I have to teach again. I carefully search for and read scientific literature (both pioneering work and recent) to prepare an up-to-date lecture.

- Reflection: I feel it is necessary to be not only be physically present in the situation of teaching/supervision, but also mentally! I adapt my type of supervision and teaching to the individual person (personality type) or the group of people I am standing in front of. Although I teach biomedicine, medicine, and biomechanics students every year, they are never the same. Each class has another type of group dynamics than the previous class. So in order to keep the attention of the students, I always "sense" the group I am standing in front of and try to adapt to the different "vibrations". As a teacher, you can easily feel this from a group – at least if you are mentally focused on the here-and-now situation. I always try to be – and I get good feedback from teaching because of that – and because it gives good results.