

Jonas Jørgensen
The Maersk Mc-Kinney Moller Institute
SDU Biorobotics
Email: jonj@mmmi.sdu.dk

Pedagogical approach

My pedagogical approach is anchored in constructivist learning theory, that I had the chance to study theoretically and develop as a practice during my first teaching job as a high school teacher. I strongly believe that knowledge is not just an informational quantity that can be passed on from a teacher to a student as a one-time frictionless verbal handover. Instead, I view knowledge as co-constructed by an active learner who engages in mental activity and various material relations within a social setting. The learning process thus entails both intellectual, embodied, and affective engagements and responses. I believe that people learn in different ways, and that it is beneficial that a teacher test out different teaching strategies when encountering a varied group of students and accommodate the teaching style according to the people present and what is deemed to be the most important learning goals. A vital part of this, is actually listening to the students, but also creating a safe atmosphere where participation, engagement, and enthusiasm is acknowledged, appreciated, and shared. Another key aspect is to make feedback and formative evaluation an integrated part of teaching, i.e. to have evaluation directed at learning and not just use it for assessing the level of competence acquired at the final exam.

An issue that has emerged in university teaching is how to negotiate a balance between teaching applied knowledge that might have instrumental benefits to the learner or society at large or prioritize more 'basic' curiosity-driven research insights. This issue is also reproduced as a tension between interdisciplinary/transdisciplinary research and a more traditional conception of academic knowledge as bound to specific disciplines each with their epistemologies. Many of the courses I have taught have been question-led or problem-oriented and involved project work in groups. In my experience, this organization of the curriculum has been beneficial to stimulate an interest of the students – whether the subject has been digital art or natural science methods. Yet with this way of working one also runs the risk of forfeiting academic rigor in favor of pragmatics – as long as it works we don't need to understand why, some students might think. Striking the right balance where practice, theory, methodological awareness, critical thinking and creativity can co-exist is one of the challenges of university teaching that has my strong interest and commitment.

Teaching experience

Supervision:

Co-supervisor of 4 master theses and 1 bachelor thesis within the areas of soft robotics, media art, speculative and critical design, soft robotic wearables , bioinspired soft robots, soft robotic control.

University courses:

"Programming of Hardware and Robot Technology for Playing and Learning purposes", Univ. of Southern Denmark, (Sept. 2019 - Jan. 2020)-BSc level course-Taught the course together with Jørgen Christian Larsen (half teaching time each) (34 students enrolled)

"How to Make (Almost) Anything", guest lecturer, IT University of Copenhagen, (Nov. 2017),-MSc level course-Guest lecture on molding techniques / molding silicone. (2 hours)

"Creative Digital Practice", guest lecturer, IT University of Copenhagen, (Sep. 2017),-MSc level course-Guest lecture on soft robotics and art (3 hours)

"Artificial Life & Evolutionary Robotics: Theory, Methods and Art", Assistant lecturer, IT University of Copenhagen, (Jan–June 2017),
-MSc level course•Organized and taught lab part every week together with Alberto Alvarez and supervised final projects (2 hours / week)-28 students enrolled

"Digital Experience and Aesthetics", Assistant lecturer, IT University of Copenhagen, (August–December 2015),
-BSc level course-Co-organized and taught course together w. assoc. prof. Susana Tosca Pajares (4 hours / week)-82 students enrolled

Other teaching experience:

High school teacher, Espergærde Gymnasium og HF (January 2012 – July 2015).-Taught 16 classes on visual arts, physics, and introductory natural sciences-Completed Danish one year high school theoretical and practical teaching

degree 'Pædagogikum' (May 2013)

Science pilot, Experimentarium (science center), Hellerup. (2005 – 2006)-Taught natural sciences for secondary and high school classes-Conducted audience dialogues (with a focus on adults and adolescents), science demonstrations, and stage shows for up to 300 audience members.

Tutor, (2004 – 2006)-Tutored five high school students (individually and in pairs) in physics and mathematics

Teaching methods

In my teaching I try to facilitate the students' learning by using a variety of ways of working. A key to my lesson planning is to use sequencing when designing a lecture or class session, that is, to divide the total time allotted into smaller segments with specific activities or tasks. Among other things, I use this technique to provide students with an overview of what will transpire and what to expect in a lesson and to become aware of the main learning outcomes of each part.

I believe that lectures and student active work forms, e.g. class discussions or group exercises, are equally valuable and important as tools for learning, yet each have their strengths and weaknesses in relation to a specific content and desired learning outcome.

Activities I have used in my teaching include: lectures, student presentations with feedback from the students and lecturer, in class discussion, group projects over a longer period, individual writing sessions in class (to reflect on specific issues or one's own learning progress), innovation facilitation processes for generating project ideas, online quizzes and interactive games on the curriculum content, small competitions in groups, co-operative learning strategies, video

Pedagogical training

- Completed Danish one year high school theoretical and practical teaching degree 'Pædagogikum' (May 2013)
- Course in "Class Room Management" (instructors: Link Kommunikation, June 2013)
- Course in "Innovation in Teaching" (instructor: Hanne Heimbürger, January 2014)
- Credit transfer approved for "Introductory Teacher Development Programme for PhDs" (3 ECTS) at the IT University of Copenhagen based on previous teaching experience and training (2016).
- Credit transfer approved for Universitetspædagogikum at the University of Southern Denmark (Oct. 2019)