

## Teaching portfolio

**1. Teaching CV:** A list of any lecturing and supervision tasks, including specification of academic fields, scope, level (bachelor, master, continuing education, PhD) as well as any external examiner tasks.

**Courses, supervision, examination during the last about 20 years:**

**Ph.D.-students:** 5 finished in mathematics-/ vocational- and/or engineering education. 4 current Ph.D.-students in mathematics education in Uganda and Tanzania (MATH4SDG), 2022-2026.

**Master thesis students:** 6 finished in mathematics education in Norway. 3 finished in Denmark. 2 expected to finish in 2022/23 at AAU, 1 expected to finish in 2023 in Norway (Bergen), and another in 2024.

**Project supervision:** Co-supervisor (PBL) for 35 groups at 2nd semester mathematics or physics, AAU.

**Facilitator:** 2 groups of mathematics teachers from secondary education (folkeskole og htx/stx) in LabSTEM Nord.

**Supervision of Assistant Professors:** 31 assistant professors at AAU and 7 groups of assistant professors at Aarhus University in the formal university teacher training programmes.

**Teacher education:** *Supervised/observed 16 graduate and 29 undergraduate students in secondary math education program, USA. Visits of 5 students, Norway. Observation of 3 students, Denmark.*

**Courses:** Taught numerous courses in mathematics education at bachelor and master level, Denmark, Norway, USA.

**Workshops:** Given numerous courses, workshops and presentations of PBL to students, international and national academic staff.

**Examination:** Vice chairman of the corps of examiners in mathematics at the Danish universities 2010-2026, examiner since 2006. Numerous tasks in mathematics education, history of mathematics, theory of mathematics at all levels. Also examiner at the teacher education in mathematics.

**2. Study administration:** A list of any study administration tasks, e.g. study board membership, head of studies or semester or course coordinator, accreditation, etc.

**Semester coordinator:**

Master in Problem Based Learning (MPBL). 1st sem. coordinator: E2014

**Course Coordinator:**

- Master in Problem Based Learning (MPBL). Course 2, Semester 3: E2015

- Problembaseret (PBL/PV). 1st sem, E2015-E2019. Again from E2022.

- Fagdidaktik i matematik. E2017-

**Committee chairing:**

Vice-chairman of the Corps of University External Examiners in Mathematics (Censorkorps): 2010-2026

#### Ph.D. Assessment committee chairing

- Chair Ph.D. Assessment Committee: Ph.D. thesis by Annette Grunwald, Dept. of Development and Planning: Naturfagernes og ingeniøruddannelsernes attraktivitet - set fra et inter-organisatorisk læringsperspektiv: 2016
- Chair Ph.D. Assessment Committee: Ph.D. thesis by Mahyuddin Bin Arsat, Dept. of Development and Planning: Effectiveness of Sustainability Incorporation in Engineering Curricula: A Framework for Course Design: 2014

#### Judge:

- Master Class, Mærsk Mc-Kinney Møller Videntcenter, Sorø (2010);
- FIRST LEGO League (2015, 2010, 2008, 2003);
- Projekt Edison, Fonden for Entreprenørskab (2021, 2018).

#### Committees in relation to education:

2022-2024 *Faggruppen for Folkeskolens Fag: Matematik*. Undervisningsministeriet

2020- Formand, *Ekspertgruppen for Erhvervsskoler (Expert group for vocational education)*. Nationalt Center for Udvikling af Matematikundervisning (NCUM) (Danish national center for developing mathematics teaching)

2020 *Lektoruddannelsesudvalget* (Planning of teacher education, grades 6-12). University of Bergen

### 3. University pedagogy qualifications: A list of any completed courses in university pedagogy, PBL courses, workshops, academic development projects, collegial guidance and supervision, etc.

#### Aalborg University:

Ways of supervising assistant professors ½ dy: Learning Lab Training for Pedagogical supervisors: 2013

#### Stanford University, USA:

Center for Teaching and Learning offers workshops for faculty. Sat in on these while being a visiting scholar: E2011

- Effective Public Speaking in Academic Settings ½ dy
- Fundamentals of Leading Effective Discussions ½ dy

#### Aarhus University:

Mentored by Associate Professor Poul V. Thomsen while being an Assistant Professor. Got feedback on my teaching. 2007-2008.

#### Virginia Tech, USA:

Course: *Supervising Student Teachers*, 1 US credit ≈ 2 ECTS

Faculty Development Institute (FDI) workshops:

- Motivating Your Stud: Strategies for Design& Implementation ½ dy
- Test Creation for Distance Classes Brownstone Diploma ½ dy
- Blackboard6: Create Web-based Courses, Question Pools 1 dy
- eLearning Assessment Methods ½ dy

Center for Excellence in Undergraduate Teaching (CEUT) workshop:

- Using Acting Techniques in the Teach & Learning Process ½ dy

All: 2004-2006

### 4. Other qualifications: Conference attendance, editorials, presentations, etc. relating to education, 'University Teaching Day', etc.

#### Project Management:

'Project management 1', part of management BA 6 ECTS. BusinessCollege BI, N: 2003

For publications, please consult the list of publications at the general website of Aalborg University

### 5. Teaching activity development and teaching materials: A list of any contributions to the development of new modules, teaching materials, study programmes, e-learning, collaboration with external business partners, etc.

#### Teaching material/books:

1. Dahl, Bettina & Troelsen, Rie (2015). Lecturing. In (Eds.) Lotte Rienecker, Peter Stray Jørgensen, Jens Dolin & Gitte Holten Ingerslev (pp. 179-188). University teaching and learning. Frederiksberg: Samfundslitteratur. ISBN: 978-87-593-1960-4.
2. Andersen, Hanne Leth; Dahl, Bettina; & Tofteskov, Jens (2015). Assessment and Exams. In (Eds.) Lotte Rienecker, Peter Stray Jørgensen, Jens Dolin & Gitte Holten Ingerslev (pp. 369-408). University teaching and learning. Frederiksberg: Samfundslitteratur. ISBN: 978-87-593-1960-4.
3. Dahl, Bettina & Krogh Lone (2015). Teaching portfolios. In (Eds.) Lotte Rienecker, Peter Stray Jørgensen, Jens Dolin & Gitte Holten Ingerslev (pp. 445-454). University teaching and learning. Frederiksberg: Samfundslitteratur. ISBN: 978-87-593-1960-4.
4. Dahl, Bettina & Troelsen, Rie (2013). Forelæsning [The lecture]. In (Eds.) Lotte Rienecker, Peter Stray Jørgensen, Jens Dolin & Gitte Holten Ingerslev (pp. 177-187). Universitetspædagogik [Textbook university teaching]. Frederiksberg: Samfundslitteratur. ISBN: 978-87-593-1637-5.
5. Andersen, Hanne Leth; Dahl, Bettina; & Tofteskov, Jens (2013). Eksamen [The examination]. In (Eds.) Lotte Rienecker, Peter Stray Jørgensen, Jens Dolin & Gitte Holten Ingerslev (pp. 369-408). Universitetspædagogik [Textbook university teaching]. Frederiksberg: Samfundslitteratur. ISBN: 978-87-593-1637-5.
6. Dahl, Bettina & Krogh Lone (2013). Undervisningsportfolio [Teaching portfolio]. In (Eds.) Lotte Rienecker, Peter Stray Jørgensen, Jens Dolin & Gitte Holten Ingerslev (pp. 445-455). Universitetspædagogik [Textbook university teaching]. Frederiksberg: Samfundslitteratur. ISBN: 978-87-593-1637-5.
7. Dahl Søndergaard, Bettina (2007). Diagnostiske tests og deres anvendelse i matematikundervisningen: Et eksempel på formativ evaluering [Diagnostic tests and their use in the teaching of mathematics: An example of formative assessment]. In (Ed.) Bodil Christensen, Faglighed, test og evalueringskultur (Series): Evaluering og test i matematik. Vejle: Krogh, pp. 61-76. ISBN: 978-87-624-0855-5.

#### Teaching videos:

8. Video recording about the PBL model at AAU (in Danish) (2015). For use in high school teaching in connection to AAU On Demand. Recorded by Ahmed Hussain. 17 February 2015.'

Five teaching videos (in Danish) on PBL (2015). Mikkelsen, Beni Maroc (photograph).

- Hvordan håndterer man problemer med et gruppemedlem?
- Hvad kendetegner en god projektgruppe (med rektor Johansen, Per Michael)?
- PBL-eksperten: Om forventningsafstemning i projektarbejdet.
- PBL-eksperten: "Disse problemer er de mest typiske i projektarbejdet".
- PBL-eksperten: "Dette skal I huske på under gruppedannelsen".

Recorded 30 January 2015

[https://www.youtube.com/watch?v=HH1sdj\\_WMn4](https://www.youtube.com/watch?v=HH1sdj_WMn4)

<https://www.youtube.com/watch?v=UsTvn9rXOGw>

<https://www.youtube.com/watch?v=fHPJLDZLYjw>

<https://www.youtube.com/watch?v=OysrjXGEuRo>

<https://www.youtube.com/watch?v=EzR5pMnQuyg>

Teaching Video – Oral exam (2012). With Karen Lauridsen & Ole Lauridsen. Aarhus University, DK:

<http://vimeo.com/intluniversity>

#### Curriculum development:

I was in charge of the secondary mathematics education program Virginia Tech.

At Aarhus University I took part in planning and organisation of the adjunktspædagogikum. I also developed the course in mathematics and computer science education.

At Aalborg University I took part in revision the Study Plan of the MPBL (Master in Problem Based Learning) together with Mona-Lisa Dahms and Erik de Graaff.

I also took part in the revision of the Bachelor of Mathematics Study Plan (of September 2015) as I reformulated the learning objectives of the existing course: Problem Based Learning in Science, Technology and Society (PV) and formulated learning objectives and course description of a new course in Matematikkens Fagdidaktik (The Didactics of Mathematics).

## 6. Teaching awards you may have received or been nominated for.

Type your answer here...

**7. Personal reflections and initiatives: Here you may state any personal deliberations as regards teaching and supervision, any wishes and plans for further pedagogic development, plans for following up on feedback/evaluations from students, etc.**

**Teaching Philosophy:**

My teaching philosophy is based on my experience as a teacher as well as the knowledge I have gained as a researcher in education, particularly within learning psychology. Students learn in various ways and it is therefore important to use a range of teaching methods and thus alter between for instance lecturing and other activities. A typical experience for a teacher is that one approach can work well with one class, but the following year it seems not to go as well with an otherwise similar class. Also things such as time of day/week have an impact. Through using a variety of teaching styles, one can reach more students. However, this has to be balanced with what is possible in practice. I believe that good teaching may also happen in lectures to several hundred students if one for instance uses the peer instruction techniques of the Harvard physicist Mazur and/or techniques from theatre actors such as physically move around to underline important points. Another technique which I use a lot, is to simply ask the students not only if they understand what I talk about, but also if there is something in the style of teaching that appeals more, or less, to them. My experience is that showing this interest into the students' learning in itself creates more attention. Overall, I also believe that it is important to remember that teaching at universities is 'research-based'. This means that active researchers teach, they teach the newest knowledge, and equally important that the teaching style should be research-like. This means that, whenever appropriate, the students should work with the subjects' primary artefacts, sources and data, and not only textbooks. This also means that students should also experience the processes of research on a suitable level, which is done to a large extent during the project and problem based learning (PBL) teaching style at Aalborg University.

**8. Any other information or comments.**

For access to full Teaching Portfolio (67 pages, anno 2022): please send me an email ([bdahls@plan.aau.dk](mailto:bdahls@plan.aau.dk)).