

Teaching Portfolio

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Pedagogical view

For me, the fun of teaching is being able to share with students some theories and applications that they can associate with their daily and professional life as they increase their understanding of how the world around them works. It is about enjoying the fun of discovering something new or to acquire new perspectives on daily life and daily routines at work and at home.

For me, it is important to connect the new content of the classes with known phenomena from work or daily life. This helps the students identify possibilities and limitations in what they have been taught. It is about helping the students find the nuances between theory and practice, as this opens their minds and motivates them to question their previous knowledge and beliefs.

I also find very relevant to always ask the students about why we are studying this or that theory or framework; how can we use them? and what more insights can we get from using this framework instead of another one? These questions also help the teacher to connect class teaching to the outside world.

Teaching experience

1. Supply Chain Management – GMM 4 (SDU)

SCM from an international perspective is getting more important along with the globalization in manufacturing. The traditional domestic manufacturing is converted to an international network of manufacturing and supply chains. In order to succeed in this new environment, it is crucial to integrate the different elements of supply chain by balancing supply and demand and improving the supply chain design. Throughout the course, the focus will be on understanding the different approaches and strategies that help companies succeed in this dynamic business environment, such as manufacturing strategy, supply chain integration, lean supply chain, network design, inventory management and risk pooling.

2. Improving Supply Chain Performance – GMM4 (SDU)

Introduction to the Lean philosophy, the Lean History and a range of the Lean tools.

Learning objectives:

- Conduct a value stream mapping – both current and future
- Prioritize and implement a range of Lean tools

3. Operations Management: Systems and Methods – OM (SDU)

Engineers within the field of operations management are expected to make different types of decisions while they are on the job. However, not all decisions can be made based on an estimated guess or gut feeling. Rather operations managers must gather valid and reliable information and knowledge to make appropriate decisions, which benefits their company. Therefore, operations managers need to be able to use basic and advanced tools for collecting data to describe and analyze information about stakeholders or the company's operation.

The course is divided into a foundation part where the students will learn operations management research methods and an applied part where the application of the OM research methods will be explicitly used.

4. Project Management X-PMA1 (SDU)

The purpose of the course is to enable the student to participate in projects and critically select project management tools, concepts, models for practical application.

Projects are integral to engineering work. Indeed, we argue that project management is the second most important skill of engineers. Therefore, project management competences are fundamental to all students. Through the course, the student

develops insights into how project management is practiced through the analysis and experience with “real-world” problems.

Main Topics:

Organizational influences and project life cycle

Project management processes – Phases of a project

Planning and scheduling a project – work breakdown structure, time, resources, quality, budget

Project risk management

Stakeholder management

Project human resources management

Project culture and leadership

5.Engineering Design and Quality Control" - Bachelor engineering 3rd semester (AAU)

- The Engineering design process is presented and the lean principles used for improving the process exposed.
- The course reviews and discusses the economics and the main performance metrics of the product Development process
- Then, the flow principle and its application to product development are discussed.

6.Introduction to Production and Service Economics 5th semester Bachelor engineering (MOE5) (AAU)

- This course aims to provide the student with an understanding of fundamentals of management accounting, business economics and finance in a manufacturing context.
- Students who complete the module should understand the basics within management accounting, business economics and finance in a manufacturing context.

7.Management Systems – Master level OME (AAU)

Knowledge

- Have gained knowledge about systems theory, systems view of organization, complexity theory and various management systems like information systems, quality management systems, environmental management systems
- Have gained knowledge and understanding of core business functions

Skills

- Be able to understand the significance of core business functions for the effective and efficient management in the global organization
- Be able to evaluate suggestions for improvements in core business functions in a structured and systematic manner

Competencies

- Be able to design effective and efficient management systems within an organization and in relation to external partners in the value chain.

8.Engineering Key Processes – Master level OIM (AAU)

Knowledge:

- Have gained knowledge and understanding of core business functions such as logistics, supply chain management, and new product development
- Skills
- Be able to understand the significance of core business functions for the effective and efficient management in the global organization
- Be able to evaluate suggestions for improvements in core business functions in a structured and systematic manner
- Competencies
- Be able to design effective and efficient logistics, supply chain, and new product development systems.

9. Lean within companies and across the supply chain: Linking Productivity and Occupational Health and Safety (OHS)

- This is a 6-day, detailed training course that is run over a period of one week. The outcome of the course is a PhD student who will have detailed knowledge of the philosophy, the processes and the implementation methods of lean. The student will be able to apply lean tools within companies and across the supply chain with suppliers.
- This is an interactive, practical course with case studies and exercises. The PhD students are encouraged to apply the lean concepts learned in the course in the real work environment of companies used as cases for their Phd projects. One main objective of this course is to make explicit the link between lean practices on the one hand, and the improvement in productivity and OHS on the other hand.

10. Project supervision and advising for master and bachelor students SDU GMM4 / AAU Bachelor and Master Engineering:

I coach the students in relation to their projects content and methodology:

-Content: Choice of the theme: Relevance of the subject, Clarity of the subject; Review of literature

-Methodology: Choice of methodology, choice of methods, analysis of data.

I also support the students on how to manage their time and resources in order to be able to submit on time. There is almost always a balance between scope (what is the right scope of the project?) and the available time and resources (time available for the project, access to companies).

Formal Pedagogical training and other activities related to teaching and teaching development

As formal pedagogical training, I have the Adjunkt pædagogikum from AAU (2015-2016).

In the Adjunkt pædagogikum, I participated in workshops related to Problem Based Learning (PBL) as follows.

Workshop 1: PBL – a context for learning & assessment

1-How to understand assessment – and why we should assess? There are different perspectives for assessment:

- 1-Society perspective: Selection – Certification – Control
- 2-University perspective: Legitimation - Accountability – (demonstrate to outsiders that standards are satisfactory)
- 3-Students' perspective: Motivation - Testing development (knowledge, skills, competences) - Capturing student attention and efforts. Generating appropriate learning activity
- 4-Teacher perspective: Diagnosing students' strengths and weaknesses - Providing feedback to students
- 5-Educational perspective: Assessment of teaching and learning – further development

2.Differences between 1) the summative function (tests/exams) and 2) the formative function (feedback to students during their learning activities about their strengths and weaknesses)

- 1-The summative assessment with the controlling aspect; does the education meet what it is supposed to?
 - The summative assessment aims towards determining and “declaring” the student's competencies at a certain time (assessment of learning).
 - The declaration is often in the form of a grade or passed/not passed and might have implications for the student in connection with further education or employment
- 2-The formative assessment with the development perspective; did the learning happen as intended and staged from the education and the teacher?
 - The formative perspective Serves to give teachers and students feedback on the learning processes, and
 - Should lead to changes in teaching and student's work, (represents the change and development oriented assessment).
 - The perspective is primarily internal
 - The intention is to qualify sustainable development. Learning and assessment are ongoing processes with the purpose to improve efforts and results.

3.Typical problems with exams - validity and reliability, effect on students' ways of studying (solving predictable assignments)

The validity of exams is generally low as they only to a small degree measure the benefits of different aspects of understanding and professional competence

Exams have a very governing effect on students' study activities, often directing them not towards ensuring their understanding of central professional terms, principles and models, but towards solving predictable assignments. (Lauvås & Jacobsen 2002)

4.How to organise a variety of types of assessment activities based on the understanding of alignment

Integration of the formative and summative function

- Alignment between learning form and assessment form
- Feedback from supervisor
- Peer feedback
- Group exam

Constructive alignment - the assessment process: Aligning learning objectives, activities and assessment.

Workshop 2: Bringing principles of PBL into teaching and learning practices in projects and courses

Principles:

- The problem as point of departure
- Projects organised in groups
- The project is supported by courses
- Collaboration -groups, supervisor, external partners

- Exemplarity
- Student responsibility for learning

Workshop 7: Flipped courses in Higher Education - A workshop on using technology in courses

The workshop covered the use of technology and podcasts in education and had the following themes:

- 1.Substitutional, i.e. Recorded lectures
- 2.Supplementary, i.e. Targeted educational material and content
- 3.Presentational
- 4.Problem-based', i.e. worked examples
- 5.Creative, i.e. assignments made by students