



**Welcome to the course!**

**PED-131.2110 Learning and  
Teaching in Higher Education  
(5 cr)**

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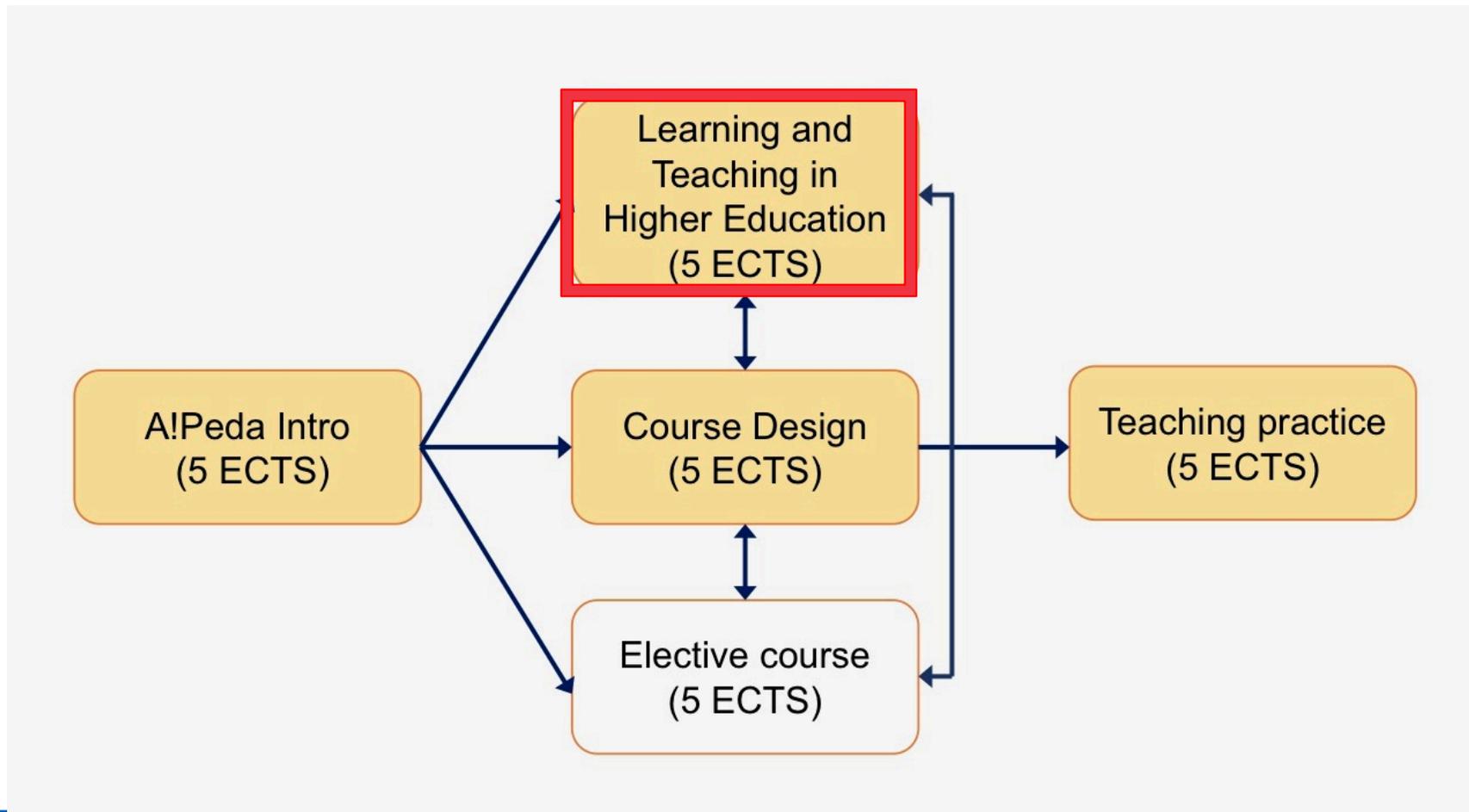
Photo: Maire Syrjäkari, 2014

Day 1, 27.3.2019

LTHE, day 1  
27.3.2019

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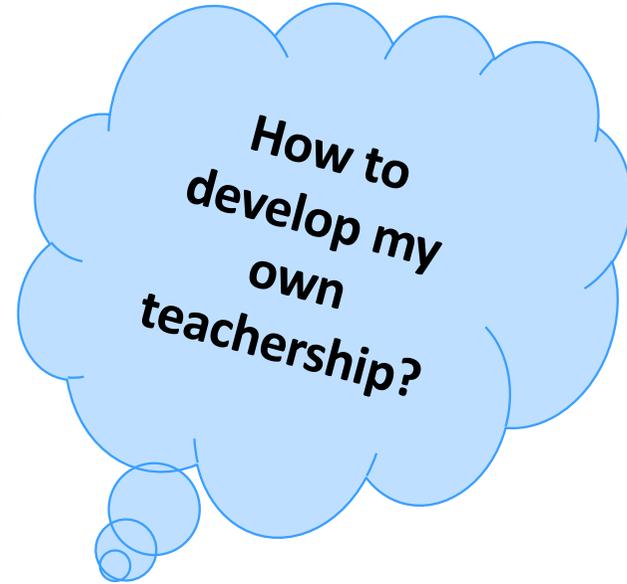
# Aalto University Pedagogical Training (25 cr)



# Learning outcomes for this course. After the course, you:

- are able to identify, define and evaluate **factors that affect your teaching**
- are able to recognize different **theories of learning** and you have become aware **of how they influence teaching**
- have formed **your own approach to teaching and learning/ teaching philosophy** and you have knowledge on how to develop your teachership and teaching
- recognize factors, which affect to **the quality of teaching**
- are able to place **your teaching in a wider context** and envisage the expertise provided by your own field of teaching and the future prospects of the field.

# Contents



## Timeline for Learning and Teaching in Higher Education

### Day 1: 27.3.

University pedagogy and learning theories, Educational research

### Day 2: 9.4.

Approach to teaching and expertise

### Day 3: 3.5.

Reflection, expertise and development

### Day 4: 23.5.

Quality of teaching

Task type	Dead lines		
Pre-assignment (writing, reading, study right form)	25.3.		
Learning log	Log 1 (from day 1), DL 3.4	Log 2 (from day 2), DL 18.4.	Log 3 (from day 3), DL 10.5
Reading tasks	Reading task before Day 2 (three reading tasks), DL 8.4	Reading task before Day 3 (one or more texts), DL 2.5.	Reading task(s) before Day 4, DL 22.5.
Writing essay	Version 1.0, DL 18.4.	Version 2.0, DL 14.5.	Version 3.0, DL 31.5.
Give peer feedback on the essay	Peer feedback on version 1.0, DL 2.5.		

# Day 1:

University pedagogy and learning theories

Field specific educational research

## Learning outcomes for today. After day 1 you

- are able to identify different learning theories
- are aware of different aspects of learning
- have started to construct your own approach to teaching.

# Schedule

9.00 – 11.00

- Who are we?
- Introduction to the course
- Pre-assignment and expectations for the course

~11.00 – 12.00

## Lunch

12.00 – 15.30

- Researching the education of own field (Jari Huikku)
- Learning and teaching theories

Nice to make your acquaintance

# Teachers' cocktail party

1. My name is ...
2. I enjoy ...
3. My strength as a teacher is ...



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# Break



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# Snow ball –method: What is learning?

## Step 1: (working time ~15 min)

- Take a look at your pre-assignment. Tell your pair about your own approach to learning and teaching. How do you define learning?
- Discuss with your pair and consider together your conception of learning.
- Create common mindmap (or concept map) on learning by writing one concept/a sticky note related to your conception.



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## Step 2: (working time 15 min)

Two pairs combine their mind maps to create together a new common one. You can also add new things to your map.

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# Snow ball –method: What is learning?

## Step 3: (working time 20 min)

- Form two new groups by combining two previous groups together. Create new common mindmap.

## Step 4: (working time 5 min/group)

- Group presents its common mindmap of conception of learning.



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# Lunch



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# Education research in your own field of education

Jari Huikku, Biz Accounting

# Why doing educational research in your subject field is worth while?

- You don't have to rely on gut feeling on what works and what doesn't work in teaching?
  - You may get information, e.g., on:
    - Who your students are: how do they think, what kinds of conceptions (or misconceptions) they have
    - How students study
    - What effect specific teaching method/assignment type ... had on students' learning/persistence/drop out rate/motivation/interest on the topic.
    - Why this teaching method works
- better understanding of learning process → you are better equipped to guide the learning process.

# Different options to make educational research in your field part of your professional development

- Read recent educational publications in your field. E.g., math education research has a long history already so there is much to read.
- Approach developing your own teaching with the same systematic mindset than when you do research in your field.
- Attend workshops and national/international conferences on educational research in your field
  - Get to know other teachers/researchers in your field
  - Publish conference & journal papers

One of your homework is about finding & reading a research paper in your field – so you get to take the first step now 😊

# Break



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# Learning theories

# Learning Theory, Theories of Learning, Conception of Learning, Approach to Learning...

- **Learning theory, Theories of Learning** – a scientific theory explaining learning, based on research
- **Conception of Learning, Approach to learning** - individual's conception of learning

Terms are used differently in the literature

# Essential questions

How does a person learn?

How do we define learning?

What is a teacher's role and task in learning process? How teacher's teaching activities support learning?

How student's studying activities support learning?

What is a student's role and task in learning process?

What kind of learning environment supports learning?

# Your turn to think about learning theories

Group 1: behaviourism

Group 2: cognitive and constructivist theory

Group 3: social and situated learning theories

Group 4: self-theories and humanistic theories

Answer the following questions from your learning theory point of view:

- Give a definition of what learning is
- What is the role of a student(s)
- What is the role of a teacher
- Give an example of teaching/learning method that reflects the learning theory's main tenets.

# Assignments for the next session 9.4.2019

1. Learning log, DL 3.4.2019
2. Reading tasks 1, 2, 3, DL 8.4.2019
3. version 1.0 of your essay, DL 18.4.2019

# 1. Learning logs, DL 3.4.2019

- The aim of the learning logs is to focus and follow your learning and become aware of your thinking processes.
- Learning log is a reflective writing concerning the topics presented in the contact sessions. It is a unique record of your thinking and learning during the course.
- The learning log has to be completed within a week after the contact session. The length of the reflection is around 0,5 page.
- Instructions and submission in MyCourses - Assignments

In the learning log you can think for example:

- What were your thoughts after the teaching session?
- What supported your learning in the teaching session?
- What kind of thoughts and ideas arouse to you concerning the themes presented?
- How can you apply these ideas to your own teaching?
- Where would you like to focus in the future? etc.
- The logs are visible only for the course instructors

# Reading tasks 1 & 2, DL 8.4.2019

1. Read and familiarize yourself with Chapter 3  
**Discipline-based teaching** (pp. 38-55) from the book *University teaching in focus: a learning-centred approach* / edited by Lynne Hunt and Denise Chalmers. Abingdon, Oxon; New York: Routledge, 2013.
2. Browse through one or more of the reports that discuss the future of work life (links in MyCourses). Reports will give you an idea about future work skills. Feel free to search for other reports and publication on future of work life (skills/competences/nature of future work life) than what are listed in MyCourses.
  - How do the future work skills differ from the work skills in 2019?
  - How should you take into account them in your teaching/minor/major/program or should you?
  - Consider your own field/discipline has it changed in past 10 years? What kind of skills/knowledge/competence are needed in the future in your field?

# Reading task 3: Education research of your own field of science; Find and read and write -task, DL 8.4.2019

Goal: Familiarize yourself with educational research in your own field.

Task: Choose one of the journals and browse papers published in 2015-2019. Select a paper, which you find interesting and find out the following information from the paper:

- *Goals / research questions of the paper*
- *Motivation for the work. What is the problem addressed?*
- *What data is collected and how it is analysed, if there is an empirical part in the work?*
- *Are there any learning theories / models in the background?*
- *What are the central results and conclusions?*
- *How can the results be applied in teaching practice?*

Submit your answers to the questions to MyCourses -> Assignments → Educational research of your field of science

Be prepared for discussing the paper with your peers on this course.

# Example key words

- assessment, scoring rubrics
- Feedback
- reflection
- constructivism
- learning outcomes
- constructive alignment
- interactive learning
- project-based learning
- Problem-based learning
- experiential learning
- Peer discussions
- peer instruction
- online learning, e-learning, virtual and remote laboratories
- blended learning
- retention, drop out
- flipped classroom
- teaching with technology
- inquiry-based learning
- curriculum development, curriculum design
- interactive environments, robotics

## Data bases/ websites where to find papers to read

- Web of Science: Social sciences citation index
- ERIC
- Google Scholar
- <https://www.sciencedirect.com>
- leeexplore
- Wiley Online Library, <http://onlinelibrary.wiley.com>
- ACM Digital Library
- <https://peer.asee.org>
- <http://aapt.scitation.org>
- <http://www.tandfonline.com>

## Journals

- Journal of Engineering Education
- European Journal of Engineering Education
- Computer Science Education
- ACM Transactions of Computing Education
- IEEE Transactions on Education
- IEEE Transactions of Learning Technologies
- Computers & Education
- British Journal of Educational Technology
- Journal of Chemical Education
- Chemistry Education Research and Practice
- Journal of Management Education
- International Journal of Art & Design Education

## Some engineering education research and computer science education conferences

- Frontiers in Education (FIE)
- Annual SEFI conference
- American Society for Engineering Education conference (ASEE)
- Research in Engineering Education Symposium (REES)
- Innovation and Technology in Computer Science Education (ITiCSE)
- International Computing Education Research conference (ICER)
- Koli Calling – International conference in computing education research

### 3. Start writing an essay version 1.0: My approach to teaching and learning

The aim of this essay is to begin to formulate **your approach** to teaching and learning. When you combine theoretical knowledge with your prior experiences, reflect on your values and thoughts, you begin to develop your own approach to learning and teaching. You can use your pre-assignment and discussions of learning concept (mindmaps) as a starting point for your essay.

For the first version write about:

- **Your values and thoughts relating teaching and learning**
  - **How do you think your students learn/how learning [insert your field here] happens.**
  - **What is the role of a student and a teacher in the process of learning.**
- 
- The essay is written in a form of an essay. Use references and cite them properly.
  - The length is around 2000 – 3000 words.
  - Deadline for version 1.0 is 18.4.2018.
  - More instructions for the essays is found on MyCourses.

Closing the day:  
please describe the session with 2-3 words

<http://presemo.aalto.fi/lthe1>

Thank you!

See you on April 9  
at T003, Ekonominaukio