



Aalto University  
School of Electrical  
Engineering

# PED-131.9000 Teaching assistant as a learning instructor

*Day 3*

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# Today's schedule

- 9:00–9:15**    **Getting started**
- 9:15–10:30**    **Study psychologist Paula Sjöblom**
- 10:30–10:45**    **A brief peek at motivation**
- 10:45–11:45**    **Learning café**
- 11:45–12:00**    **The assistant's bag of tricks, closing the course**

**Breaks included in the programme**

# Learning outcomes

**After the session you...**

**...are aware of the students' ways of learning,**

**...can identify some aspects of motivation,**

**...have reflected on the course,**

**...know some methods to advise students as a teaching assistant.**



# Approaches to learning: theoretical findings



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# Background

- Lot of research on learning approaches has been done in universities worldwide since the '70s
- Approaches to learning were developed when trying to understand and explain *why students' learning outcomes* differed so much
- The approaches were initially considered to be stable and immune to differences. Today they are understood to be situational: changeable and influenced by the learning situation (teacher, subject, group, requirements,...)
  - This means that we approach a learning situation in certain way (depending on our previous experience, self-image, interest, motivation,...) BUT we also react to the situation and behave (consciously or unconsciously) in a certain way

# Deep learning

<b>Typical motivation</b>	To understand and follow one's own interest
<b>Learning strategies</b>	Knowledge building; finding similarities and differences between theories and concepts; understanding the bigger picture (not forgetting the details)
<b>Difficulties</b>	Knowing one's own limits and what is enough; getting things done "well enough" and proceeding to other tasks; getting stuck with (or finding and answering) questions that are too difficult (might get frustrated or dissatisfied with one's own behaviour)
<b>Support provided</b>	Find relevant extra information; encourage to share interest with other students; set the "well enough" goals; explicate the allocated workload; give positive feedback on what's sufficient for learning efforts



# Surface learning

Typical motivation	To pass the course (reasons for not setting higher objectives can vary from not-interested to no-chance-to-succeed)
Learning strategies	Rote learning, seeking hints, passive receiving
Difficulties	Concentrating on what is important to learn; to start doing things and trust one's possibilities to succeed; finding one's own interests; proactively creating links between course contents so that knowledge does not seem to be fragmented and full of irrelevant details
Support provided	Help believe in one's own skills; positive feedback on things already done; help build bridges between the contents; set goals; find appropriate (basic enough) exercises; help to start working

Compiled from Biggs (1999), Entwistle (1988) and Ramsden (1992)  
<http://exchange.ac.uk/learning-and-teaching-theory-guide/deep-and-surface-approaches-learning.html>

# Organised learning

Typical motivation	To optimise and get "good results" (grades); interest in practical matters: skills and knowledge that can be used in the future (in work)
Learning strategies	Being aware of course requirements and assessment criteria; monitoring and planning one's studies, but being dependent on the teacher's goals
Difficulties	Optimising grades, but forgetting one's own interests and learning; sometimes overestimating one's own skills
Support	Help to concentrate on learning and to find meaning; challenge to set "deeper" goals

Entwistle (1988); Marton & Säljö (1976)

# Approaches to learning

Entwistle (1988); Marton & Säljö (1976)

Orientation	Objective	Action	Consequence
Deep	To understand for oneself	Active processing	Actively interested (gets deeply engrossed)
Surface	To achieve the pass criteria	Simply reproducing content to pass the course	Difficulties in understanding and anxiety
Strategic	To obtain good grades	Systematic planning of activities	Aware of performance criteria



# Motivation: how to support it?



# Motivation is not ON—OFF

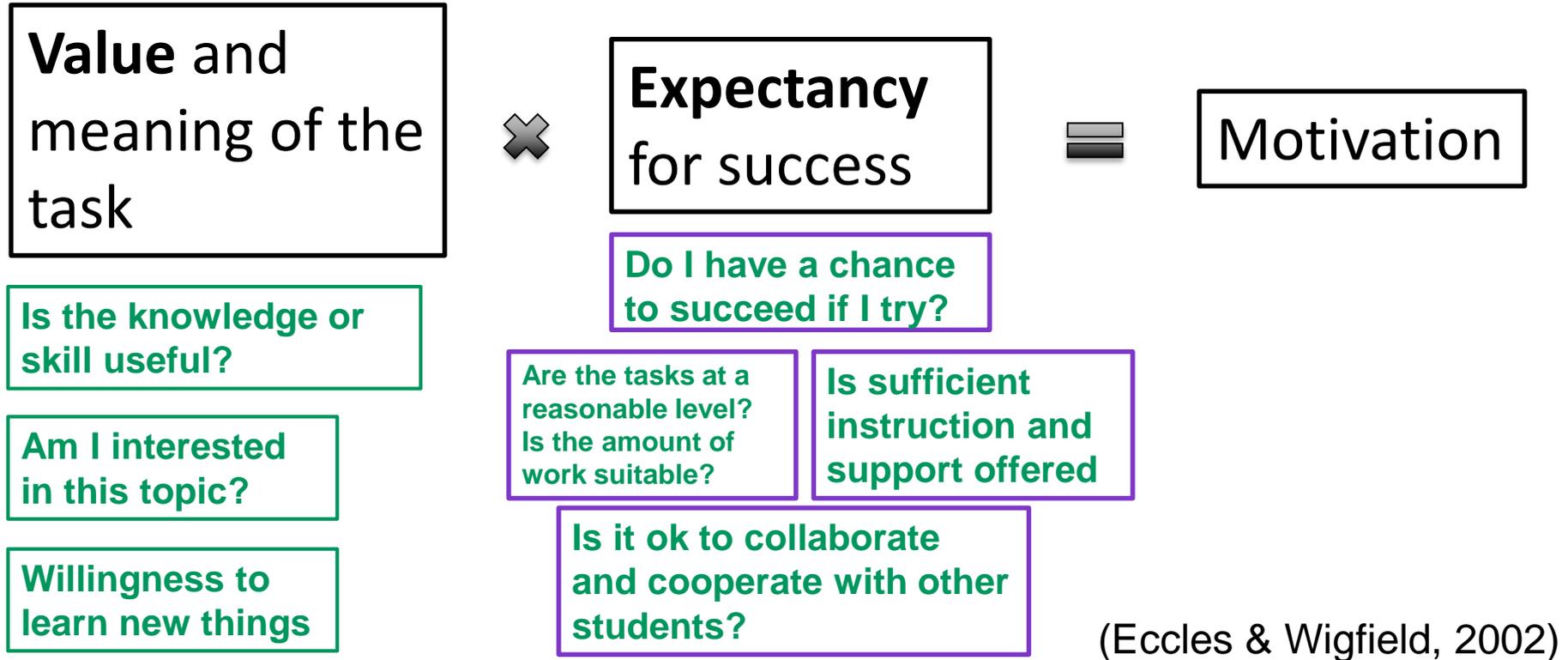
## Motivational orientations:

- Mastery goal orientation: learning new skills
- Performance goal orientation: showing competence
- Avoidance goal orientation: avoiding failures or humiliation
  
- Intrinsic motivation: learning is rewarding
- Extrinsic motivation: external rewards or punishments
  
- Emotion regulation skills (coping with failures), personality and situational factors affect motivation (among other factors)

# How to support motivation?

- **Create a safety zone: encouraging and friendly communication**
  - Safe to make mistakes, safe to ask questions and to collaborate
- **Give positive feedback, notice progress**
  - ⇒ self-efficacy beliefs (I can do this)
- **Help set achievable goals: e.g., the next step in problem solving**

# Expectancy–value theory of motivation



# Think about your work as an assistant

- **What motivates you?**
  - What makes your work **more/less** meaningful?
  - What makes it **more/less possible for you to succeed** in your work?
  - What can you do to **support your own motivation**?
  - What can **other people/the environment do** to support you?

# Motivation to be an assistant?

- Your personal interest in assistant work
- Things that help you find meaning and interest in your work

**Value and meaning to me?**

- Things that hinder your interest to assistant work

- What supports your success?
- Do you have appropriate workload and know-how?

**Expectancy for success in assistant work?**

- What makes you feel uncertain or fear failure?



**Motivation to be an assistant**

# Learning café

Instructions for the learning café :

- We have 3 groups (3 tables)
- Each café table has a specific topic to discuss and reflect on
- Groups move from one café table to another when the teacher gives the sign (~10 min/table)
- Draw and write on “the tablecloths—express your ideas
- At each table, every group continues the discussion on the basis of the opinions, suggestions made by the previous one
- Continue the discussion, add your ideas and thoughts
- At the last table, pick 2–3 things you’d like to share with others



# Learning café theme 1:

## Things you remember from this course so far

**In this course we have discussed different topics, you have read a couple of articles, and you have observed teaching.**

- What do you remember from those activities?
- What have you learnt?
- What would you like to learn more?
- Do you see difficulties in applying what you have learnt?
- Other thoughts, feelings, etc.
- What kind of learning/teaching methods were used on this course?

# Learning café theme 2:

## Things an assistant should remember

The teaching assistant has an important role in a student's learning process. From your point of view, what should a teaching assistant remember when she or he is...

- ...working with a teacher?
- ...guiding a student?
- ...planning the exercise session?
- ...taking the role of teaching assistant?

# Learning café theme 3: Things you wouldn't change, things you'd develop, and things you'd leave out in the course

This course was organised for the first time at ELEC. What do you think about the course?

- Would you like to change something?
- Would you like to know or learn more about something?
- What would you develop?
- What was good?
- In what way have you benefitted from the course?

# The assistant's bag of tricks



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# Believe that students can

**Try always to believe that students can if they want to and try hard. If *you* don't believe they can, it's more likely that they do not either.**

## **Self-fulfilling prophecy:**

The students of a teacher who is told their students are very good at something perform better than the students of a teacher who is told their students are very bad at it, even though there is no difference in the students' actual knowledge level.

# Some ways to proceed with those who are stuck

## Give feedback

- Say something positive about the proceeding

## Ask

- Can you explain how you got here?
- What was your main idea?
- Are there things you are unsure about?

## Use peers

- Is there someone in the same situation? Can they share ideas or help each other?
- Try to stay close and listen if they get on track. Give support if they do, keep asking questions if they don't

## Something extra

- Is there some extra material they could use?
- Some extra exercises more at the right level?

## Next step

- Make sure the students know how to proceed. If they still don't know, help with what to start with

# Tips from a seasoned assistant

## At the course level

- **Talk to the course teacher throughout the course**
  - Exercises must be in sync with lectures, problems must serve a purpose (this is the teacher's responsibility, but you should know the purpose too)
  - Remind the teacher if necessary that the students don't know as much as he or she does
  - What does the teacher expect of you as an assistant?
  - Ask for help when you need it (from the teacher, colleagues, previous/other assistants)

# Tips from a seasoned assistant

## Prepare yourself well before your class

- **Solve the problems yourself even though you have the solutions**
- **Learn the exercise topics as well as you can in the time you have**
  - you don't have to know everything
    - *if you don't know something in class, say so: "Hmm, that's a tough one. I don't know the answer, but I'll find out and get back to you in the next class." Return to it the next time!*
- **Think about what you will say and do in class (specially the first)**
  - how you wish the students and start the class (ice-breaking is important)
  - any extra information, jokes (be sensitive, you can be exaggeratedly outrageous too, but tread carefully), etc.
  - be prepared for the unexpected and to improvise
  - how you interact with different students (the shy ones need you too)

# Tips from a seasoned assistant

## Content-related things you can do in the class

- **Tell students what you are going to do, or ask the students to choose what you should do in class** (some possibilities are below)
- **Briefly go through only that theory relevant for the exercise**
- **Solve an example problem that covers all, most, or most difficult of the issues in the exercise problems *on the board*** (keep it there)
  - don't be afraid to make mistakes
  - consider making an error on purpose (this should serve a purpose)
- **If the solutions have a clear algorithm/procedure, present it**
- **Think of a small related puzzle for the students to think about when possible; return to it at a suitable point during the class**

# 9 Golden rules for instruction

1. Leave the joy of discovery to the student. Do not give answers, but lead subtly towards the solution.
2. There is usually more than one right way of thinking. Do not impose your own solutions.
3. Be supportive, especially when the student has had difficulties.
4. (New) students are shy. Approach them, do not necessarily wait for them to ask for advice.
5. Teaching assistants are not Wikipedias. The students must learn to read the course literature
6. Teaching assistants do not need to know everything, and they can let the students see this.
7. When evaluating answers, be concise. Underline the parts of the solution that are wrong and if necessary write a short comment. If there is much awry, do not spend time evaluating the assignment, but recommend asking an instructor for help.
8. Having the right idea is not enough. The answer has to be written correctly. The aim is to practice expressing oneself in a precise and readable way.
9. If in doubt about rejecting a solution, assess if the student will benefit from improving the answer.

# One last reminder

**If you want the two credit points from this course:**

- **All your course work must be handed in**
- **If some work is incomplete, come talk to us**



# Thank you...

**...for your active participation,  
and enjoy your work as a  
teaching assistant!**

**Good luck!**