

# Fundamentals of Electrical Engineering @ TU Graz - A practical exercise designed for students in their first year

Proformance Final conference

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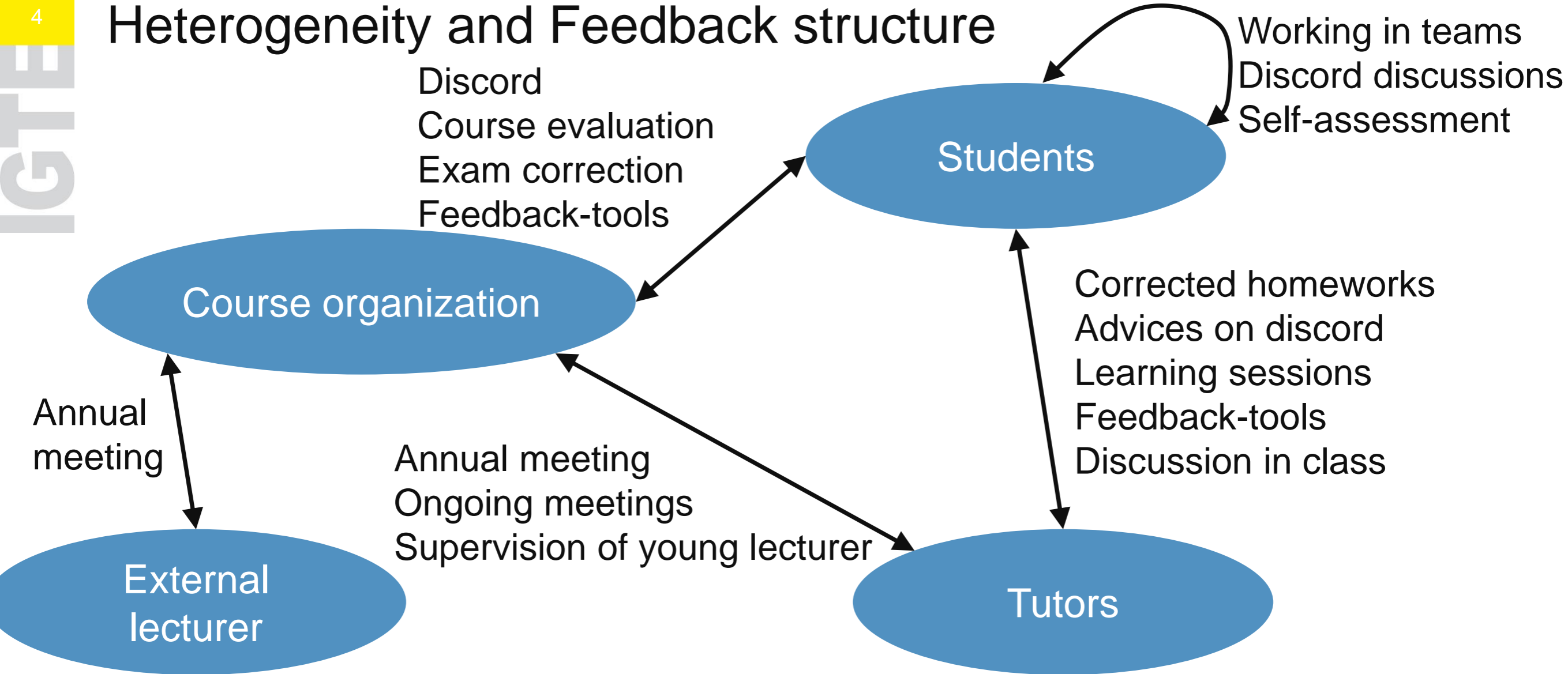
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# Overview

- Exercise Course takes place in several curricula in the **first year**
  - Electrical Engineering, Biomedical Engineering, Digital Engineering, ICE
  - ~450-500 students per year of different cultural, educational, and geographical background
- Transformation of a course from frontal teaching to a modern FY course
  - Project time: 2017 – ongoing
  - Focus on peer-assisted learning
  - React to all demands of heterogeneous student groups (social, technical, mathematical)
  - Course digitalization to ensure long term sustainability
- Dynamic system  $\frac{d}{dt} \neq 0 \rightarrow$  continuous improvement is crucial
- Strong involvement of all stakeholder – especially the students

# Heterogeneity and Feedback structure



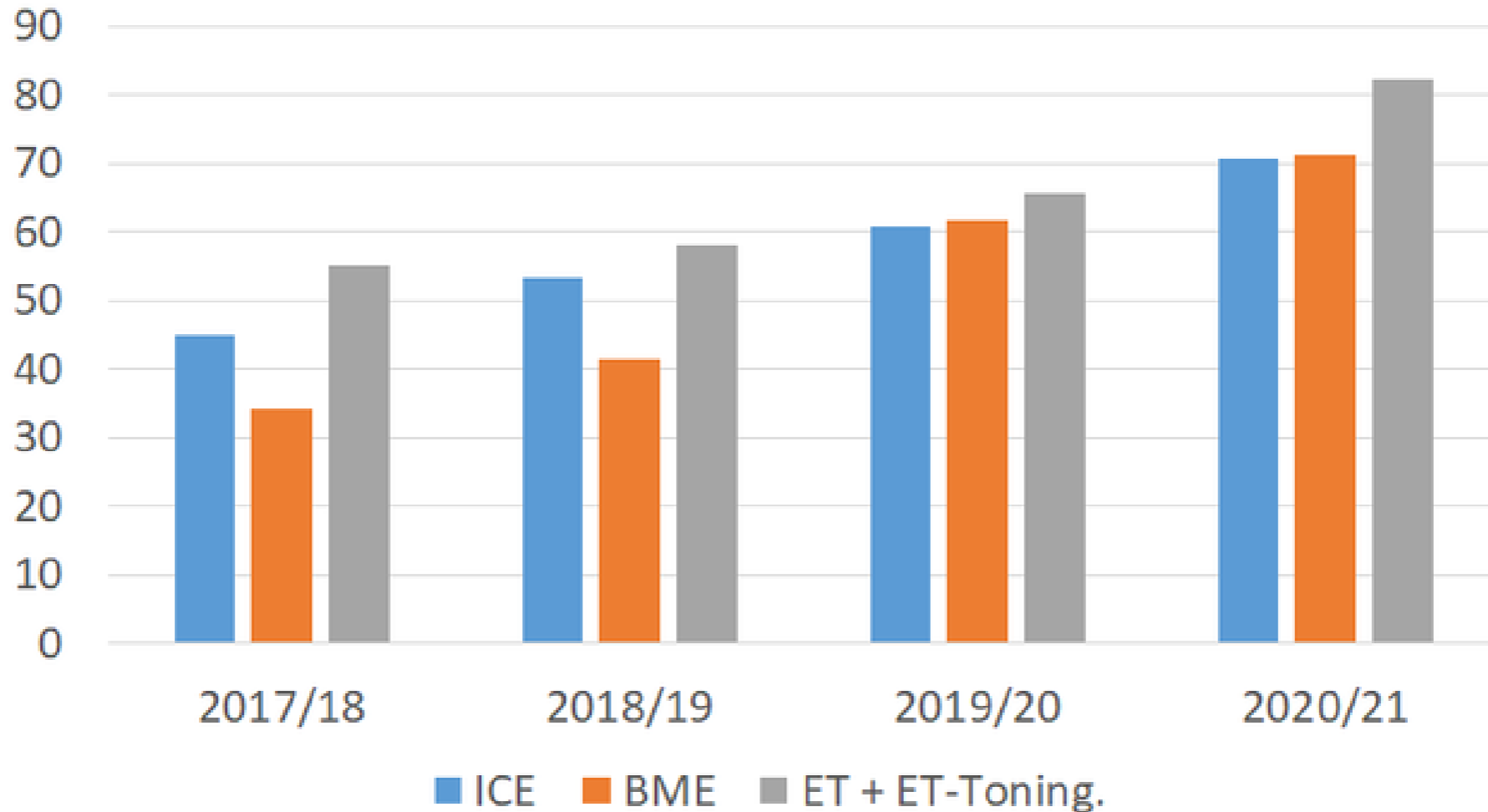
# Gifted student program

- Keep the motivation of gifted students during the course
  - Introduction of voluntary simulation tools
  - Awards for best students of the year
- Support gifted students on their further way as tutor
  - Develop as future lecturer
  - Key role in the course development
  - **Trust and support for the young generation**



# Conclusion and Outlook – Outcome

Positive grades / enrolled students



## Conclusion and Outlook – lessons learnt

- Course Organization:
  - React on all demands and try to understand the students
  - Consider transition phase and special needs
  - Never stand still  $\frac{d}{dt} \neq 0$
  - Teamwork – use people from same peer-group as think-tank
  - Trust and support a young and enthusiastic team
- Lecturer
  - Be on a par with the students - lower inhibition threshold