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Project title: Pedagogy of Challenge-based learning

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Research team

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Abstract

CBL is a student- centered pedagogy that is gaining popularity in engineering curricula. In CBL, students are encouraged to show increased levels of agency, autonomy and self-directedness, while working in (multidisciplinary) groups of students together with teachers and often external stakeholders for the development of a solution to an open and ill-defined challenge.

This suggests that learning in CBL is regulated by the individual (self- regulated learning), in interactions with teachers (co-regulated learning) and in collaboration with a group of peers (socially shared regulated learning).

At the moment, little is known about how self- regulated learning (SRL), co-regulated learning (CRL) and socially shared regulated learning (SShRL) are situated in a CBL context.

The aim of our project is to shed light on the process of learning in CBL and the way students regulate their learning individually and interaction with others in CBL courses. Some of the research questions we aim to answer in this project include:

- How do students regulate their learning a) individually (SRL) and b) as a group (SShR) in CBL?
- How do contextual, relational and personal resources influence students' self and shared-regulated learning?
- How do social interactions with teachers and experts (CRL) influence students' SRL and SShRL?
- What are the practical recommendations to foster SRL, CRL and SShRL in CBL?

To answer our research questions, we use a combination of qualitative and quantitative methods. We aim that our work will be of relevance for teachers and researchers who are working with CBL and the insights which will be gained from this project will be valuable for the design and evaluation of future CBL experiments.