

Scaffolding challenge-based teaching in different educational contexts through Lesson Study

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Abstract:

In congruence with the TU/e guidelines for Strategy 2030, this project aims to adapt our mostly teacher-centered lessons or courses (both in secondary and higher education) into new personalized, student-centered learning paths stimulating students to developing their (diverse) talents by tackling challenges or authentic problems. Students must learn how to become self-regulated learners and this learning process already starts in secondary education and evolves in higher education. By focusing on three different contexts (secondary education, teacher education, and university education), we gain deeper insights into the ongoing learning processes of students and the corresponding teaching practices. Moreover, by attending to three different contexts, we learn more about the transitional phase the students experience while moving from secondary school into higher education, which in turn, might help to support students to choose for university education in a STEM subject.

In this project, five Lesson Study cycles are set up and facilitated to investigate and try out student-centered teaching in three secondary school subjects, in one master engineering course (i.e., a course given by TU/e teachers) and in one master SEC subject (i.e., tutor groups).

The outcomes are methods to transform secondary school lessons and university teaching sessions (lectures, working groups, project meetings, etc.) to facilitate student-centered learning. The researchers are monitoring, analyzing and reporting similarities or differences in the five teams' findings how to transform teacher-student interactions into student-centered learning. An outcome of this project involving teachers in different contexts is that they are committed to a renewal of teaching within their own contexts attending to ongoing learning processes of students.