

TRAINING STUDENTS FOR TUTOR ROLES IN CHALLENGE-BASED LEARNING

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OVERVIEW OF WORKSHOP

Engineering education programs are widening the application of project- or challenge-based education. Therefore the number of student teams that need tutoring increases. Programs have found different ways of supporting these teams, often with students taking up teaching roles for their peers. This workshop focuses on the training needed by these student tutors, relate to their tutor roles, perhaps focusing on process coaching, engaging in content-related discussion or even giving input for the assessment. A recent review of the literature found most institutions seem to develop these training programs independently (Thurlings et al, 2023). Therefore, in this workshop attendees will be invited to share their practices.

KEYWORDS

Teaching assistants; challenge-based learning; peer-tutoring, CDIO Standards 9 & 10.

DURATION

60 minutes.

ACTIVITIES

Main takeaway from this session will be a set of good ideas on how to train student tutors. The session starts with pitches setting the stage (10 mins). Sortland and Rustad will pitch how students are trained to become learning assistants in the course Experts in Teamwork with 3000 students each year working on a project in interdisciplinary teams to develop cooperative skills. Van Esch will refer to the teaching assistant role in challenge-based learning in the Engineering Design course at TU Eindhoven. Isaac and Tormey will describe the EPFL (Lausanne) teaching assistant training practice framework which focuses on developing micro routines, such as responding with questions. Van der Veen will highlight topics from the literature review that is part of a Dutch national project called STUKO (Student Kwalificaties Onderwijs). Next, the largest part of the workshop (40 mins) consists of break-out groups that will gather typical learning objectives for the training of student tutors, and the kind of training programs that are relevant. Participants will also discuss dilemmas they have encountered when organizing such teaching and learning assistant training programs. The wrap-up will gather the break-out group results to take home, such as learning goals and possible activities for one's own training program (10 mins).

TARGET AUDIENCE

This session is designed for teachers of challenge-based learning courses, as well as people involved in the training of student assistants, management of project-based learning spaces or teaching support centers.

References

Sortland, Bjørn et al (2019) Experts in Teamwork 2020. Handbook for village supervisors and learning assistants. 2019. ISBN 9788279842132.

Thurlings, Marieke, et al (2023). The organization, evaluation, and impact of peer-led education. Symposium at the EARLI2023 conference, Thessaloniki, Greece (submitted).

Tormey, R., Hardebolle, C., & Isaac, S. (2019). The Teaching Toolkit: Design of a one-day pedagogical workshop for engineering graduate teaching assistants. *European Journal of Engineering Education*, 1–15. <https://doi.org/10.1080/03043797.2019.1584606>

BIOGRAPHICAL INFORMATION

Bart van Esch is an Associate Professor at the Department of Mechanical Engineering at TU Eindhoven. Bart also holds a part-time position in industry. He is responsible for the course Engineering Design, a CBL course mandatory for all 1700 2nd-year Bachelor students.

Siara Isaac PhD is project manager and researcher in the 3T PLAY project at the École polytechnique fédérale de Lausanne (EPFL). With Roland Tormey she co-authored the book *Facilitating Experiential Learning in Higher Education - Teaching and Supervising in Labs, Fieldwork, Studios and Projects*.

Hanne Rustad is an Associate Professor at the Department of Industrial Economics and Technology Management at NTNU. Her research interest is interdisciplinary teamwork. She trains learning assistants in the course Experts in Teamwork with a focus on team collaboration in student groups.

Bjørn Sortland is Associate Professor at the Department of Industrial Economics and Technology Management at NTNU. Since 2002, he has been Academic responsible person for the course Experts in Teamwork, which has been recognised with several awards and is now NTNU's signature course.

Roland Tormey is a Senior Scientist at the Ecole polytechnique fédérale de Lausanne (EPFL). He is a sociologist and learning scientist and his research focuses particularly on emotion, diversity, and interactive teaching and learning in engineering education.

Jan van der Veen is a full Professor at the Eindhoven School of Education at the TU Eindhoven. His research focus is on innovating STEM education in secondary and higher education including the professional development of STEM educators.

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