

Identification of hybrid setups for teaching and facilitation

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OVERVIEW OF THE ROUNDTABLE

COVID19-pandemic lockdowns forced teachers around the globe and at all levels to teach classes 100% online. In the near future, some countries face *partial* lockdowns, which may result in hybrid classes where some of the students are still physically present in the classroom, while other students participate via online services such as Zoom Meeting, Microsoft Teams etc. In the more distant future, offering hybrid classes may well become the norm in both engineering education as well as continuing education of engineering professionals.

At this roundtable, we will discuss and identify 'best practice' for facilitating student engagement in hybrid classes. In particular, we will discuss the pedagogical approaches that enable online participants to feel engaged on equal terms with the students present in the physical classroom. In addition to pedagogical approaches, the roundtable will include discussions of the various technical setups that support the pedagogical approaches.

In the physical classrooms, we often train instructors to place the chairs and tables for the best support of the pedagogical purpose. For example, a café-style seating provides ample opportunity for student-to-student discussions, while auditorium-style seating enables monologues from the whiteboard. There are multitudes of well-known table-and-chair setups in physical classrooms, while the setups in the online classroom have yet to be fully understood.

The purpose of the roundtable is to identify the pedagogical approaches and use of technology in hybrid classes. In regard to hybrid-classes, we are interested in the pedagogical approach for online participants, for the participants in the physical classroom, and especially the methods for combining physical and online participation in meaningful coherent hybrid setups.

We expect to identify several different approaches covering facilitation, reflection groups, teaching, group work, etc.

KEYWORDS

Facilitation of hybrid classes, teaching online, teaching during Corona/COVID-19 lockdown, partial lockdown, divided classes

ACTIVITIES

Following a general introduction of the roundtables' purpose, participants are divided into three smaller discussion groups, each with one facilitator. Within these groups, participants are invited to share their experience with hybrid classes/facilitation.

The agenda for the discussion groups is:

- The team from DTU presents our findings and experience from teaching hybrid classes
This includes our technical setups, the pedagogical approaches and evaluations
- Introduction by the discussion group facilitator
- 'Tour de table' where each participant shares their experience (as instructor, student, or both)
- Content of the discussions are pedagogical approaches, classroom organization, technical setups, etc.
- Approaches, ideas and experiences are noted on flip-over

After the dialogue in discussion groups, we wrap-up in plenum

- Facilitators briefly present the content of each flip-over
- At the end of the roundtable, there is time for sharing any other ideas for ensuring success in hybrid classes

TARGET AUDIENCE

The purpose of the roundtable is to identify 'best practices' by picking the brains of participants. Therefore, the primary target audience is instructors with hands-on experience in facilitating hybrid classes. Among other relevant participants are university support staff with either pedagogical expertise or insights into technical setups and challenges in hybrid classes. In addition, the roundtable is relevant for study program leaders and instructors who enjoy experimenting and being 'first movers' in applying new classroom technologies.

FOLLOW-UPS

This roundtable is part of a publicly funded Danish 2-year-project, which aims at developing methods for facilitating classes and workshops through hybrid setups. Experience and ideas generated in this roundtable will feed into this project where we will experiment with them. We expect to publish our results and share them at the 2023 CDIO conference and other outlets.

BIOGRAPHICAL INFORMATION

Bjarke Nielsen +45 93511188, bjnie@dtu.dk: Bjarke is an Associate Professor at the Institute for Engineering Technology and Didactics at The Technical University of Denmark (DTU). He is Head of Study in the field of continuing education for the education *Technological Diploma in Project Management*. Bjarke is chairman of the national Danish committee responsible for the professionalism of the technical diploma programs. Earlier in his career, Bjarke has worked with Human-Computer interactions as well as E-learning in continuing education. With a profile that combines technology and learning design, Bjarke is now responsible for the development of the digital teaching competencies at DTU Engineering Technology.

Samuel Brüning Larsen, +45 93510784 – sbla@dtu.dk: is an Associate Professor at the Institute for Engineering Technology and Didactics at The Technical University of Denmark (DTU). Samuel leads the study program in transportation engineering and teaches several classes in logistics and operations management. Samuel has applied hybrid and asynchronous teaching methods to several classes with +100 participants.

Mahmoud Al-Subaihi +45 22844734 - mahals@dtu.dk: is an Associate Professor at the Institute for Engineering Technology and Didactics at The Technical University of Denmark (DTU). His research is focussed on Project Management (*Tools and methods*) and he has been implementing the CDIO initiative into both project management courses and student projects at DTU.

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