

# Workshop: How do Teachers Respond to Sustained Change?

## Overview

Higher Education is facing profound shifts, because employers seek graduates who can work effectively with others in rapidly changing, transdisciplinary contexts, defined by globalisation, digitalisation, sustainability, complexity and, most recently, a global pandemic. COVID caused an instantaneous acceleration to online learning (often referred to as emergency remote teaching), where academics were forced to conduct their normally face to face classes through video conferencing tools. The calls for sustained change are challenging academics to rethink their traditional teaching role.

This workshop seeks to understand how academics have responded to these challenges, both in the short term (emergency remote teaching) and in the longer-term shift to transdisciplinary teaching, where problems in the world have become more complex and where graduates need to be prepared for transdisciplinary learning, and working with diverse communities and disciplines on their solutions.

## Background

In Australia, the Australian Council of Engineering Deans is currently undertaking a review of engineering education, the 2035 project. Its preliminary findings have identified that the following changes in teaching practice will be required: integrate real world situations in classroom teaching, integrate human/social dimensions of engineering problems, increase industry collaboration, use digital technologies and e-learning more effectively, and ensure professional development for engineering educators. We are keen to see how the European experience matches the current review in Australia and to explore the nature of professional development that will be required through this transition towards more real-world, active learning.

## Purpose

The purpose of this workshop is to collaboratively explore teaching experiences during COVID pandemic and future engineering practice challenges to gain insights into the future directions of higher education and engineering education in particular. All teachers will benefit from this interactive workshop. This session is an invitation to share ideas and think with others about the changing nature of their teaching and their other academic roles. This is particularly important as we reconsider how curriculum and teaching methods need to evolve in response to constant change.

With changing teaching methods, a more systematic academic development strategy will be required to provide academics with the teaching and facilitation capabilities for these new styles of learning. These capabilities include project-, team- and practice-based, integrative learning approaches. They require facilitation skills beyond what most academics experienced in their own university education.

## Activities

Participants will work in small groups to discuss three big domains

1. Teaching changes due to COVID:  
What have been the **positive and negative changes in your teaching practices** in the last 18 months due to COVID? How have these changes **affected you and your colleagues** as teachers? What have you observed about **student reactions** to this new form of completely online teaching and learning? What are we learning for the future of learning and teaching?
2. Preparing graduates for their professional future:

What do you see as some of the **big challenges** facing your graduates, in their lifetime? How do you see the **academic role changing** to prepare graduates for this increasingly complex world?

3. Supporting teachers for their changing role:  
What formats, topics, and methods of **continuing education** would prepare you to become a more future-focussed academic teacher to prepare graduates for their professional engineering future in this constantly changing, increasingly more complex and uncertain world? Audience?

## Methods

The workshop will commence with a short overview of current developments in rethinking engineering education in Australia. We then intend to use the breakout room feature of the conference's videoconferencing tool, e.g., Webex. Participants will be divided into groups of 4 or 5 to give everyone more chance to speak. We are expecting 15-20 participants, so about 3-4 groups.

We will use a whiteboard tool that enables each member of the breakout room to post their ideas, thus accelerating the collection of ideas from a serial process of speaking and note taking to a parallel process of everyone being able to write at the same time. We expect that participants will use one whiteboard per question (three in total).

In a workshop of 60 minutes, time is of the essence. We have broken this down to 10 minutes introduction and overview, 20 minutes of discussion in small groups, 20 minutes of reporting back to all participants highlighting key ideas, and 10 minutes for wrap-up. This method will give all participants opportunities to hear, share and problematise the ideas generated in the other groups.

## Outcomes

At the conclusion of this workshop, participants will have explored future trends in teaching engineering, with the intent of defining continuing education needs for those future skills. They will personally benefit from exchanging points of view and collectively developing didactic strategies for future transdisciplinary teaching.

The de-identified data gathered at the workshop will also help the workshop facilitators to shape an on-going research project: *Developing the Deliberate Teacher's Voice in the Age of Complexity, Sustainability, Globalisation, Digitalisation and Transdisciplinarity – how do Continuing Education Programs for Academics need to Change to Enhance Teaching Competence at University?*

## Ethics Statement

We have received Ethics approval through the University of Technology Sydney Human Research Ethics Committee APPROVAL No. IML 202103 for this workshop. This workshop is part of a wider study to explore teaching experiences during COVID pandemic and the future higher education challenges to gain insights into the future directions of higher education and engineering education in particular, see information and consent sheet in appendix below. You are invited to participate because you are a university teacher. We will audio record this session and use contributions into the chat function and a shared digital document from small group activities as our research data. All data will be de-identified and stored in a password protected secure space. Only the facilitators of this workshop have access to this data which will be kept for 5 years. Participation in this workshop will be assumed as consent for the anonymous and ethically responsible use of the ideas generated. If you do not wish to participate in this research study you cannot participate in this workshop.

Appendix

## **Developing the Deliberate Teacher’s Voice in the Age of Complexity, Sustainability, Globalisation, Digitalisation and Transdisciplinarity**

**UTS HREC APPROVAL No. IML 202103**

### **WHO IS DOING THE RESEARCH?**

This research is being conducted by Dr Monika Rummler from the Technical University Berlin, Professor Hadgraft (FEIT, UTS) and Associate Professor Franziska Trede (IML, UTS).

### **WHAT IS THIS RESEARCH ABOUT?**

The research explores teaching experiences during COVID pandemic and the future higher education challenges to gain insights into the future directions of higher education and engineering education in particular. Findings from this project will inform professional development programs at UTS and TU, and advancing curriculum and teaching methods, including teaching approaches in the Graduate Certificate in Higher Education Teaching and Learning at UTS, in response to constant change.

### **WHY HAVE I BEEN ASKED?**

You have been invited to participate in this study because you are a university teacher

### **IF I SAY YES, WHAT WILL IT INVOLVE?**

You are invited to participate in a 60 minute semi-structured, in-depth, conversational interview about your experiences, struggles and successes in finding your professional voice as a future-focused university teacher. You do not have to prepare for this interview.

### **ARE THERE ANY RISKS/INCONVENIENCE?**

While this research poses no obvious risks to you, participating in this 60 minute interview could pose an inconvenience.

### **DO I HAVE TO SAY YES?**

Participation in this study is voluntary. It is entirely your choice as to whether or not you participate.

### **WHAT WILL HAPPEN IF I SAY NO?**

If you decide not to participate, it will not affect your relationship with the researchers or the University of Technology, Sydney or Technical University Berlin respectively. If you wish to withdraw from the study once it has started, you can do so at any time without having to justify your decision by contacting Franziska Trede at UTS or Monika Rummler at TU Berlin .

If you withdraw from the study, any data collected from you will be discarded.

### **CONFIDENTIALITY**

By signing the consent form, you consent to the research team to audio-record the interview. All information in the interview will be treated confidentially. The recording will be de-identified and pseudonyms will be assigned so that you cannot be identified.

The project team will liaise with the UTS eResearch team to set up a secure space for data storage (i.e. CloudStor). Data will be stored for 5 years and then electronic data will be deleted and all paper-based data will be shredded.

Your information will only be used for the purpose of this research project and if a need arises for us to share your information, it will only be disclosed with your permission, except as required by law.

As we plan to publish the findings of the research and present at conferences, we would like to store your information for future use in research projects that are an extension of this research project. In all instances, your information will be treated confidentially.

We plan to discuss/publish the results in a journal related to teaching and learning in higher education. In any publication, the information will be provided in such a way that you cannot be identified.

#### WHAT IF I HAVE CONCERNS OR A COMPLAINT?

If you have concerns about the research that you think the research team can help you with, please feel free to contact us: Franziska Trede [Franziska.trede@uts.edu.au](mailto:Franziska.trede@uts.edu.au)

If you want to lodge a complaint please contact the IML Ethics Review panel: [Emily.edwards-1@uts.edu.au](mailto:Emily.edwards-1@uts.edu.au)

You will be given a copy of this form to keep.

#### **NOTE:**

This study has been approved in line with the University of Technology Sydney Human Research Ethics Committee [UTS HREC] guidelines. If you have any concerns or complaints about any aspect of the conduct of this research, please contact the Ethics Secretariat on ph.: +61 2 9514 2478 or email: [Research.Ethics@uts.edu.au](mailto:Research.Ethics@uts.edu.au), and quote the UTS HREC reference number. Any matter raised will be treated confidentially, investigated and you will be informed of the outcome.