



... Words from the EdSIG's Newsletter Editorial Team...

If anyone would like to write an article for the newsletter about good practice, previous EdSIG events or school outreach, or anything else that you think our community would find it interesting.

This issue we have a sharing on teaching delivery in the Online Teaching & Assessment section, where the author shares tips on handling lectures on Microsoft Teams, and online laboratory sessions. Please write to us if you have any good tips or experiences to share with the community at edsig.news@ichememember.org.

Online Teaching & Assessment: Tips and Resources

Online Teaching Delivery during COVID-19

Ching Lik Hii

Department of Chemical and Environmental Engineering,
Faculty of Science and Engineering
University of Nottingham Malaysia.

It was a very sudden change to daily lifestyles and works that everyone must adapt when the Malaysian government announced Movement Control Order (18 March 2020) which means university campuses had to be closed and no face to face teaching and learning activities were allowed in campus. Almost everyone had very little or no knowledge in online teaching and ways to implement it.

It took about 1-2 weeks for lecturers to prepare and go on track with online teaching using Microsoft Teams software. The software enables teaching and recording at the same time where students can revisit the recorded 'live' teaching session (Fig. 1). The recorded materials also enable students to revisit the teaching session especially for those living in a different time zone than Malay-

sia and some students might also face internet disruption midway through the online teaching session.

Teaching computer based subject (e.g. Transport Phenomena) was carried out online through VPN connection. The experience was a mix among the students initially as some have difficulties to install and connect to VPN due to different versions of the PC or laptop operating systems. In order for the students to prepare better for the lessons, the computer simulation procedures were pre-recorded and uploaded for students to view before lesson commenced. In order to avoid disconnection from VPN midway through the lesson, when using the computer software (e.g. Comsol), explanation was carried out by describing the recorded steps instead with the students and followed by a question and answer session.

Physical laboratory was replaced with online laboratory by using recorded video (Fig. 2). Experimental works were demonstrated by the lab technician according to the steps in the lab manual. Students recorded the reading from steps shown in the video and thereafter analyzed the data followed by report writing. The very first trial of online lab started with the summer batch Year 1 students and overall experience was satisfactory although very much different from physical laboratory works. Nevertheless, the learning outcomes were achieved namely understanding engineering concept, acquiring practical skills and problem solving abilities. One of the advantages of online laboratory is that students can always revisit the video to enhance their learning.

In overall, the teaching and learning experience were positive although initially it took some time for everyone to get use to the new norm of online classroom experience. We also need to understand that students didn't choose to do learning online but due to the arrival of Covid-19 this is perhaps the best time for us (educators) to reflect on our teaching materials/practices and at least

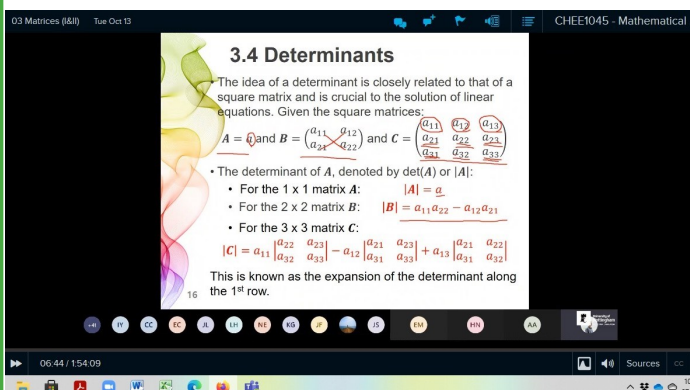


Figure 1. Use of Microsoft Teams for online teaching

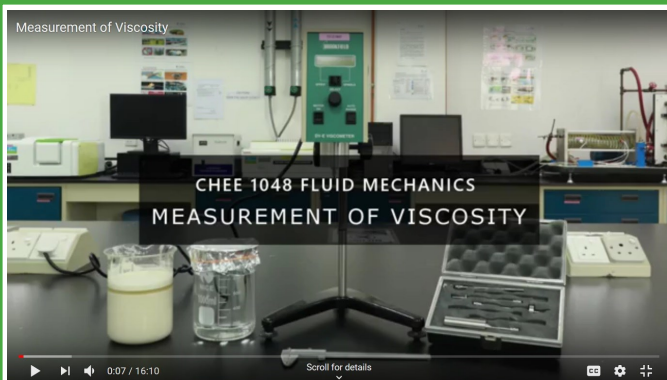


Figure 2. Online laboratories as a teaching tool

try to motivate students to experience the new norm of learning.

We are grateful to those who take the time to contribute to the EdSIG Newsletter. Please note that content and opinions are those of the contributor(s) named above (or in resources accessed online) and do not necessarily reflect the views of the Education Special Interest Group Committee or the Institution of Chemical Engineers.

Elsewhere in IChemE

ChemEngDayUK 2020— Postponed until 7th/8th April 2021

Amid the continuing COVID-19 situation, the annual conference for researchers, scientists and engineers to share the latest technological advances and research in chemical engineering and related professions had been postponed to 2021. The new date for the annual event has been announced as the 7th/8th April 2021 at the University of Bradford, although the event itself will be held online.

For further information, please refer to <https://www.icheme.org/career/events/chemengdayuk-2020/>. Registration details for the event will be distributed in upcoming issues of this newsletter when the University of Bradford website area for ChemEngDayUK has been made live.