

Advance HE STEM Conference 2021

Rethinking STEM Higher Education

28 January 2021

Poster session abstracts

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Supporting Practice Tutors who support apprentices during COVID-19

Dr Andy Hollyhead, The Open University

Rethinking practice-based education

When lockdown occurred, the traditional face-to-face visits where practice tutors visited apprentices and their line managers in the workplace was not possible. But this continued contact was essential, from a pastoral and academic stance. Using Conole and Dyke's 'affordances' model (2004), we look at how certain affordances allowed practice tutors to maintain regular contact and which affordances continue to be a barrier.

Impacts on assessment, student engagement and success during lockdown 2020

Dr Margarita Georgieva and Dr Andrew Heaton, Blackpool and The Fylde College

Rethinking assessment

Changes in assessment strategy and assessment format can have a positive impact on student engagement and success. This poster presentation focuses on data gathered in a local college during lockdown 2020, evaluating the impact that changes to assessment strategy had on students in terms of engagement and success. The analysis is based on data from various modules taught across Engineering pathways. Findings reveal higher engagement in formative assessment as well as an improved success rate for students across all levels. Looking at the current evolution of teaching, learning and assessment, the 2020 lockdown may be the trigger for a redesign of Engineering assessments by including more industry-relevant, problem- and project-based content with significant levels of differentiation.

Student and tutor experiences of an online conference in a changing HE landscape

Dr Jenny Duckworth and Dr Catherine Halliwell, The Open University

Rethinking practice-based education

Presenting posters at conferences is an effective way for students to develop creative, scientific and communication skills. The COVID-19 pandemic has necessitated a shift to online conferences for HEIs. The Open University has been running online student conferences as part of their modules for several years, so we were well-placed to run an online student science conference during Spring 2020. Here we share experiences of tutors and students of this conference, which was specifically designed to develop student skills. Our work is relevant to anyone considering how to develop online student conferences for all situations where face-to-face participation is not feasible

Innovating face-to-face Organic Chemistry workshops into online collaborative sessions

Dr J.L. Kiappes, University of Oxford

Re-Connecting

For several years in our first-year organic chemistry course for biochemists, we have organised research-centred workshops. Working in small groups, the students apply concepts and problem-solving techniques from the course to research problems. In the pivot to online teaching, we wanted to preserve the key elements of these sessions as they enthused students about the sophisticated questions they could already answer and served as key opportunities for student collaboration. Using a combination of breakout room technology and an independent online multimedia whiteboard, students (with broad spectrum of device availability) were able to work together synchronously with tutor support.

ImpVis: Visualising abstract concepts for your STEM courses

Dr Caroline Clewley and Mark Thomas, Imperial College London

Re-Connecting

ImpVis is a staff-student project dedicated to creating interactive visualisations and helping students develop a more intuitive understanding of abstract STEM concepts. It is targeted at three main audiences: learners, instructors, and creators. Pivotal to the project's success is its inclusive community of staff and students who develop the visualisations, which fosters connection for all members. Connection for student partners with their discipline because they become intimately acquainted with the abstract concepts they visualise. Connection to the learning community because they are invested in contributing to their peers' learning experience. But foremost, connection between staff and student partners through a sense of shared ownership of both the development process and final product – potentially the most impactful of all.