eSTEeM Projects Summaries: Oct 24 – Mar 25

Title: Enrichment workshops to enhance student engagement and employability

Project team: Janet Haresnape, Ruth Gilbert, Heather Fraser, Hanne Bown and David Ruiz

Keywords: Employability, Skills-development, Enrichment, Community-building, Active learning

Description: The aim of this project is to evaluate the programme of enrichment workshops offered to biology and health sciences students in the School of Life, Health and Chemical sciences during the summer months in 2022 and 2023. The enrichment workshops had been set up to enhance and enrich our students' experience, help them to understand and appreciate the employability benefits of engaging with practical science investigations in their modules, recognise their employability skills and employment possibilities, and feel a sense of belonging to a scientific community. Survey data, and interviews with one of the regular attendees were used to collect student feedback. Evaluation of the programme indicated that it had been successful in helping students to appreciate and articulate their employability skills, especially those gained through engagement with the practical investigations on their modules. Moreover, it led to an increased sense of community among students and provided an opportunity to maintain engagement over the summer months when there is a break in module presentation and when many students tend to lose their study momentum. Recommendations for the future include involving OU graduates who are now in employment and encouraging more tutors to join as participants to gain more understanding of the student viewpoint. These actions could enrich the online community of participants in the programme.

Reviewed by: DC

Title: To evaluate the effectiveness of focused staff training in recruitment on specialised modules

Project team: David McDade, Phil Hackett and Anthony Johnston

Keywords: Continuing professional development, specialist tutors, improving curriculum, curriculum sustainability, vendor qualifications

Description: This project evaluated the effectiveness of training staff on specialist material within modules and has proven that this allows staff to be recruited to modules they otherwise would not have felt confident to teach.

Reviewed by: SP

Title: Barriers and enablers to higher education: the experiences of disabled students from minority cultural backgrounds

Project team: Chris Corcoran

Keywords: Barriers, enablers, disability, culture

Description: This project whilst small in scope has important findings that should be considered when producing module materials. In particular some students found accessing online material difficult, especially when they had an unfamiliarity with the OU systems, however, they found the support given by the SST staff very useful. This work has led to further investigations on a pan-university basis.

Reviewed by: SP

Title: Evaluating the use of an Inclusive Curriculum Tool in STEM modules

Project team: Andrew Potter, Diane Butler and Pete Wood

Keywords: Access, Participation and Success, Inclusion

Description: The review of the Inclusive Curriculum Tool has not only helped to improve subsequent versions of the tool but brought to light several other important issues in inclusive teaching and learning more broadly. In particular, it highlights the need to: invest in comprehensive Equity, Diversity and Inclusion training for all staff, with a strong emphasis on Associate Lecturers (ALs); further explore the effect of the student-tutor relationship on inclusion using approaches derived from relational and compassionate pedagogies; address institutional barriers that hinder inclusive practices; prioritise student co-creation in curriculum design; and increase staff diversity to better reflect the diverse population.

Reviewed by: SP

Title: Use of OULive recordings of 'live mathematics' and discussion forums to on a level 3 Pure mathematics module in order to enable students to move to a growth mindset in maths and to add a social dimension to learning mathematics

Project team: Hayley Ryder and Tacey O'Neil

Keywords: Resilience, interaction, tutorials, podcasts, transactional distance, recordings

Description: M303 is a 60 credit third year course in pure mathematics which involves studying abstract material containing many proofs. When students encounter proof and abstraction, they often become stuck, and this can cause them to feel frustrated and anxious. Students often believe that a good mathematician simply knows, or can quickly spot, the correct answer to a question or the appropriate method to use. This is accentuated by a common teaching style where the tutor or lecturer states a problem and then immediately writes the correct solution onto the board. To combat this, the M303 module team produced a series of pre-recorded informal online lectures in which two mathematicians discussed mathematical concepts in a conversational style, worked though examples "live", and used narratives and descriptions to model the act of creating mathematics and to emphasise that time, struggle, and confusion usually underpin the process. A mixed methods approach was used to evaluate the effects of the sessions. As the findings showed that such informal online lectures were successful, they have since been adopted by other modules.

Reviewed by: DC

Title: Floodplain Meadows Partnership Ambassadors

Project team: Emma Rothero

Keywords: Floodplain meadows, ambassadors

Description: The Floodplain Meadows Partnership (FMP) ran a three-year training programme for volunteers who were external to the OU (they were called FMP Ambassadors). This project set out to assess the extent to which the volunteers had learned and benefited from the training programme and evaluate the effectiveness of OU's VLE platform in building of a community of practice. To do so, three questionnaires were used to gather data. Additionally, a JISC questionnaire was sent to two previous cohorts of Ambassador. The findings showed that the majority of the Ambassadors felt they had improved their skills/knowledge on the simpler practical aspects of the training; however, they felt less confident in more complex areas. The data from the JISC questionnaire was overwhelmingly positive in demonstrating the longitudinal impact of this training programme. In contrast, the VLE was not useful in developing a community of practice for external users, whereas Teams SharePoint and other social media were more useful. The final report also outlines the impacts, opportunities and recommendations that this project has generated.

Reviewed by: DC

Title: Sharing tutorial slides before online events: an evaluation of current practice and perceived benefits and barriers

Project team: Jenny Duckworth, Jennie Bellamy and Harriet Marshall

Keywords: Online learning event, slide availability, accessibility, inclusion

Description: This project aimed to gather information on current Associate Lecturer (AL) slide sharing practice and student use of slides, together with student and AL perceptions of the benefits of and barriers to accessing slides in advance of tutorials. It focused on three modules in the School of EEES and Stages 1 (S112), 2 (S(XF)206) and 3 (SDT306). Data were collected via analysing tutor group/cluster forum data on slide availability and examining University data on when slides were accessed from 22J. Two online surveys of tutors/students and a focus group with the SST were also carried out. The findings show that current practice in slide sharing varies across the three modules. Slides made available before cluster events were downloaded the most and students continued to download slides long after the learning event had taken place. The project also found that tutors had a number of concerns: advance slide sharing would affect tutorial attendance, the additional time would be required to prepare/post slides and resolve issues after cascading the slides. Data from students show that advance slide share helped to reduce anxiety, make use of assistive technology and did not reduce likelihood of attendance. In fact, some students with disabilities, neuro-divergence, and mental health challenges reported being more likely to attend.

Reviewed by: DC

Title: An evaluation of the use and impact of Network Mapping to support the transition to university of Engineering and Design & Innovation students who reside in areas of the UK with higher levels of socioeconomic deprivation

Project team: Andrea Patel, Chris Corcoran, Stephen Jones, Ralph Burns, Sean Starbuck

Keywords: Social support, access, socioeconomic

Description: Network mapping can be a useful tool to help students identify where they can go for help and support during their university studies. It can help students to visualise their extended support network and raise awareness of the breadth of support available to them.

Reviewed by: SP

Title: Is the cost of home experiments a potential barrier to learning? Experiences from two stage one science modules

Project team: Louise MacBrayne and Zoë Chapman

Keywords: Home experiments, cost, alternative resources

Description: This project has reviewed how students interact with home experiments on S111 and S112 and highlighted how producing freely available alternative resources to home experiments not only reduces the barriers of engagement for students unable to source the required equipment but improves the experience of those who fully engage. It offers three recommendations to module teams:

I. The OU should consider providing home experiment kits for a small additional cost
II. Module teams should re-evaluate how they approach home experiments
III. Suitable alternative resources should be made available to all students as standard, and their purpose better explained.

Reviewed by: SP

Title: Accessibility of Jupyter Notebooks on M269

Project team: Sharon Dawes and Alexis Lansbury

Keywords: Jupyter notebooks, accessibility, usability, iPython

Description: M269, Algorithms, data structures and computability, was rewritten for the 21J presentation and now includes all teaching and assessment materials in Jupyter notebooks rather than the OU's VLE interface. These notebooks are an interactive web-based tool that allows a mix of executable practical activities as well as text styled using mark-up language. Both tutors and students need to use Jupyter and install it on their own computers and it was intended that this study would investigate the experiences of both. The project aimed to examine the usability and the accessibility (Web Content Accessibility Guidelines) of this learning approach from the perspective of tutors and students of the rewritten module. Here, by usability we mean in terms of how straightforward it is to install, run and use Jupyter and achieve the module's learning outcomes. Data analyses were undertaken by examining the diary entries submitted by student volunteers as well as the data that emerged from two focus group discussions with the ALs.

Reviewed by: DC

Reviewed by key: SP – Sue Pawley; DC – Daphne Chang