

eSTeEM Projects List - February 2021

In progress

No.	Project call	Call date	Ref	Project Leader(s)	Project Title	Theme(s)	Keywords	Module(s) involved	School(s)/Unit(s)	Other staff involved	Other eSTeEM projects as PL	Start date	Estimated end date
1	15	Jul-19	19J-AA-CC-01	Adeola Adeliyi	Pair Programming as a tool to enhance teaching and learning of programming at a distance	Technologies for STEM learning	Pair Programming, remote pair programming, extreme programming, teaching programming at a distance	TM112, TM129, M250, M269	C&C	Michel Wermelinger (C&C), Jon Rosewell (C&C) and Karen Kear (C&C)		Oct-19	Mar-21
2	11	Jul-17	17K-LAAL-SP5CC-01	Laura Alexander and Alexis Lansbury	An investigation into how STEM students use learning resources in different formats, and how this use develops over time	Supporting students	Online, onscreen, modules, digital, learning resources, interaction, study, student engagement, print materials, retention	S217, MST224, M250	SPS			Nov-17	Sep-20
3	10	Dec-16	17E-JB-LHCS-01	John Baxter	Evaluation of onscreen notetaking tools	Online/onscreen STEM practice	Onscreen, note taking, tools, annotations, retention, online, active learning	S201	LHCS	Diane Butler (LHCS), Victoria Pearson (SPS), Eleanor Crabb (LHCS) and Katherine Leys (LHCS)		May-17	Sep-19
4	2 AL	Mar-20	20G-CB-MS-01	Col Blundell	Investigation into running course specific taster tutorials within prisons for non-OU students	Equality, diversity and inclusion	Offender learner, prison, vulnerable students, new students, SISE, recruitment, widening participation in STEM, EDI, gender		M&S	Katie Chicot and Andrew Potter (M&S)	<i>Joint lead - Blended tutorials in Mathematics: simultaneous F2F and online learning events</i>	Jul-20	Dec-21
5	13	Jul-18	18K-DB-CC-01	David Bowers	Evaluation of service management simulation activities	Employability	Gamification, simulations, communication skills, service management, team working	TM254	C&C	Matthew Nelson (C&C)		Nov-18	Dec-19
6	10	Dec-16	17E-AB-MS-01	Alison Bromley	Supporting the student's learning journey through the transition of mathematics and statistics from level 2 to level 3	Supporting students	Bridging interventions, transition, level 2, level 3, retention, student journey	MST224	M&S	Gareth Williams, Sue Pawley, Gaynor Arrowsmith (M&S) and Alex Siddons (AS) <i>Rachel Hilliam joint PL until 31 July 18</i>	<i>Joint PL - M140 B VLE usage</i>	May-17	Jun-20
7	15	Jul-19	19J-VB-KMI-01	Venetia Brown	Associate Lecturers' Involvement in Improved Practice in a SXP5288 Labcast Delivery	Technologies for STEM learning	Distance learning, synchronous online learning, labcasts, tutor perceptions, sense of community	SXP5288	KMI	Alan Cayless (SPS)		Oct-19	Jun-21

8	16	Jan-20	20C-CCRH-MS-01	Carol Calvert and Rachel Hilliam	How one module can serve multiple qualifications through tailored implementation of presentation	Supporting students	Key routes, conditional qualification study routes, tutor allocation by qualification, tutor group discussions	M248	M&S		<p><i>Calvert - Implementation of lessons learnt from students who succeed "despite the odds"</i></p> <p><i>Calvert - Early start M140</i></p> <p><i>Calvert joint PL - MU123 & M140 Early start: 18J</i></p> <p><i>Calvert - Usage of Early Alerts Indicators on two level 1 modules</i></p> <p><i>Hilliam - Enabling Mathematics and Statistics Associate Lecturers to achieve their potential</i></p> <p><i>Hilliam - Investigating the careers of Staff Tutors in STEM for Athena SWAN</i></p> <p><i>Hilliam - The Mathematics and Statistics Community of Learners</i></p>	Mar-20	Jul-21
9	12	Jan-18	18E-ACMJAMG-ASSPSEI-01	Anne Campbell, Mark Jones and Anne-Marie Gallen	Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders (part II: the student perspective)	Supporting students	Tuition, group tuition, tuition policy, GTP, teaching model, student attitudes, student perceptions,	S111, T192, T193, SM123	Academic Services, SPS and E&I		<p><i>Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i></p> <p><i>Campbell joint PL - Accessibility and inclusion in tuition (AcciT)</i></p> <p><i>Jones - Developing practice in online synchronous tuition by peer observation, feedback and reflection</i></p> <p><i>Jones - Online Team Investigations in Science (OTIS)</i></p> <p><i>Joint PL - Evaluation of Assessment and Tuition Changes for S284 Astronomy</i></p> <p><i>Gallen joint PL - Evaluating the level 1 engineering tutors resource</i></p> <p><i>Gallen joint PL - Factors influencing female participation in Physical Science Postgraduate Research Programmes</i></p>	May-18	Sep-19
10	17	Jul-20	20K-AC-SPS-01	Alan Cayless	Using Learning Logs in SXP5288 – Effectiveness in helping students to reach Learning Outcomes, to enhance and document their employability skills, and raise awareness of opportunities in the space sector	Employability	Employability, Learning log, Learning outcomes, Skill development, Self awareness and achievement	SXP5288	SPS	Arabella Nock (AS)		Nov-20	Jun-21

11	15	Jul-19	20A-TCSD-KMIEES-01	Trevor Collins and Sarah Davies	Disseminating inclusive field teaching – sharing resources and practices across disciplines and institutions	Equality, diversity and inclusion	Inclusive teaching and learning; fieldwork education; scholarship translation; scholarship impact	S206, S209	KMI & EES	Tom Argles (EES)	<i>Collins joint PL - Assessing The 'Open Field Lab': Evaluating Interactive Fieldcasts for Enhancing Access to Fieldwork</i> <i>Davies - Place-making and student identity in fieldwork learning</i> <i>Davies joint PL - Geospatial technologies in distance learning and teaching in Science</i>	Jan-20	Jun-21
12	15	Jul-19	19L-DCCGH-CC-01	David Conway, Chris Gardner and Janet Hughes	Are virtual insight visits an effective way of engaging learners and supporting student retention in distance learning environments?	Supporting students	Widening participation, employability, student support, student satisfaction, virtual field trips, virtual visits, student programme retention	T122, TM111, TM112, TM129, TMYX130, TMYX125, TXY122	C&C		<i>Gardner - Analytics for tracking student engagement</i> <i>Hughes joint PL - Investigating the perceived benefits to computing students of remote pair programming</i>	Dec-19	May-20
13	13	Jul-18	18K-LCDB-LHCS-01	Lynda Cook and Diane Butler	Monitoring student behaviour on a level 1 Science module using a multidisciplinary team approach	Supporting students	Retention, progression, Level 1, SST, MILLS interventions, student behaviour,	S112, S104	LHCS	Dan Berwick (LHCS) Marcus Badger (LHCS) Anthony Short (SRSC, Manchester) David Appleton (SRSC, Manchester) Oliver Burney (SRSC, Manchester)	<i>Joint PLs - Investigating factors which affect active student participation during tutorials in online rooms</i> <i>Butler joint PL - Early Start S294: evaluation</i> <i>Cook joint PL - Assessing and supporting student experience of synchronous online tuition</i> <i>Cook joint PL - A quantitative and qualitative investigation into communications sent to students for selected level 1 MST and science modules</i>	Nov-18	Jun-20
14	17	Jul-20	20L-CC-EI-01	Chris Corcoran	Barriers and enablers to higher education: the experiences of disabled students from minority cultural backgrounds	Equality, diversity and inclusion - APP	BAME, disability, inclusion, widening participation, values	U116	E&I	Hayley Lang (AL)		Dec-20	May-21

15	12	Jan-18	18F-ECNCKB-LHCSSD-01	Eleanor Crabb, Nick Chatterton and Kate Bradshaw	Developing responsive approaches to enhance personalized learning in selected LHCS modules.	Technologies for STEM learning	Personalised learning, teaching assets, media, video, Camtasia, screencasts, Adobe Connect, online best practice guide,		LHCS and STEM Deanery	Karen New (LHCS), Ray Jones and Peter Cains (ALS)	<i>Crabb and Bradshaw - Blending labcasts and remote/virtual experimentation: students perception in practical skill development alternative</i> <i>Crabb - Online remote experiments in chemistry- analysis of delivery, assessment, tracking and student perception</i> <i>Crabb joint PL - Improving success and satisfaction of credit transfer students entering L3 modules in Science</i> <i>Crabb joint PL - Online Summer Schools</i> <i>Chatterton joint PL - Online Chemistry Support Clinics</i>	Jun-18	Dec-19
16	14	Jan-19	19E-ECIL-LHCS-01	Eleanor Crabb and Jane Loughlin	Improving success and satisfaction of credit transfer students entering L3 modules in Science	Supporting students	Credit transfer, level 3, student support, distance learning, transition		LHCS	Catherine Halliwell (AL), Tanya Noon (AS), Clare Dunn (AS) and Elaine Walker (AS)	<i>Crabb joint PL - Developing responsive approaches to enhance personalized learning in 5315</i> <i>Crabb joint PL - Blending labcasts and remote/virtual experimentation: students' perception in practical skill development alternative</i> <i>Crabb - Online remote experiments in chemistry- analysis of delivery, assessment, tracking and student perception</i> <i>Crabb - Online Summer Schools</i>	May-19	Dec-20
17	14	Jan-19	19D-SCAPGG-MS-01	Sally Crighton, Andrew Potter and Gerry Golding	Developing students and tutors perceptions of good mathematical communication on level one service mathematics module MU123: an investigation	Employability	Good mathematical Communication, marking grid, focus groups, service teaching	MU123	M&S		<i>Crighton - Leading the way as a hydro nation in Scotland – supporting student transitions within a strategic partnership between Glasgow Clyde College, The Open University in Scotland and Heriot-Watt University</i> <i>Crighton - Using peer observation within a Mathematics and Statistics community of practice in Scotland</i> <i>Potter and Golding - Associate Lecturer Reflections on Student Perceptions of Usefulness of Level 1 Service Mathematics</i>	Apr-19	Oct-20
18	16	Jan-20	20E-SDLW-LHCS-01	Sarah Daniell and Lorraine Waters	Evaluation of D-flag students accessibility to and use of online tutorials and forums in L2 modules	Equality, diversity and inclusion	Online tutorials, forums, participation, disability, accessibility	SK299, S294	LHCS			May-20	Apr-22
19	13	Jul-18	18J-SD-EEES-01	Sarah Davies	Place-making and student identity in fieldwork learning	Supporting students	Fieldwork, student identity, conceptions, community of practice, place-based education	SXF206	EEES		<i>Joint PL - Geospatial technologies in distance learning and teaching in Science</i> <i>Investigating Barriers and Inclusive Messaging around Fieldwork Learning in the Earth, Environmental and Ecological Sciences</i>	Oct-18	Jun-20

20	17	Jul-20	21A-SD-EFES-02	Sarah Davies	Investigating Barriers and Inclusive Messaging around Fieldwork Learning in the Earth, Environmental and Ecological Sciences	Equality, diversity and inclusion - APP	Fieldwork learning; inclusion; accessibility		EEES		Joint PL - Geospatial technologies in distance learning and teaching in Science Place-making and student identity in fieldwork learning	TBC	TBC
21	15	Jul-19	19J-SDCT-CC-01	Sharon Dawes and Chris Thomson	An investigation into the way Jupyter Notebooks enhance learning and teaching on TM351	Technologies for STEM learning	Jupyter notebook, iPython, TM351, lab book, code, pandas, python, visualisation, study resources, study location, integrating theory and practice	TM351	C&C		Thomson joint PL - Quality Assurance and Enhancement in Degree Apprenticeships: Developing New Approaches Thomson - Workday day-time tutorials for apprentices – what is the best practice in Computing?	Oct-19	Oct-20
22	2 AL	Mar-20	20G-LD-LHCS-01	Laura Dean	Learning and Development Needs of Autistic Adults. Studying STEM Subjects via Distance Learning	Equality, diversity and inclusion	Autism, disability, autistic, communication		LHCS, FASS and WELS			Jul-20	Sep-21
23	17	Jul-20	20K-FE-MS-01	Fadialla Elfadaly	Using knowledge from Associate Lecturers in a Bayesian model to predict the probability of students' results	Supporting students	Associate Lecturers, expertise, Predictive probabilities of success, Student feedback, Student satisfaction and retention	M140, M249, M347	M&S	Carol Calvert and Rachel Hilliam (M&S)		Nov-20	Dec-22
24	15	Jul-19	19J-JFJW-WELSCC-01	Jo Fayram and John Woodthorpe	Supporting student academic skills development - an evaluation of an English for Academic Purposes pilot	Supporting students	Academic skills development, English for Academic Purposes, individual support sessions, student experience, student performance, student retention, student support		WELS and C&C	Lina Adinolfi (WELS), Kayleigh Robinson (SRSC) and Kester Roberts (SRSC)	Woodthorpe - An investigation into the use of Artificial Neural Networks to predict student failure, and the efficacy of sustainable additional support for those students Woodthorpe joint PL - How students' use of language relates to learning, retention, and performance in assessment on TU100: Implications for learning design, assessment strategy, and tuition practices in the MCT faculty	Oct-19	Mar-21
25	17	Jul-20	20K-MFMHTF-KMI-01	Miriam Fernandez, Martin Hlosta and Tracie Farrell	Understanding the BAME attainment gap at the OU by means of quantitative and qualitative data analytics	Equality, diversity and inclusion - APP	BAME attainment gap, learning analytics, pattern divergences, focus groups, qualitative understanding of root causes		KMI	Vaclav Bayer Venetia Brown	Hlosta - Disproved predictions of at-risk students: Some students fail despite doing well, others succeed despite predicted as at-risk	Nov-20	Oct-21
26	15	Jul-19	19J-NG-CC-01	Nigel Gibson	Do they know what they are doing? A review of IT use by prison-based students	Equality, diversity and inclusion	Study skills, offender learning, students in prison, supporting students, onscreen practice					Oct-19	Dec-20

27	15	Jul-19	19J-DG-CC-01	Daniel Gooch	Teaching distributed computing using Raspberry Pi clusters at a distance	Technologies for STEM learning	Raspberry Pi cluster, distance learning, distributed architectures, parallel, CS education	TM111, TM112, TM129, M269	C&C	Mike Richards (C&C) and Jon Rosewell (C&C)		Oct-19	Jan-21
28	12	Jan-18	18E-AC-EI-01	Alec Goodyear	Evaluating the impact of a qualification based approach to student engagement and success in engineering study	Supporting students	Student success, engagement, progression, teaching quality assessments, TEF, assessment and tuition groups, personal development planning, professional skills, peer interactions		E&I	Carol Morris (E&I), Sally Organ (E&I), Zahra Golrokhi (E&I) and Maria Kantirou (CIO Portfolio)		May-18	May-20
29	17	Jul-20	21A-MHSM-CC-01	Mark Hall and Soraya Kouadri Mostéfaoui	Modern Container-based Learning Interface and Delivery Infrastructure (MCLIDI)	Technologies for STEM learning	Container-based delivery, Cloud technologies, Accessibility, Integrated Learning Interface	TT284, TM351	C&C		<p><i>Kouadri Mostéfaoui joint PL - Using Bitesize Videos to Enhance Students' Experiences in a Level 2 Programming Module</i></p> <p><i>Kouadri Mostéfaoui - Assessing 'alternative media' elements: is there a generic model?</i></p> <p><i>Kouadri Mostéfaoui joint PL - Visualising the code: are students engaging with programming at level 1?</i></p> <p><i>Kouadri Mostéfaoui joint PL - Supporting Degree Apprenticeship students: Tutors' and Students' perspectives</i></p> <p><i>Kouadri Mostéfaoui joint PL - Using Bitesize Videos to Enhance Students' Experiences in a Level 2 Programming Module</i></p> <p><i>Kouadri Mostéfaoui joint PL - Are You Ready for Your Studies - Are we Assessing Students Readiness? An</i></p>	Jan-21	Oct-22
30	1 AL	Feb-19	19E-CHCB-LHCSUSA-01	Catherine Halliwell and Cath Brown	How are students using extensions and what is the impact on success?	Supporting students	Study intensity, TMA, extensions, modules, assessment, full time study, flexible study, student success	SK299, S294, S295, SDK228, SXHL288	LHCS and OUSA			May-19	May-21
31	1 AL	Feb-19	19E-CHJD-LHCSPPSEES-01	Catherine Halliwell and Jenny Duckworth	Can an asynchronous student conference in Open Studio develop students' critical evaluation skills?	Supporting students	Asynchronous, OpenStudio, evaluation skills, peer-to-peer feedback, online, assessment, professional skills	S350	LHCS, SPS and EEES			May-19	Nov-20
32	10	Dec-16	17E-JH-LHCS-02	Janet Haresnape	Skills progression in practical science within the Life Sciences	Employability	Employability, skills progression, practical skills, problem solving, Life Sciences pathway	S295, S317	LHCS		<i>Evaluation of assessed collaborative wiki activity and comparison with similar collaborative online activities in other contexts</i>	May-17	Jul-19
33	14	Jan-19	19H-HH-SPS-01	Holly Hedgeland	Concept inventories in physics: from development to impact	Equality, diversity and inclusion	Concept inventory, free-text response, automated marking, learning gain	SM123, S112, S217	SPS	Sally Jordan (SPS)	<i>Joint PL - Gender Differences in completion and credit obtained in Level 2 study in Physical Sciences</i>	Aug-19	Jan-21

34	13	Jul-18	18K-CH-CC-04	Clem Herman	Developing a strategy for an LGBT+ inclusive STEM Faculty	Equality, diversity and inclusion	LGBTQ+, equality, diversity, inclusion, Athena SWAN, learning environment, study goals, workplace cultures, confidence, career progression		C&C	Nacho Romero (STEM Deanery)	<i>Evaluation of a community partnership approach using open educational resources: Equate Scotland and the Returning to STEM BOC</i> <i>Gendered Choices - Motivation and degree choices of Computing and IT students: a gendered analysis</i> <i>Career Development for STEM professionals</i>	Nov-18	Jul-20
35	16	Jan-20	20D-CH-WELS-02	Christothea Herodotou	Evaluating the design of the virtual microscope with students	Online/onscreen STEM practice	Evaluation; virtual microscope; student learning; interface design		WELS	Fiona Aiken (TBC)	<i>Understanding and improving students' learning experience and engagement with practical science on-line: The case of virtual and remote microscopes</i>	Apr-20	Dec-21
36	15	Jul-19	19J-JHAW-CC-01	Janet Hughes and Ann Walshe	Investigating the perceived benefits to computing students of remote pair programming	Supporting students	Pair programming, learning communities, employability, student satisfaction	TM112, TM129, M250	C&C	Brendan Murphy and Robert Law (ALs)	<i>Walshe joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i> <i>Walshe joint PL - Towards A Structured Process for Involving ALs in Module Tuition Strategy Design and Review</i>	Oct-19	Mar-21
37	17	Jul-20	20L-EHTPLB-EI-01	Elouise Huxor, Theo Philcox and Lisa Bowers	Associate Lecturer Disability. Champion scheme at the Open University (E&I-STEM)	Equality, diversity and inclusion - APP	Accessible, Associate Lecturer, Disability, Mental Health, Mentor, Peer-peer	U101	E&I	Nicole Lotz, Georgina Holden and Derek Jones (E&I)	<i>Bowers - Haptic thinking; identifying haptic tooling interventions for an online design course</i>	Dec-20	Dec-21
38	13	Jul-18	18J-JI-SC-01	Jim Iley	The S112 assessment strategy: student behaviours and subsequent success in higher level study	Innovative assessment	Single component assessment, SCA, OES, examinations, assignments, TMAs, higher study, student behaviours, retention, progression	S112, SDK100, U116, S111	LHCS	Nick Adams (STEM Deanery)		Oct-18	Sep-20
39	1 AL	Jul-19	19J-HJ-CC-01	Helen Jefferis	All change, but does tuition in cluster groups work?	Supporting students	Tuition, cluster groups, level 1, digital experience	TM111	C&C	Chris Gardner and Frances Chetwynd (C&C)	<i>Joint PL - Visualising the code: are students engaging with programming at level 1?</i>	Oct-19	Apr-21
40	2 AL	Mar-20	20H-KJ-CC-01	Katharine Jewitt	A review of the use of Office 365 and Adobe Connect for active learning by ALs tutoring on T227 and TX227	Technologies for STEM learning	Digital skills, digital technology, AL development, building digital capacity, sharing digital experience	T227, TX227	C&C			Aug-20	Mar-21
41	1 AL	Feb-19	19G-BJ-EI-01	Barbara Jones	Online module forums: espoused, actual and improved	Supporting students	Forums, asynchronous discussion groups, tutor interventions, peer-to-peer interactions, tutor-peer interactions	T313, T317	E&I			Jul-19	Mar-21

42	11	Jul-17	17J-MJ-SPS-02	Mark Jones	Online Team Investigations in Science (OTIS)	Online/onscreen STEM practice	Online, teaching, team, investigations, student engagement, peer-learning, assessment strategies, Mars Rover simulation, PIRATE robotic telescope	S382, S818	SPS	Susanne Schwenzer, Ulrich Kolb, Judith Croston and Sheona Urquhart (SPS)	<p><i>Developing practice in online synchronous tuition by peer observation, feedback and reflection</i></p> <p><i>Joint PI - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i></p> <p><i>Joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders (part II: the student perspective)</i></p> <p><i>Joint PL - Evaluation of Assessment and Tuition Changes for S284 Astronomy</i></p>	Oct-17	Jul-19
43	16	Jan-20	20F-MJHF-SPS-01	Mark Jones and Helen Fraser	Evaluation of Assessment and Tuition Changes for S284 Astronomy	Supporting students	Assessment, Tuition, Student-support, Online-learning, AL-experience	S284	SPS	Olivia Rowland and Rafa Hildago (LDS)	<p><i>Jones - Developing practice in online synchronous tuition by peer observation, feedback and reflection</i></p> <p><i>Jones - Online Team Investigations in Science (OTIS)</i></p> <p><i>Jones joint PI - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i></p> <p><i>Joint joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders (part II: the student perspective)</i></p>	Jun-20	Dec-21
44	2 AL	Mar-20	20H-AK-MS-01	Abi Kirk	Learning lessons from Mathematics Individual Support Sessions in order to promote verbal communication by students in group online tutorials	Supporting students	Online group tutorials, interaction, verbal communication, individual support sessions	M337	M&S			Aug-21	Feb-22
45	15	Jul-19	19K-SKMOH-CC-01	Soraya Kouadri Mostéfaoui and Oli Howson	Are You Ready for Your Studies - Are we Assessing Students Readiness? An evaluation of the usefulness of the Level 2 ARFY quizzes	Supporting students	Retention and progression, students satisfaction, gender bias, pre-requisite	M250, TT284, M269	C&C		<p><i>Kouadri Mostéfaoui - Assessing 'alternative media' elements: is there a generic model?</i></p> <p><i>Kouadri Mostéfaoui joint PL - Visualising the code: are students engaging with programming at level 1?</i></p> <p><i>Kouadri Mostéfaoui joint PL - Supporting Degree Apprenticeship students: Tutors' and Students' perspectives</i></p> <p><i>Kouadri Mostéfaoui joint PL - Using Bitesize Videos to Enhance Students' Experiences in a Level 2 Programming Module</i></p> <p><i>Kouadri Mostéfaoui joint PL - Modern Container-based Learning Interface and Delivery Infrastructure (MCLIDI)</i></p>	Nov-19	May-21

46	16	Jan-20	20D-SKMMC-CC-01	Soraya Kouadri Mostéfaoui, Marina Carter and Mark Hall	Using Bitesize Videos to Enhance Students' Experiences in a Level 2 Programming Module	Supporting students	Programming, visual programming, video tutorial, student engagement, retention.	TT284	C&C		<p><i>Kouadri Mostéfaoui - Assessing 'alternative media' elements: is there a generic model?</i></p> <p><i>Kouadri Mostéfaoui joint PL - Visualising the code: are students engaging with programming at level 1?</i></p> <p><i>Kouadri Mostéfaoui joint PL - Supporting Degree Apprenticeship students:</i></p> <p><i>Kouadri Mostéfaoui joint PL - Are You Ready for Your Studies - Are we Assessing Students Readiness? An evaluation of the usefulness of the Level 2 ARFY quizzes</i></p> <p><i>Kouadri Mostéfaoui and Mark Hall joint PLs - Modern Container-based Learning Interface and Delivery Infrastructure (MCLIDI)</i></p> <p><i>Carter joint PL - Workday day-time tutorials for apprentices – what is the best practice in Computing?</i></p>	Apr-20	Dec-21
47	16	Jan-20	20E-ALCTAH-CC-01	Alexis Lansbury, Chris Thomson and Andy Hollyhead	Degree-Apprenticeships: Embedding learning in the practice-tutor, apprentice, employer tripartite.	Employability	Apprenticeships; practice-tutors; quality assurance and enhancement; evaluation		C&C		<p><i>Lansbury joint PL - An investigation into how STEM students use learning resources in different formats, and how this use develops over time</i></p> <p><i>Thomson joint PL - An investigation into the way Jupyter Notebooks enhance learning and teaching on TM351</i></p> <p><i>Thomson - Workday day-time tutorials for apprentices – what is the best practice in Computing?</i></p>	May-20	May-21
48	16	Jan-20	20F-HL-EI-01	Helen Lockett	An investigation into the breadth of learning outcomes and skills developed in OpenSTEM Labs experiments	Technologies for STEM learning	Remote laboratories, online laboratories, OpenSTEM Labs, learning outcomes, practical work		E&I	James Smith and Kevin Gowans (STEM Deanery)		Jun-20	Sep-21
49	17	Jul-20	20K-AL-SPS-01	Annika Lohstroh	Investigating the impact of ethnicity on student experience in stage 1 and 2. Physical Sciences (PS)-oriented modules	Equality, diversity and inclusion - APP	Ethnicity, Physical Sciences, Student Experience, Retention, Student Success	SM123, S217	SPS	Laura Alexander (SPS)		Nov-20	Oct-21

50	13	Jul-18	18K-JLKRDB-LHCS-01	Jane Loughlin, Katja Rietdorf and Diane Butler	Early Start S294: evaluation.	Supporting students	Bridging interventions, module start, retention, forum support, tutorials	S294, SDK100, S112, SK299	LHCS		<i>Butler joint PL - Investigating factors which affect active student participation during tutorials in online rooms</i>	Nov-18	Aug-20
51	17	Jul-20	20K-NLMS-EI-01	Nicole Lotz and Muriel Sippel	Understanding the mental health attainment gap in Design modules	Equality, diversity and inclusion - APP	Mental Health, Design, E&I, Study Experience	U101, T217, T317	E&I	Lisa Bowers (E&I)	<i>Lotz - Are we making progress? Progression through learners' interaction in OpenStudio across a qualification</i> <i>Lotz - Developing a sense of community through cross-level engagement between staff and students in creative industries subjects</i>	Nov-20	Oct-21
52	17	Jul-20	20K-LMJB-LHCSEES-01	Louise MacBrayne and Jennie Bellamy	Black student experience and attainment on S112: improving a level 1 STEM module	Equality, diversity and inclusion - APP	Attainment gap, BAME, BME, exam, online tuition	S112	LHCS & EEES	Elaine McPherson (EEES)		Nov-20	Oct-22
53	14	Jan-19	19D-CM-SPS-01	Calum MacCormick	Implementing quantum mechanics visualisation tools in a distance learning context	Technologies for STEM learning	QuVis, Quantum mechanics visualisation	SM358	SPS	Silvia Bergamini (SPS) and Jimena Gorfinkel (SPS)		Apr-19	Jul-20
54	17	Jul-20	20K-DM-CC-01	David McDade	Improving access for Scottish FE learners into OU Computing degrees	Employability	Articulation, Pathways, Computing, FE, Scotland		C&C			TBC	TBC
55	13	Jul-18	19B-EMKL-EEESRES-01	Elaine McPherson and Kate Lister	Engaging students as experts in the trial and evaluation of Disability Language Guidance	Equality, diversity and inclusion	Accessibility, inclusivity, language, terminology, behaviours, completion, progression, attainment, student motivation, student engagement		EEES & RES	Anne-Marie Gallen (E&I), Victoria Pearson (SPS), Tim Coughlan (WELS), and Trevor Collins (KMI)	<i>McPherson joint PL - Proactive support for students to make the transition from print material to online study</i> <i>McPherson - Investigating the motivations of female students choosing an open versus named qualification</i> <i>McPherson joint PL - Accessibility and inclusion in tuition (AccIT)</i>	Feb-19	Jul-20
56	16	Jan-20	20F-EM-EEES-01	Elaine McPherson	Investigating the motivations of female students choosing an open versus named qualification	Equality, diversity and inclusion	Gender, qualification, women, STEM, motivation, aspiration, engineering	Y033	EEES	Anne-Marie Gallen (E&I), Anactoria Clarke (WELS) and Mary Keys (E&I)	<i>Joint PL - Proactive support for students to make the transition from print material to online study</i> <i>Joint PL - Engaging students as experts in the trial and evaluation of Disability Language Guidance</i> <i>McPherson joint PL - Accessibility and inclusion in tuition (AccIT)</i>	Jun-20	Jun-22
57	15	Jul-19	20D-AMHJ-EI-01	Alice Moncaster and Hedieh Jazaeri	Improving and evaluating inclusivity in group project work for distance-learning engineering students	Equality, diversity and inclusion	Inclusivity, group work, project-based learning, engineering education	T176, T276, T229	E&I	Kate Lister (RES), Jan Peters (Visiting Professor), Lynda Vaughan-Jones (E&I), Theo Zamenopoulos (E&I), Shahram Taherzadeh (E&I)		Apr-21	Sep-22
58	14	Jan-19	19E-FMKN-LHCS-02	Fiona Moorman and Karen New	STEM ISSS - where are we now? Evaluating awareness, usage and effectiveness of individual student support sessions	Supporting students	Individual student support session, effective, supportive		LHCS	Deborah Peat (AS), Roberta Nathan (AS), Catherine Coldbeck (AS) and Maria Kantirou (CIO Portfolio)	<i>Online journal clubs in distance higher education: an opportunity to develop skills and community?</i> <i>New - Use of augmented reality in a second level human biology module: benefits and challenges</i> <i>Summer Series of Journal Clubs: an opportunity to develop employability skills and a sense of community amongst students in secure environments</i>	May-19	Oct-20

59	17	Jul-21	21A-CMRS-EI-01	Carol Morris and Rachel Slater	Understanding factors influencing BAME students' achievements within Engineering and Innovation	Equality, diversity and inclusion - APP	BAME, attainment, intersectionality, recruitment, engagement	T192, U101, U116	E&I		<i>Morris joint PL - Engineering qualifications at the OU – what motivates women to study?</i> <i>Slater joint PL - Accessibility and inclusion in tuition (AcciT)</i>	Jul-21	Dec-22
60	14	Jan-19	19F-DMDK-CC-01	David Morse and David King	Visualising student journeys	Supporting students	Visualisation, student journey, qualification pathway, network diagram, Sankey diagram		C&C			Jun-19	Jul-20
61	16	Jan-20	20E-VM-WELS-01	Victoria Murphy	Students' support networks during lockdown	Equality, diversity and inclusion	Social network analysis; student support; mental health; COVID-19; longitudinal		WELS	Eileen Scanlon (WELS), Kate Lister (RES) and Laura Dean (AL)		May-20	Oct-20
62	17	Jul-20	20K-KNEC-LHCS-01	Kate Nixon and Eleanor Crabb	Online Summer Schools	Online/onscreen STEM practice	On-line experiments, research skills, develop a community, summer engagement		LHCS	Rob Janes, Daniel Johnson and Mike Batham (LHCS)	<i>Crabb joint PL - Developing responsive approaches to enhance personalized learning in S315</i> <i>Crabb joint PL - Blending labcasts and remote/virtual experimentation: students' perception in practical skill development alternative</i> <i>Crabb - Online remote experiments in chemistry- analysis of delivery, assessment, tracking and student perception</i> <i>Crabb - Improving success and satisfaction of credit transfer students entering L3 modules in Science</i>	Nov-20	Apr-22
63	15	Jul-19	19J-TO-STEMD-01	Tom Olney	Measuring the Impact of Learning Design and Course Creation (LDCC) Workshops on Chinese OU Institutions and the Open University	Academic professional development	Learning Design, course creation, professional development, impact, China, international engagement, pedagogy research		STEM Deanery	Mark Endean (E&I) and Duncan Banks (LHCS)	<i>Piloting OU Analyse and the Student Probabilities Model on 12 STEM Modules</i>	Oct-19	Aug-20

64	17	Jul-20	20K-SP-MS-01	Sue Pawley	Exploring the extent of maths anxiety within the STEM Faculty at The Open University	Equality, diversity and inclusion - APP	Maths Anxiety, Mental Health, Supporting Students, Maths teaching	MUI23, MST124, T192, TM111, U101, U116, S111, SDK100	M&S	Sally Organ (E&I) and John Morgan (AL)	<i>Joint PL - Supporting MST224 students with bridging material during their transition from level one mathematics</i>	Nov-20	Oct-22
65	2 AL	Mar-20	20G-CP-CC-02	Cathryn Peoples	Support for Students. Teaching for Tutors. An Investigation into Ideas on Encouraging Students to Engage	Supporting students	One-on-one support, lower performing students, peer support, widening access, pre-module student characteristics		C&C	Richard Foley (AL) and Leonor Barroca (C&C)	<i>Personalised Student Support Plans: Examining the Effectiveness of Support Recommendations made by Students</i>	Aug-20	Sep-21
66	14	Jan-19	19F-PPSS-CC-01	Paul Piwek and Simon Savage	Student co-design of confidence-building formative assessment for Level 1 Computing & IT students	Innovative assessment	Formative and summative assessment, quizzes, student engagement, student reflection, co-design, participatory design	TM112	C&C		<i>Piwek - Argumentation Education (ArguEd)</i>	Jun-19	Dec-20
67	16	Jan-20	20F-SP-EI-01	Sotiria Psoma	Comparative study of distance teaching of Electronics using simulation software versus OpenEngineering Laboratory	Technologies for STEM learning	Distance teaching practical laboratory, real-time remote-control electronic laboratory, simulation in education, distance teaching undergraduate student, learning tools	T212, T312	E&I			Jun-20	Nov-21
68	15	Jul-19	19J-APCB-MS-01	Andrew Potter and Colin Blundell	Blended tutorials in Mathematics: simultaneous F2F and online learning events	Technologies for STEM learning	Blended tuition, online synchronous conferencing, remote access, mathematics learning, face-to-face tuition, online tuition, Adobe Connect, handwriting on screens, use of tablets for learning, technological innovation	M337	M&S		<i>Potter joint PL - Developing students and tutors perceptions of good mathematical communication on level one service mathematics module MUI23: an investigation</i> <i>Potter joint PL - Associate Lecturer Reflections on Student Perceptions of Usefulness of Level 1 Service Mathematics</i> <i>Blundell - Investigation into running course specific taster tutorials within prisons for non-OU students</i>	Oct-19	Oct-20
69	17	Jul-20	20K-APDTCB-MS-01	Andrew Potter, Delyth Tomos and Chris Hughes	Welsh-medium tuition in Level 1 Mathematics	Supporting students	Wales, Welsh-medium tuition, apprehension in learning mathematics, student experience, minority languages	MUI23	M&S	Chris Hughes (M&S), Ann Williams (AL) and Ceinwen Gwilym (WELS)	<i>Potter joint PL - Developing students and tutors perceptions of good mathematical communication on level one service mathematics module MUI23: an investigation</i> <i>Potter joint PL - Associate Lecturer Reflections on Student Perceptions of Usefulness of Level 1 Service Mathematics</i> <i>Potter joint PL - Blended tutorials in Mathematics: simultaneous F2F and online learning events</i> <i>Hughes - Hughes - Evaluating the accessibility of an alternative format of module materials in Maths & Stats</i> <i>Hughes joint PL - Usage of Early Alerts Indicators on two level 1 modules</i> <i>Hughes joint PL - Supporting MST224 students with bridging material during their transition from level one mathematics</i>	Nov-20	Feb-22

70	12	Jan-18	18H-RQ-EI-01	Rongshan Qin	Visual Interactive Learning of Engineering Concepts	Technologies for STEM learning	Visual interactive learning software, proof of concept study, interactive toolkit	T176, T276, T357	E&I	Richard Moat (E&I) and Salih Gungör (E&I)		Aug-18	Feb-20
71	14	Jan-19	19C-CRMBAMG-EILIV-01	Clare Reger, Mark Bowden and Anne-Marie Gallen	Factors influencing female participation in Physical Science Postgraduate Research Programmes	Equality, diversity and inclusion	Female postgraduates; fusion; nuclear; under-representation; postdoctoral; progression; recruitment; physical science; physics; engineering		E&I and Uni of Liverpool		<i>Reger and Gallen - Evaluating the level 1 engineering tutors resource</i> <i>Gallen joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders (part II: the student perspective)</i> <i>Gallen joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i>	May-19	Sep-19
72	11	Jul-17	17K-LR-EI-02	Linda Robson	Assessment banking – useful break or deferred withdrawal? An investigation of the outcomes and experience for students who have assessment banked	Supporting students	Assessment banking, TMA, retention	U101	E&I	Laura Stafford (AS)	<i>A quantitative and qualitative investigation into communications sent to students for selected level 1 MST and science modules</i>	Nov-17	Jul-21
73	14	Jan-19	19G-JRCH-EEES-01	Julie Robson and Chris Hutton	Online peer mentoring at scale: Benefits and impacts from a student buddy perspective	Supporting students	Peer mentoring, sustainability, employability skills, student buddies	S112, S(XF)206, S209, S390	EEES		<i>Hutton joint PL - Student development and perceptions of employability skills in stage 1 science</i>	Jul-19	Jul-22
74	14	Jan-19	19E-ER-EEES-03	Emma Rothero	Floodplain Meadows Partnership Ambassadors	STEM engagement	Floodplain meadows, ambassadors		EEES	David Gowing	<i>Flight of the Fritillary</i> <i>Flight of the Fritillary phase 2</i>	May-19	Dec-21
75	10	Dec-16	17H-HRTO-MS-01	Hayley Ryder and Toby O'Neil	Use of OULive recordings of 'live mathematics' and discussion forums 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.	Supporting students	Growth mindset, maths resilience, drop-out, retention, OU Live, forums, level 3		M&S		<i>Ryder - Use of STACK to generate formative assessment for level 3 Pure mathematics</i> <i>Does the provision of an 'own working space' for tutors enhance the learning experience for students</i> <i>Evaluating the increase in student wellbeing brought about by informal online sessions and computer generated worked examples on a level 3 pure maths module.</i>	Oct-17	Sep-21

76	11	Jul-17	17K-HRTO-MS-02	Hayley Ryder and Toby O'Neil	Does the provision of an 'own working space' for tutors enhance the learning experience for students	Technologies for STEM learning	Online tuition, Adobe Connect, tutor-room approach, individual rooms, shared rooms	M303	M&S		<p><i>Use of OULive recordings of 'live mathematics' and discussion forums 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</i></p> <p><i>Evaluating the increase in student wellbeing brought about by informal online sessions and computer generated worked examples on a level 3 pure maths module</i></p> <p><i>Ryder - Use of STACK to generate formative assessment for level 3 Pure mathematics</i></p> <p><i>Evaluating the increase in student wellbeing brought about by informal online sessions and computer generated worked examples on a level 3 pure maths module</i></p>	Jan-18	Sep-21
77	17	Jul-20	20K-HRTO-MS-03	Hayley Ryder and Toby O'Neil	Evaluating the increase in student wellbeing brought about by informal online sessions and computer generated worked examples on a level 3 pure maths module	Equality, diversity and inclusion - APP	Wellbeing, mathematical anxiety, cognitive load theory, resilience, worked example effect	M303	M&S		<p><i>Use of OULive recordings of 'live mathematics' and discussion forums 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</i></p> <p><i>Does the provision of an 'own working space' for tutors enhance the learning experience for students</i></p> <p><i>Ryder - Use of STACK to generate formative assessment for level 3 Pure mathematics</i></p>	Nov-20	Oct-22
78	15	Jul-19	20A-RSACEM-EIASEEES-01	Rachel Slater, Anne Campbell and Elaine McPherson	Accessibility and inclusion in tuition (AccIT)	Equality, diversity and inclusion	Accessibility, inclusion, students with disabilities, tutors, distance learning, face-to-face tuition, online tuition		E&I, AS and EEES	Vic Pearson (SPS), Kate Lister (RES), Christine Pearson (E&I), Jo Buxton (WELS), Zoe Clayton (PVC Students) and Carol Howells (FBL)	<p><i>Slater joint PL - Understanding factors influencing BAME students' achievements within Engineering and Innovation</i></p> <p><i>Campbell joint PL -</i></p> <p><i>McPherson joint PL - Proactive support for students to make the transition from print material to online study</i></p> <p><i>McPherson joint PL - Engaging students as experts in the trial and evaluation of Disability Language Guidance</i></p> <p><i>McPherson - Investigating the motivations of female students choosing an open versus named qualification</i></p>	Jan-20	Sep-21
79	17	Jul-20	20L-CSCW-MS-01	Cathy Smith and Charlotte Webb	Effective support for reflective writing: learning from improvers	Equality, diversity and inclusion - APP	Participation, Reflective writing, Student voice, Mathematics education, assessment	ME321, ME322, ME620, ME625, ME626, ME627	M&S			Dec-20	Aug-21

80	16	Jan-20	20D-CTMC-CC-01	Chris Thomson and Marina Carter	Workday day-time tutorials for apprentices – what is the best practice in Computing?	Supporting students	Apprenticeships, tutorials, workday daytime study, weekday tutorials	TMXY130, MXY250, TTXY284	C&C	Emily Wood (AS), Alison Leese (BDU) and Dave McIntyre (AL)	<i>Thomson joint PL - An investigation into the way Jupyter Notebooks enhance learning and teaching on TM351</i> <i>Thomson joint PL - Quality Assurance and Enhancement in Degree Apprenticeships: Developing New Approaches</i> <i>Carter joint PL - Using Bitesize Videos to Enhance Students' Experiences in a Level 2 Programming Module</i>	Apr-20	Feb-21
81	16	Jan-20	20F-MT-EI-01	Maria Townsend	The value to students of drop-in tutorials to support assessment	Supporting students	Drop-in tutorials, online, student participation, assessment support	U116	E&I	Wendy Berndt and Emma Champion		Jun-20	Dec-21
82	16	Jan-20	20D-GW-SPS-01	Gemma Warriner	How successfully are students engaging with the Python component of SM123?	Supporting students	Python, engagement, physics, stage 1	SM123	SPS	Andy Diamant (AL)		Apr-20	May-21
83	13	Jul-18	18K-CWLC-EEESLHCS-01	Carlton Wood and Lynda Cook	Supporting students in online tuition from Access through the student journey	Online/onscreen STEM practice	Tuition, synchronous, online, student behaviour, learning experience, tutor-student relationship	Y033, SDK100, U116, S111, S112	EEES & LHCS	Anactoria Clarke (WELS)		Nov-18	Aug-19
84	11	Jul-17	17K-YYAD-CC-01	Yijun Yu and Anton Dil	Ask Programs Aloud - Making Programming Concepts Naturally Accessible at a Distance	Technologies for STEM learning	Accessibility, voice interaction technology, AI, programming	M250, M362	C&C	Neil Smith, Joseph Osunde, Michel Wermelinger and Sue Truby (C&C)	<i>Dil - Java Aloud</i> <i>Dil - Development and evaluation of a software tool for automated Java specification marking</i>	Nov-17	Apr-19

No.	Project call	Call date	Ref	Project Leader(s)	Project Title	Theme(s)	Keywords	Module(s) involved	School(s)/Unit(s)	Other staff involved	Other eSTEEM projects as PL	Start date	Final report submitted
1	13	Jul-18	18K-FACH-EEES-01	Fiona Aiken and Chris Hutton	Student development and perceptions of employability skills in stage 1 science	Employability	Employability, personal development planning (PDP), radar chart, radar diagrams, science, skills development	S112	EEES	Isabella Henman, Jane Kendall-Nicholas and Niusa Marigetho (ALS)	<i>Hutton joint PL - Online peer mentoring at scale: Benefits and impacts from a student buddy perspective</i>	Nov-18	Nov-20
2	1	Feb-11	11D-TASO-EEES-01	Tom Angles & Sarah Davies	Geospatial technologies in distance learning and teaching in Science	Technologies for STEM learning	Geospatial, geology, spatial thinking skills, spatial literacy, threshold concepts, geolocated data, GIS software	S276, S209, S288	EEES		<i>Angles - Evaluation of The OpenScience Lab's 3D Virtual Skiddaw application</i> <i>Davies - Place-making and student identity in fieldwork learning</i>	Apr-11	Nov-14
3	15	Jul-19	19I-LALTVM-SPLHCSEES-01	Laura Alexander, Linda Thomson and Vic Nicholas	SISE only tutor groups and the effect on SISE students and their tutors	Equality, diversity and inclusion	Students in secure environments, SISE, Tutor Allocation, S111, Supporting students, SISE only tutor groups	S111	SPS, LHCS, EEES	Melanie McCabe, Tom Wilks, Lance Dalton, Siobhan McGuigan, Trevor Scott, Jane Kendal-Nicholas (ALS)	<i>Alexander joint PL - An investigation into how STEM students use learning resources in different formats, and how this use develops over time</i> <i>Thomson joint PL - The impact of live streaming module-wide events in student engagement and motivation</i>	Oct-19	Oct-20
4	1	Feb-11	11D-LB-CC-01	Leonor Barroca	Understanding different perspectives of postgraduate education in the international arena	International curriculum delivery	Postgraduate, international, ICT, computing, Brazil, Portugal, professional development		C&C			Apr-11	Jun-12
5	14	Jan-19	19F-LBMW-CC-01	Leonor Barroca and Matt Walkley	Understanding the profile of apprentices	Equality, diversity and inclusion	Student profile, apprentices, diversity		C&C		<i>Barroca - Understanding different perspectives of postgraduate education in the international arena</i>	Jul-19	Due Feb 21
6	11	Jul-17	17J-EI-SB-01	Simon Bell	Wisdom from Groups	Supporting students	Group work, graphic, novel, animation, retention, student engagement	T219, T319	E&I	Kevin Collins (E&I)		Oct-17	Mar-19
7	7	Feb-15	15F-LB-EI-01	Lisa Bowers	Haptic thinking: identifying haptic tooling interventions for an online design course	Technologies for STEM learning	Haptics, accessibility, online, applied design, engineering, touch, future technology, sensory centric tooling		E&I			Jun-15	Jan-18
8	13	Jul-18	18K-LBRI-WELSLHCS-01	Lesley Boyd and Rob Janes	Using technology-enabled learning networks to drive module improvements in STEM	Technologies for STEM learning	Learning networks, tricky topics, retention, progression, collaborative learning, problem-solving, learning interventions, grounded theory method, learning analytics	S215	WELS & LHCS	Tom Olney (STEM Deanery)	<i>Janes joint PL - Blending labcasts and remote/virtual experimentation: students' perception in practical skill development alternative</i> <i>Janes joint PL - Utilising the Teaching Tricky Topic process to identify and Address Student Misunderstandings across Three OU Modules</i>	Nov-18	Due Feb 21

9	6	Jun-14	14L-PB-SPS-01	Pam Budd/Holly Hedgeland	Gender Differences in completion and credit obtained in Level 2 study in Physical Sciences	Equality, diversity and inclusion	Equality, gender differences, physics, level 2	S207, S217, MST121	SPS	Jimena Gorfinkiel, Sally Jordan and Victoria Pearson (SPS)	<i>Hedgeland - Concept inventories in physics: from development to impact</i>	Dec-14	Feb-18
10	12	Jan-18	18F-SB-EI-01	Stephen Burnley	Investigating the challenges faced by postgraduate students in developing countries	International curriculum delivery	Commonwealth Scholarship Commission, postgraduate, developing countries, Environmental Management MSc programme		E&I	Sinead O'Connor and Richard Campen (ALS)		Jun-18	Due Feb-21
11	8	Oct-15	16D-DBLCVHM-LHCS-01	Diane Butler, Lynda Cook and Vikki Haley-Mimar	Investigating factors which affect active student participation during tutorials in online rooms	Supporting students	Online, tutorials, active student participation, student experience	S204, SK277, S295, SXH1288	LHCS	Louise MacBrayne and Catherine Halliwell (ALS)	<i>Cook - A quantitative and qualitative investigation into communications sent to students for selected level 1 MST and science modules</i> <i>Haley-Mimar joint PL - SDK100 - what aspects of this online only module are the students engaging with?</i>	Apr-16	Sep-18
12	8	Oct-15	16A-CC-MS-01	Carol Calvert	Implementation of lessons learnt from students who succeed "despite the odds"	Supporting students	Retention, data		M&S	Rachel Hilliam (M&S), Linda Brown and Dave Edwards (ALS)	<i>A Flexible Start to M140</i> <i>Early start MU123</i>	Jan-16	Jun-17
13	10	Dec-16	17E-CC-MS-02	Carol Calvert	A Flexible Start to M140	Supporting students	Bridging interventions, module start, retention, tutor support	M140, MST124, MU123, MST125, B124, DB123	M&S	Karen Vines (M&S)	<i>Implementation of lessons learnt from students who succeed "despite the odds"</i> <i>Early start MU123</i> <i>Usage of Early Alerts Indicators on two level 1 modules</i> <i>How one module can serve multiple qualifications through tailored implementation of presentation</i>	May-17	Aug-18
14	13	Jul-18	18K-CCABCH-MS-01	Carol Calvert, Alison Bromley and Chris Hughes	Usage of Early Alerts indicators on two level 1 modules	Supporting students	Bridging interventions, module start, retention, tutor support, at risk students, analytics, VLE	M140	M&S		<i>Calvert - Implementation of lessons learnt from students who succeed "despite the odds"</i> <i>Calvert - A Flexible Start to M140</i> <i>Calvert joint PL - Early start MU123</i> <i>Calvert joint PL - How one module can serve multiple qualifications through tailored implementation of presentation</i> <i>Bromley joint PL - Supporting the student's learning journey through the transition of mathematics and statistics from level 2 to level 3</i> <i>Hughes joint PL - Welsh-medium tuition in Level 1 Mathematics</i> <i>Hughes - Evaluating the accessibility of an alternative format of module materials in Maths & Stats</i> <i>Hughes joint PL - Supporting MST224 students with bridging material during</i>	Nov-18	Dec-19

15	13	Jul-18	18F-CCLS-MS-01	Carol Calvert and Luay Salman	Early start MU123	Supporting students	Bridging interventions, module start, retention, tutor support, at risk students	MU123, M140	M&S		Calvert - Implementation of lessons learnt from students who succeed "despite the odds" Calvert - Early start M140 Calvert joint PL - Usage of Early Alerts Indicators on two level 1 modules Calvert joint PL - How one module can serve multiple qualifications through tailored implementation of presentation	Jul-18	May-20
16	8	Oct-15	16E-DC-EI-01	Daphne Chang	Impact study of the taught MSc in Technology related subjects on students' employability	Employability	Employability, postgraduate, professional development, student perception, technology	T847, T802	E&I	Jo Walshe (AL)		May-16	Due Mar-21
17	8	Oct-15	16A-NCEM-LHCS-01	Nick Chatterton and Elaine Moore	Online Chemistry Support Clinics	Online/onscreen STEM practice	Bridging interventions, drop-in clinics, retention, chemistry, online, Khan Academy, screencasts, Learn Chemistry	S104, S215	LHCS	Louise Macbrayne and Catherine Halliwell (ALs)	Moore - Students' study of online modules Chatterton joint PL - Developing responsive approaches to enhance personalized learning in S315	Jan-16	Jan-20
18	7	Feb-15	15F-FC-CC-01	Frances Chetwynd	Breaking the coding barrier: transition from Level 1 to Level 2 programming	Supporting students	Bridging interventions, transition, programming, level 1, level 2, retention	TU100, TM129, M250, M269, TT284	C&C	Helen Jefferts and Fiona Aiken (ALs)		Jun-15	Jul-18
19	11	Jul-17	17K-KC-MS-01	Katie Chicot	Using Student Analytics with tutors to increase retention	Supporting students	Analytics, retention, ALs, support tool, growth mindset, mathematics resilience	MU123	M&S	Gerry Golding (M&S), Sally Crighton (M&S) and Carol Calvert (M&S)		Nov-17	Aug-18
20	15	Jul-19	19J-SCRMCH-LHCS-01	Simon Collinson, Rachel McMullan and Catherine Halliwell	Can a new OU Study App enhance the learning experience of students on S350, an online only module?	Supporting students	Online, distance learning, innovations, supporting students, flexible study	S350	LHCS	Davina Beegoo-Price (CIO)	Collinson joint PL - Online remote experiments in chemistry - analysis of delivery, assessment, tracking and student perception Halliwell joint PL - How are students using extensions and what is the impact on success? Halliwell joint PL - Can an asynchronous student conference in Open Studio develop students' critical evaluation skills?	Oct-19	Due Apr-21
21	9	May-16	16I-SC-MS-01	Sally Crighton	Leading the way as a hydro nation in Scotland - supporting student transitions within a strategic partnership between Glasgow Clyde College, The Open University in Scotland and Heriot-Watt University	Supporting students	Student transition, student motivation, employer engagement, strategic partnership	MU123, MST124, MST224	M&S	Felicity Bryers, Laura Howe and Andrew Potter (ALs)	Using peer observation within a Mathematics and Statistics community of practice in Scotland Joint PL - Developing students and tutors perceptions of good mathematical communication on level one service mathematics module MU123: an investigation	Oct-16	Oct-19

22	10	Dec-16	17E-SC-MS-02	Sally Crighton	Using peer observation within a Mathematics and Statistics community of practice in Scotland	Academic professional development	Peer observation, community of practice, growth mindset, Associate Lecturers, ALs, feedback, peer support, AL practice, reflective practice		M&S	Andrew Potter (AL)	<i>Leading the way as a hydro nation in Scotland – supporting student transitions within a strategic partnership between Glasgow Clyde College, The Open University in Scotland and Heriot-Watt University</i> <i>Joint PL - Developing students and tutors perceptions of good mathematical communication on level one service mathematics module MU123: an investigation</i>	May-17	Sep-19
23	4	Oct-12	13G-BD-LHCS-01	Basiro Davey	SDK125 Student Intentions and Retention Study	Supporting students	Retention, progression, online tutorials, support strategies, module choices	SDK125, SDK100	LHCS	Ellie Dommert (LHCS)		Jul-13	Jul-14
24	11	Jul-17	17J-AD-CC-02	Anton Dil	Development and evaluation of a software tool for automated Java specification marking	Technologies for STEM learning	Java, specification, marking, coding, programming language, marking tool	M250	C&C	Sue Truby (C&C), Joseph Osunde (C&C)	<i>Java Aloud</i>	Oct-17	Oct-18
25	1	Feb-11	11F-CD-CC-01	Chris Dobbyn	Transforming retention and progression in a new Level 1 course	Innovative assessment	Models of assessment, tutor guides, retention, feedback	TU100	C&C	Frances Chetwynd (C&C) and Helen Jefferis (AL)		Jun-11	May-14
26	3	Oct-11	12B-HD-CC-01	Helen Donelan	Enhancing professional networking and engagement using social media	STEM engagement	Engagement, professional, networking, social media, LinkedIn, blogs, wikis, career progression		C&C		<i>Changing spaces for students' online interactions</i>	Feb-12	Aug-14
27	5	Sep-13	13K-CD-CC-01	Chris Douce	Understanding the challenges of learning to program at level 2	Technologies for STEM learning	Programming languages, coding, technologies	TU100, TM129, TT284	C&C	Dave McIntyre and Ion Williams (ALs)	<i>Understanding on-line teaching practice: the importance of the observation</i> <i>Understanding STEM tutor motivation</i>	Dec-13	Oct-15
28	9	May-16	17A-CD-CC-02	Chris Douce	Understanding on-line teaching practice: the importance of the observation	Online/onscreen STEM practice	Tutorials, online, face-to-face, observations, feedback, STEM teaching practice, Staff Tutors, Associate Lecturers	TT284, TU100, TM129	C&C	Sarah Chyriwsky (AL) and Brendan Quinn (M&S)	<i>Understanding the challenges of learning to program at level 2</i> <i>Understanding STEM tutor motivation</i>	Jan-17	Jul-18

29	12	Jan-18	18E-CE-EI-01	Claudia Eckert	Research and Education in Product Development for 2040	Employability	Technologies, industrial trends, curriculum planning, engineering, design		E&I			May-18	Oct-20
30	15	Jul-19	19J-EEAG-LDS-01	Elizabeth Ellis and Alice Gallagher	Learning behaviours and successful outcomes in STEM students	Supporting students	Learning behaviour, student success, retention, progression, learning design		LDS	Louise MacBrayne (LHCS), Tom Olney, (STEM Deanery), Alison Kingan (OUSA), Alice Peasgood (Educational Research Consultant), Module team chairs of selected modules		Oct-19	Dec-20 - with eSTEEM for review
31	1	Feb-11	11D-ME-EI-01	Mark Endean	Online practical work for science and engineering students	Online/onscreen STEM practice	Online, practical work, computer-based experiments, virtual, science, engineering, China, international collaboration, intercultural awareness	T216	E&I	Nick Braithwaite (SPS)	<i>Longitudinal impact of visiting scholarships on the professional practice of scholars from China</i>	Apr-11	Aug-12
32	11	Jul-17	17J-EI-MEDC-01	Mark Endean and Daphne Chang	Longitudinal impact of visiting scholarships on the professional practice of scholars from China	Academic professional development	Visiting scholars, international scholarship programme, knowledge exchange, international strategy		E&I		<i>Endean - Online practical work for science and engineering students</i> <i>Chang - Impact study of the taught MScs in Technology related subjects on students' employability</i>	Oct-17	Oct-20
33	1 AL	Feb-19	19J-SEWGM-CC-01	Shirley Evans, Winston Graham and Manish Malik	Strategies to support students and tutors with online collaborative projects; an action research project	Supporting students	Online collaborative learning; distance learning; teaching strategies	T215	C&C			Sep-19	Sep-20
34	2	May-11	11H-PF-EI-01	Pam Furniss	Exploring global potential for WaSH distance education materials	International curriculum delivery	International development, water, sanitation, hygiene, OERs, World Vision, UNICEF,	U116	E&I		<i>OpenWASH evaluation</i>	Aug-11	Oct-16
35	13	Jul-18	18K-PF-EI-02	Pam Furniss	OpenWASH evaluation	International curriculum delivery	International development, water, sanitation, hygiene, OERs, World Vision, UNICEF, WaterAid		E&I	Ellen Scott (IDO)	<i>Exploring global potential for WaSH distance education materials</i>	Nov-18	Oct-19

36	15	Jul-19	19I-HGIW-LHCS-02	Hannah Gauci and Janette Wallace	Evaluating a new STEM AL induction programme	Academic professional development	Higher Education, induction, tutoring, novice ALS		LHCS	Project	Assessing the effectiveness of the induction process for novice Associate Lecturers in the School of Life Health and Chemical Sciences in preparing them for the Associate Lecturer role Wallace - Does attendance at unrecorded online module wide tutorials on a science module enhance student enjoyment, engagement and success? How might this impact tuition strategy for current and future LHCS modules? Gauci - Summer Series of Journal Clubs: an opportunity to develop employability skills and a sense of community amongst students in secure environments	Oct-19	Due Jan 21
37	7	Feb-15	15C-AMGAW-EICC-01	Anne-Marie Gallen and Ann Walshe	Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders	Supporting students	Tuition practice, group tuition, student-centered support		E&I & C&C	Anne Campbell (AS) and Mark Jones (SPS)	Gallen joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders (part II: the student perspective) Gallen joint PL - Evaluating the level 1 engineering tutors resource Gallen joint PL - Factors influencing female participation in Physical Science Postgraduate Research Programmes Walshe - Towards A Structured Process for Involving ALS in Module Tuition Strategy Design and Review Walshe joint PL - Investigating the perceived benefits to computing students of remote pair programming	Mar-15	Jul-17
38	11	Jul-17	17J-CG-CC-01	Christine Gardner	Analytics for tracking student engagement	Supporting students	Analytics, retention, OU Analyse, student engagement, online, materials	TM351, TM352, TM354, TM356	C&C	David Chapman and Allan Jones (C&C)		Oct-17	Due Feb-20
39	8	Oct-15	16B-MGEMAC-MSEESWELS-01	Martina Gibbons, Elaine McPherson and Anactoria Clarke	Proactive support for students to make the transition from print material to online study	Supporting students	Online study, print, access, transition, proactive support, ALS, retention, progression	Y033, S141, S111	M&S, EEES & LTI		Clarke joint PL - Evaluating Access for Postgraduate Study McPherson joint PL - Engaging students as experts in the trial and evaluation of Disability Language Guidance McPherson joint PL - Accessibility and inclusion in tuition (AccIT) McPherson - Investigating the motivations of female students choosing an open versus named qualification	Feb-16	Due Feb-21
40	9	May-16	16I-VHMCMLHCS-01	Vikki Haley-Mimar and Carol Midgley	SDK100 - what aspects of this online only module are the students engaging with?	Online/onscreen STEM practice	Online, interactive components, student perceptions, tutorials, engagement	SDK100	LHCS		Haley-Mimar joint PL - Investigating factors which affect active student participation during tutorials in online rooms	Oct-16	Due Feb-21
41	2	May-11	11H-JH-LHCS-01	Janet Haresnape	Evaluation of assessed collaborative wiki activity and comparison with similar collaborative online activities in other contexts	Innovative assessment	Assessment, online, collaborative, activity, wiki	S366, S295	LHCS		Skills progression in practical science within the Life Sciences	Aug-11	Feb-17
42	1	Feb-11	11D-CH-CC-01	Clem Herman	Career Development for STEM professionals	Academic professional development	Employability, professional development, equality, gender differences, STEM returners, careers	T160, T161	C&C	Liz Whitelegg (SPS), Katie Chicot (M&S), Gill Kirkup (LTI), Abi Lewis (STEM Deanery)	Joint PL - e-Ambassadors and e-Portfolios: Exploring innovative methods to embed employability in practice based STEM distance learning Level 1 IT and Computing - where have all the women gone? Evaluation of a community partnership approach using open educational resources: Equate Scotland and the Returning to STEM BOC Developing a strategy for an LGBT+ inclusive STEM Faculty	Apr-11	Feb-13

43	10	Dec-16	17E-CH-CC-02	Clem Herman	Gendered Choices - Motivation and degree choices of Computing and IT students: a gendered analysis	Equality, diversity and inclusion	Equality, gender differences, IT, computing, level 1, Athena SWAN	TU100	C&C	John Woodthorpe, Janet Hughes, Elaine Thomas, Helen Donelan (C&C) and Helen Jeffens (AL)	<p><i>Career Development for STEM professionals</i></p> <p><i>Joint PL - e-Ambassadors and e-Portfolios: Exploring innovative methods to embed employability in practice based STEM distance learning</i></p> <p><i>Evaluation of a community partnership approach using open educational resources: Equate Scotland and the Returning to STEM BOC</i></p> <p><i>Developing a strategy for an LGBT+ inclusive STEM Faculty</i></p>	May-16	Jul-19
44	10	Dec-16	17E-CH-CC-03	Clem Herman	Evaluation of a community partnership approach using open educational resources: Equate Scotland and the Returning to STEM BOC	Employability	Employability, equality, STEM returners, BOC, OER	T160	C&C	Katie Chicot (M&S), Lesley Broadwood (The OU in Scotland) and Bernie Clark (E&I)	<p><i>Career Development for STEM professionals</i></p> <p><i>Joint PL - e-Ambassadors and e-Portfolios: Exploring innovative methods to embed employability in practice based STEM distance learning</i></p> <p><i>Gendered Choices - Motivation and degree choices of Computing and IT students: a gendered analysis</i></p> <p><i>Developing a strategy for an LGBT+ inclusive STEM Faculty</i></p>	May-17	Aug-19
45	8	Oct-15	16B-CH-WELS-01	Christothea Herodotou	Understanding and improving students' learning experience and engagement with practical science on-line: The ease of virtual and remote microscopes	Online/onscreen STEM practice	Online, virtual, remote, student learning, experience, engagement, microscopes	T100	WELS	Simon Kelley (E&ES), Eileen Scanlon and Maria Aristeidou (WELS)	<i>Evaluating the design of the virtual microscope with students</i>	Feb-16	Jan-19
46	6	Jun-14	14L-RH-MS-01	Rachel Hilliam	Enabling Mathematics and Statistics Associate Lecturers to achieve their potential	Academic professional development	Equality, gender differences, Athena SWAN, career development, progression, CDSA, ALs, Staff Tutor, recruitment, retention		M&S	Alison Bromley, Carol Calvert, Katie Chicot, Martina Gibbons (M&S), Emma Street (CIC) and Rosaria Gracia (AL)	<p><i>Joint PL until 31 Jul 18 - Supporting the student's learning journey through the transition of mathematics and statistics from level 2 to level 3</i></p> <p><i>Investigating the careers of Staff Tutors in STEM for Athena SWAN</i></p>	Dec-14	Mar-17
47	6	Jun-14	14L-RH-MS-02	Rachel Hilliam	Investigating the careers of Staff Tutors in STEM for Athena SWAN	Academic professional development	Career development, progression, Staff Tutors, Athena SWAN, equality, gender differences		M&S	Carol Calvert, Katie Chicot, Martina Gibbons (M&S), Elaine Thomas (C&C), Emma Street (CIC), Shirley Northover, Victoria Pearson, Jean McCoughy (SPS), Rosaria Gracia (AL)	<p><i>Joint PL until 31 Jul 18 - Supporting the student's learning journey through the transition of mathematics and statistics from level 2 to level 3</i></p> <p><i>Enabling Mathematics and Statistics Associate Lecturers to achieve their potential</i></p>	Dec-14	Jun-16
48	14	Jan-19	19E-RH-MS-03	Rachel Hilliam	The Mathematics and Statistics Community of Learners	Supporting students	Student Experience, Learning Community, Student Journey		M&S	Gaynor Arrowsmith (M&S), Alexander Siddons (AS), Derek Goldrei (AL) and Cath Brown (OUSA)	<p><i>Enabling Mathematics and Statistics Associate Lecturers to achieve their potential</i></p> <p><i>Investigating the careers of Staff Tutors in STEM for Athena SWAN</i></p>	May-19	Dec-20 - with eSTEM for review
49	4	Oct-12	12L-LHIRA-LTIA-01	Laura Hills & John Rose-Adams	How it is different to before: Science student perceptions of the study experience in an era of curriculum and technological change	Equality, diversity and inclusion	Inclusivity, disabled students, science curriculum, widening participation, technological advancements		LTIA			Dec-12	Oct-15

50	14	Jan-19	19D-MH-KM-01	Martin Hlosta	Disproved predictions of at-risk students: Some students fail despite doing well, others succeed despite predicted as at-risk	Supporting students	Learning analytics, supporting students, predicting at-risk students, error analysis, prediction limitations		KM	Christothea Herodotou (WELS) and Jakub Kovara (KM)		Apr-19	Oct-20 - with eSTEEM for review
51	14	Jan-19	19E-GH-EI-01	Georgy Holden	Qualification Study websites, uptake and practice	Supporting students	Qualification, study websites, student engagement, learning communities		E&I	Derek Jones (E&I) and Nicole Lotz (E&I)		May-19	Due Feb-21
52	13	Jul-18	19A-CH-MS-01	Chris Hughes	Evaluating the accessibility of an alternative format of module materials in Maths & Stats	Equality, diversity and inclusion	Accessibility, RNIB, assistive technology, DAISY talking books, print-disabled students	MU123, MST124, MST125, M140, MST210, M248, ME625, ME627, M208, MST224, M249, M303, M337, M365, M343, M346, M347, M373, MST326, MS327, ME626, ME825	M&S	John Clarke (AS), Chetz Colwell (WELS) and Kaye Williams (LDS)	<p><i>Joint PL - Sanification of depictions of numerical data</i></p> <p><i>Joint PL - Sanification partial pilot on M140</i></p> <p><i>Joint PL - Usage of Early Alerts Indicators on two level 1 modules</i></p> <p><i>Joint PL - Welsh-medium tuition in</i></p>	Jan-19	Feb-20
53	10	Dec-16	17E-RJEMEFJ-LHCSWELS-01	Rob Janes, Elaine Moore, Elizabeth Fitzgerald and Jo Iacovides	Utilising the Teaching Tricky Topic process to identify and address student misunderstandings across Three OU Modules	Supporting students	Tricky topics, conceptual misunderstandings, barriers, threshold concepts	S215, MST124, H880	LHCS & WELS	June-Barrow-Green (M&S) Rebecca Ferguson (WELS), Claire Turner (LHCS), Anne Adams (WELS), Lesley Boyd (WELS), Anne Pike (RES), Tom Olney (STEM Deanery), Leadership in Digital Innovation team led by Allison Littlejohn and Will Woods and LT Translation (TBC)	<p><i>Moore - Students' study of online modules</i></p> <p><i>Janes joint PL - Using technology-enabled learning networks to drive module improvements in STEM</i></p> <p><i>Janes joint PL - Blending labcasts and remote/virtual experimentation: students' perception in practical skill development alternative</i></p>	May-17	Jan-19
54	2	May-11	11H-MI-SPS-01	Mark Jones	Developing practice in online synchronous tuition by peer observation, feedback and reflection	Online/onscreen STEM practice	Online practice, peer observation, peer-support, feedback, reflection, synchronous tuition, student engagement, ALs, teaching practice		SPS	Anne-Marie Gallen (E&I), Sid Bedikoglou, Mario Campanelli, Iain Chapman, Grahame Danby, Anthony Jones, Ian Malcolm, Craig McFarlane, Sam Nolan, Roberts, Gillian Stansfield, Thomas Wilks, Stan Zochowski (ALs)	<p><i>Joint PI - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i></p> <p><i>Joint PI - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders (part II: the student perspective)</i></p> <p><i>Online Team Investigations in Science (OTIS)</i></p> <p><i>Joint PL - Evaluation of Assessment and Tuition Changes for S284 Astronomy</i></p>	Aug-11	Feb-16
55	4	Oct-12	13E-SJ-SPS-01	Sally Jordan	Thresholded assessment: Does it work?	Innovative assessment	Assessment, summative, formative, thresholded, TMAs, iCMAs	SK277, S141, S207, S240, S382, S383	SPS	John Bolton (SPS), Lynda Cook, Saroj Datta, Jon Gilding, Janet Haresnape, Kerry Murphy, Ruth Williams (LHCS), Richard Jordan (external consultant) and Karen New (AL)		May-13	Sep-14
56	2	May-11	11H-KK-CC-01	Karen Kear	Online Presence for Learning and Employability: students', use of profiles in social networking environments	Employability	Employability, online, student, community, profiles, social networking, Facebook, LinkedIn,	TU100	C&C	Frances Chetwynd (C&C) and Helen Jeffers (AL)		Aug-11	Jan-14
57	7	Feb-15	15F-CKPS-LHCSWELS-01	Claire Kotecki & Prithvi Shrestha	Academic literacy and communicating assessment to students in Level 1 science module: building the foundations for retention and progression	Innovative assessment	Assessment, terminology, academic literacy, retention, progression, level 1,	S111, S112	LHCS & WELS		<p><i>Single component assessment on Level 1 science modules: a quantitative and qualitative evaluation of the assessment journey from TMA to Feedback</i></p>	Jun-15	Aug-19

58	1	Feb-11	11D-SKM-CC-01	Soraya Kouadri Mostéfaoui	Assessing 'alternative media' elements: is there a generic model?	Innovative assessment	Assessment, framework, non text-based, media artefacts	T215	C&C	Judith Williams (C&C)	<p>Joint PL - Visualising the code: are students engaging with programming at level 1?</p> <p>Joint PL - Supporting Degree Apprenticeship students: Tutors' and Students' perspectives</p> <p>Joint PL - Are You Ready for Your Studies - Are we Assessing Students Readiness? An evaluation of the usefulness of the Level 2 ARPY quizzes</p> <p>Joint PL - Using BiteSize Videos to Enhance Students' Experiences in a Level 2 Programming Module</p>	Apr-11	Jan-13
59	11	Jul-17	17J-SKM-CC-03	Soraya Kouadri Mostéfaoui	Supporting Degree Apprenticeship students: Tutors' and Students' perspectives	Supporting students	Degree apprenticeship, tutor, student, perspectives, tuition strategy, support, subject-specific tutors, employability	TMX130, TMX130	C&C	Christine Gardner (C&C)	<p>Assessing 'alternative media' elements: is there a generic model?</p> <p>Paving the Way Towards an Extended Assessment Model</p> <p>Joint PL - Visualising the code: are students engaging with programming at level 1?</p> <p>Joint PL - Modern Container-based Learning Interface and Delivery Infrastructure (MCLIDI)</p>	Oct-17	Due Feb-21
60	7	Feb-15	15F-AL-EI-01	Andy Lane	The impact of technology on the teaching and assessment of 'systems diagrams'	Technologies for STEM learning	Diagramming, technology, systems thinking.	T219, T319	E&I			Jun-15	Jan-16
61	7	Feb-15	15F-NL-EI-01	Nicole Lotz	Are we making progress? Progression through learners' interaction in OpenStudio across a qualification	Technologies for STEM learning	Progression, OpenStudio, students' interaction, student learning, design and innovation, engagement, professional skills	U101, T217, T317	E&I	Derek Jones and Georgy Holden (E&I)	Developing a sense of community through cross-level engagement between staff and students in creative industries subjects	Jun-15	Oct-17
62	11	Jul-17	17K-NL-EI-02	Nicole Lotz	Developing a sense of community through cross-level engagement between staff and students in creative industries subjects	Supporting students	Community of Inquiry, Student Engagement, Students as Partners	U101, T217, T218, T317	E&I	Lisa Bowers (E&I), Bernie Clark (E&I), Asma Chowdhry (E&I), Georgy Holden (E&I), Derek Jones (E&I), Emma Dewberry (E&I), Theodore Zamenopoulos (E&I), Katerina Alexiou (E&I), Sally Anne Inerne (Deanery), AnnMarie McKenna (AL), Tema George (AL), Jenny Burke (AL), Laura Fletcher (AL), Clive Hilton (AL), Elouise Huxor (AL), Rod Dowling (AL)	Are we making progress? Progression through learners' interaction in OpenStudio across a qualification	Nov-17	Jun-20
63	10	Dec-16	17E-HM-LHCS-01	Hilary MacQueen	Factors affecting student success in the Workplace	Employability	Higher education, Distance learning, Work-based learning, Student experience		LHCS	Fiona Aiken (EES)		May-17	Sep-19

64	4	Oct-12	12L-NMCH-SPSCC-01	Nigel Mason & Clem Herman	e-Ambassadors and e-Portfolios: Exploring innovative methods to embed employability in practice-based STEM distance learning	Employability	Employability, e-ambassadors, e-portfolios, STEM Ambassadors,		SPS & C&C	Rosaria Gracia and Rachel Ferris (ALs), Clare Riding, Wendy Woolery (AS), Diane Butler, Claire Rothwell (LHCS)	<i>Herman - Career Development for STEM professionals</i> <i>Herman - Level 1 IT and Computing – where have all the women gone?</i> <i>Herman - Evaluation of a community partnership approach using open educational resources: Equate Scotland and the Returning to STEM BOC</i>	Dec-12	Jul-13
65	13	Jul-18	18K-SM-MS-01	Sarah Mattingly	Developing programming, problem-solving skills using individualised screencasts	Technologies for STEM learning	Programming, problem solving, TMA feedback, screencasts	TM111, TM112	M&S	Christine Gardner (C&C), Richard Walker (AL)		Nov-18	May-20
66	6	Jun-14	14I-SMTA-CCEES-01	Shailey Minocha & Tom Argles	Evaluation of The OpenScience Lab's 3D Virtual Skiddaw application	Technologies for STEM learning	Virtual Skiddaw, virtual fieldtrips, VTF, virtual fieldwork, environments, 3D, 2D, OpenSTEM Lab, app		C&C & EEES		<i>Argles - Geospatial technologies in distance learning and teaching in Science</i>	Oct-14	Oct-19
67	6	Jun-14	14L-EM-LHCS-01	Elaine Moore	Students' study of online modules	Online/onscreen STEM practice	Online delivery, onscreen, modules, student experience, perception, online activities	S206, S209, S215, S217, S295	LHCS	Vikki Haley-Minar, Vicky Taylor (LHCS), Julie Robson, Kadmiel Maseyk (EEES), Catherine Halliwell (AL), Bob Everett, Jim Moffatt and Richard Moat (E&I)	<i>Joint PI - Online Chemistry Support Clinics</i>	Dec-14	Aug-17
68	10	Dec-16	17E-CMSO-EI-01	Carol Morris and Sally Organ	Engineering qualifications at the OU – what motivates women to study?	Equality, diversity and inclusion	Equality, diversity, engineering, female students, intentions, Athena SWAN, level 1		E&I	Kim Littlewood and Moira Dunworth (ALs)	<i>Morris joint PI - Understanding factors influencing BAME students' achievements within Engineering and Innovation</i>	May-17	Oct-19
69	13	Jul-18	18K-FMKN-LHCS-01	Fiona Moorman and Karen New	Online journal clubs in distance higher education: an opportunity to develop skills, and community?	Online/onscreen STEM practice	Journal club, online, adobe connect, presentation, PROMPT, community	S112, S294	LHCS	Hazel Church (STEM Deanery)	<i>New - Use of augmented reality in a second level human biology module: benefits and challenges</i> <i>Summer Series of Journal Clubs: an opportunity to develop employability skills and a sense of community amongst students in secure environments</i> <i>STEM ISSS - where are we now? Evaluating awareness, usage and effectiveness of individual student support sessions</i>	Nov-18	Jan-20
70	5	Sep-13	13L-SNST-EI-01	Suresh Nesaratnam and Shabram Taherzadeh	The use of smart phones to enhance teaching in environmental engineering and environmental science modules	Technologies for STEM learning	Smart phone, apps, environmental science, engineering, noise measurement, water quality analysis		E&I		<i>Pilot trial of a smart phone App for ascertaining water quality</i>	Dec-13	Sep-14

71	12	Jan-18	17F-SNST-EI-02	Suresh Nesaratnam and Shahram Tahezadeh	pilot trial of a smart phone App for ascertaining water quality	Technologies for STEM learning	Smart, App, water quality, practical activities, practical skills	T868	E&I		<i>The use of smart phones to enhance teaching in environmental engineering and environmental science modules</i>	Jun-18	Mar-19
72	13	Jul-18	18K-KN-LHCS-01	Karen New	Use of augmented reality in second level human biology module: benefits and challenges	Technologies for STEM learning	Augmented reality, AR, biology, student perspective, practitioner perspective, SK299	SK299	LHCS	Kerry Murphy and Lynda Cook (LHCS)	<i>Joint PL - Online Journal clubs in distance higher education: an opportunity to develop skills and community?</i> <i>Joint PL - STEM ISSS - where are we now? Evaluating awareness, usage and effectiveness of individual student support sessions</i> <i>Joint PL - Summer Series of Journal Clubs: an opportunity to develop employability skills and a sense of community amongst students in secure environments</i>	Nov-18	Apr-20
73	14	Jan-19	19F-KNFMHG-LHCS-01	Karen New, Fiona Moorman and Hannah Gauci	Summer Series of Journal Clubs: an opportunity to develop employability skills and a sense of community amongst students in secure environments	Supporting students	SISE, Journal Club, employability, community, retention		LHCS	Ruth McFarlane (AS) and Lynn Scott (AS)	<i>Gauci joint PL - Assessing the effectiveness of the induction process for novice Associate Lecturers in the School of Life Health and Chemical Sciences in preparing them for the Associate Lecturer role</i> <i>Gauci joint PI - Evaluating a new STEM AL induction programme</i> <i>New - Use of augmented reality in a second level human biology module: benefits and challenges</i> <i>New and Moorman - Online Journal clubs in distance higher education: an opportunity to develop skills and community?</i> <i>New and Moorman - STEM ISSS -</i>	Jun-19	Jan-21 - with eSTEEM for review
74	5	Sep-13	13L-VN-EEES-01	Victoria Nicholas	Gathering student perception about online/distance practical science at level 1	Online/onscreen STEM practice	Online, practical science, student perception, level 1	S141, S155	EEES	David Robinson (EEES), Steve Swintherby (LHCS) and Jane Kendall-Nicholas	<i>Gathering student perception about online/distance practical science at level 2</i>	Dec-13	Feb-16
75	7	Feb-15	15G-VN-EEES-02	Victoria Nicholas	Gathering student perception about online/distance practical science at level 2	Online/onscreen STEM practice	Online, practical science, student perception, level 2	S382, SXP288, SXHL288	EEES	Nicholas Braithwaite (Deanery), Mark Hirst (LHCS), Ulrich Kolb (SPS), Marcus Broderur (Deanery), Dave Edwards and Sarah Chyirwsky (ALS)	<i>Gathering student perception about online/distance practical science at level 1</i>	Jul-15	Due Mar-21
76	8	Oct-15	16A-AN-SPS-01	Andrew Norton	Assessment analytics of student engagement with, and performance on, S217 online quizzes	Innovative assessment	Assessment, analytics, student engagement, online quizzes, TMs	S217	SPS	Alan Cayless (AL)		Jan-16	Aug-16
77	10	Dec-16	17E-AOADLAB-WELSKMEL-01	Ais Okada, Anna De Liddo and Andrea Berardi	VISCON - Visual Interfaces for Systemising and Interpreting Online Notes	Online/onscreen STEM practice	Online notes, LiteMap, annotate, online content, visual representation, visual interpretation, student motivation, online learning	T891	WELS, KMI & E&I	Michelle Bachler (KMI)		May-17	Due Feb-21
78	10	Dec-16	17E-SPCH-MS-01	Sue Pawley and Chris Hughes	Supporting MST224 students with bridging material during their transition from level one mathematics	Supporting students	Bridging interventions, revise and refresh, transition, retention, tutor support forums, level 1, level 2	MST124, MST224	M&S	Tim Lowe and Robert Hasson (M&S), Anne Rhodes, Linda Brown, Paul Twine (ALS)	<i>Pawley - Exploring the extent of maths anxiety within the STEM faculty at the Open University</i> <i>Hughes - Evaluating the accessibility of an alternative format of module materials in Maths & Stats</i> <i>Hughes joint PL - Usage of Early Alerts Indicators on two level 1 modules</i> <i>Hughes joint PL - Welsh-medium tuition in Level 1 Mathematics</i> <i>Hughes joint PL - Sanification of depictions of numerical data</i> <i>Hughes joint PL - Sanification partial pilot on M140</i>	May-17	Nov-18

79	1	AL	Feb-19	19F-CP-CC-01	Cathryn Peoples	Personalised Student Support Plans: Examining the Effectiveness of Support Recommendations made by Students	Supporting students	Personalised support, student engagement, student profiling, online tools, Slack, staff-student interaction	TM354	C&C		<i>Is it them? Is it me? Support for Students. Teaching for Tutors An investigation into the Encouragement of Lower-performing Students to Engage with their Module, their Peers, and their Tutor</i>	Jun-19	Jan-21 - with eSTEEM for review
80	1		Feb-11	11F-PP-CC-01	Paul Piwek	Argumentation Education (ArgUEd)	Innovative assessment	Assessment, argument, mapping, analysis, iCMA, OpenMark	TU100	C&C	John Woodthorpe (C&C), Crispin Boyd (STEM Deanery), Phil Butcher and Callum Lester (LDS)		Jun-11	Mar-14
81	14		Jan-19	19E-APGG-MS-01	Andrew Potter and Gerry Golding	Associate Lecturer, Reflections on Student Perceptions of Usefulness of Level 1 Service Mathematics	Supporting students	Service mathematics, service teaching, usefulness, student perceptions, student attitudes, threshold concepts, discourse	MU123, MST124, MST125, M140	M&S		<i>Potter joint PL - Developing students and tutors perceptions of good mathematical communication on level one service mathematics module MU123: an investigation</i> <i>Potter joint PL - Blended tutorials in Mathematics: simultaneous F2F and online learning events</i> <i>Potter joint PL - Welsh-medium tuition in Level 1 Mathematics</i> <i>Golding joint PL - Developing students and tutors perceptions of good mathematical communication on level one service mathematics module MU123: an investigation</i>	May-19	Due Apr-21
82	12		Jan-18	18F-NPSCCECRJ-LHCS-01	Nicholas Power, Simon Collinson, Eleanor Cabb and Rob Janes	Online remote experiments in chemistry - analysis of delivery, assessment, tracking and student perception	Online/onscreen STEM practice	Online, remote access experiments, real science, student engagement, performance, perception, laboratory	S215, S315	LHCS		<i>Crabb joint PL - Developing responsive approaches to enhance personalized learning in S315</i> <i>Crabb joint PL - Blending labcasts and remote/virtual experimentation: students perception in practical skill development alternative</i> <i>Crabb joint PL - Improving success and satisfaction of credit transfer students entering L3 modules in Science</i> <i>Janes joint PL - Utilising the Teaching Tricky Topic process to identify and Address Student Misunderstandings across Three OU Modules</i> <i>Janes joint PL - Using technology-enabled learning networks to drive module improvements in STEM</i>	Jun-18	Due Feb-21
83	8		Oct-15	16A-LR-CC-01	Lucia Rapanotti	Measuring qualification effects of a new pedagogy which embeds learning and assessment activities within each student's rich professional context of practice	Employability	Employability, research skills, professional context of practice, post graduate, assessment		C&C	Jon G. Hall, Steven Self, Mark Slaymaker (C&C) and David King (AL)		Jan-16	May-17
84	14		Jan-19	19C-CRAMG-EI-01	Clare Reger and Anne-Marie Gallen	Evaluating the level 1 engineering tutors resource	Academic professional development	Evaluation, shared resources, associate lecturers, tuition	T192, T193, T194, T196, T176	E&I	Cheng Lee (AL) and John Bramley (AL)	<i>Reger and Gallen - Factors influencing female participation in Physical Science Postgraduate Research Programmes</i> <i>Gallen joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders (part II: the student perspective)</i> <i>Gallen joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i>	Mar-19	Oct-19
85	5		Sep-13	13L-MR-EI-01	Martin Reynolds	Enhancing Systems Thinking in Practice at the Workplace	Employability	Employability, systems thinking, post graduate, work-based learning, communities of practice		E&I	Ray Ison, Christine Blackmore (E&I), Rupesh Shah and Elaine Wedlock (AL)	<i>Framing Professional Competencies for Systems Thinking in Practice</i> <i>Joint PI - Changing the way the game is played: transforming postgraduate curriculum praxis and workplace capabilities</i>	Dec-13	Aug-16

86	10	Dec-16	17C-MR-EI-02	Martin Reynolds	Framing Professional Competencies for Systems Thinking in Practice	Employability	Employability, systems thinking, work-based learning, communities of practice		E&I	Jitse van Ameijde (LDS), Rupesh Shah (AL)	<i>Enhancing Systems Thinking in Practice at the Workplace</i> <i>Joint PI - Changing the way the game is played: transforming postgraduate curriculum praxis and workplace capabilities</i>	Mar-17	Jun-18
87	12	Jan-18	18E-MRRI-EI-01	Martin Reynolds and Ray Ison	Changing the way the game is played: transforming postgraduate curriculum praxis and workplace capabilities	Employability	Employability, systems thinking, postgraduates, competencies, learning outcomes, apprenticeship	TUR11, TUR12	E&I	Rupesh Shah (E&I), Jitse van Ameijde (LDS), Helen Wilding and Mike Walker (ALs)	<i>Reynolds - Enhancing Systems Thinking in Practice at the Workplace</i> <i>Reynolds - Framing Professional Competencies for Systems Thinking in Practice</i>	May-18	Due Feb-21
88	6	Jun-14	14L-LR-EI-01	Linda Robson	A quantitative and qualitative investigation into communications sent to students for selected level 1, MST and science modules	Supporting students	Email communications, student experience, level 1	S142, SDK125, U116	E&I	Linda Robson, Nicolette Habgood (LHCS), Nigel Gibson, Christine Harris and Carole Arnold (ALs)	<i>Assessment banking – useful break or deferred withdrawal? An investigation of the outcomes and experience for students who have assessment banked</i>	Dec-14	Dec-15
89	11	Jul-17	17J-KR-MS-01	Katrine Rogers	Active learning in synchronous online tuition: increasing student interaction	Supporting students	Active learning, synchronous, online, tuition, Adobe Connect, student engagement, tutor, perceptions	MST224, MS327, MS73, MT365	M&S	Claudi Thomas and Hillary Holmes (M&S)		Sep-17	Jul-19
90	3	Oct-11	12B-ER-EES-01	Emma Rothero	Flight of the Fritillary	STEM engagement	Engagement, schools, citizen science, Floodplain Meadows Partnership, volunteers, public, data collection	S396	EEES	David Gowing, Mike Dodd, Mandy Dyson and Irina Tatarenko (EEES)	<i>Flight of the Fritillary phase 2</i>	Feb-12	Feb-14
91	6	Jun-14	15A-ER-EES-02	Emma Rothero	Flight of the Fritillary phase 2	STEM engagement	Engagement, schools, citizen science, Floodplain Meadows Partnership, volunteers, public, data collection		EEES	David Gowing, Mike Dodd, Mandy Dyson and Irina Tatarenko (EEES)	<i>Flight of the Fritillary</i>	Jan-15	Jun-18

92	9	May-16	16I-HR-MS-01	Hayley Ryder	Use of STACK to generate formative assessment for level 3 Pure mathematics	Innovative assessment	STACK, computer aided assessment, formative assessment, examination preparation, revision, past papers, self-efficacy	M303	M&S	Joe Kyle (AL)	<p>Joint PL - Use of OULive recordings of 'live mathematics' and discussion forums 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</p> <p>Joint PL - Does the provision of an 'own working space' for tutors enhance the learning experience for students</p> <p>Joint PL - Evaluating the increase in student wellbeing brought about by informal online sessions and computer generated worked examples on a level 3 pure maths module</p>	Oct-16	Nov-19
93	10	Dec-16	17ESSMS-CC-01	Steven Self and Mark Slaymaker	Refining a framework for measuring qualification effects	Employability	Employability, post-graduate, students' professional context, research skills, pedagogical approach, framework, computing qualification		C&C	Jon Hall and Lucia Rapanotti (C&C)		May-17	Due Feb-21
94	12	Jan-18	18E-BSRH-LHCSLDS-01	Bryan Singer and Rafa Hidaigo	Improving student engagement during online-only courses through the use of interactive question-embedded videos	Online/on-screen STEM practice	Online only modules, interactive, question-embedded, videos, educational tools, active learning	SDK100	LHCS & LDS	Carol Midgley (LHCS) and Vikki Haley-Mimar (LHCS)	Singer - Teaching psychological concepts through Virtual Reality (VR)	May-18	Feb-20 - with eSTEEM for review
95	11	Jul-17	17RMSAC-CCWELS-01	Mark Slaymaker and Anactoria Clarke	Evaluating Access for Postgraduate Study	Supporting students	Postgraduate, access, tutor support, BOC, reflection skills, critical analysis, referencing, masters	M811, M814, M816, T804, T848, T849, T867, T868, T889, T891, TU812, M812, M813, M815, T805, TU811	C&C and WELS	John Woodthorpe (C&C) and Daphne Chang (E&I)	Slaymaker - Refining a framework for measuring qualification effects	Nov-17	Due Feb-21
96	1	Feb-11	11D-IS-FASS-01	Joe Smith	Creative Climate Learning: common resources on environmental change	Technologies for STEM learning	Online content, environmental communications, digital scholarship,		F&SS	Christine Pearson (E&I), Susan Fawcett (AL)		Apr-11	Jun-12
97	1	Feb-11	11D-PT-LHCS-01	Peter Taylor	The use of peer assessment/review in distance teaching via the Moodle VLE	Innovative assessment	Peer assessment, review, Moodle, VLE, self-assessment, student experience	S104, ED209, T320, A850, S390, S366, TU100, T320, Y181	LHCS	Antonio Martins-Mouro (LHCS), Janet Dyke, Manish Malik, Frances Chetwynd, Helen Jeffries, Christine Gardner, Sue Nieland, Chris Middup, Krushil Watene, Richard Federick, Charlotte Schulze, Bettie Matheson (ALS)		Apr-11	Sep-14
98	4	Oct-12	12I-ETSWSD-CCEES-01	Elaine Thomas, Steve Walker and Sarah Davies	Hybrid/Digital Networked Learning scruffy mongrel or sleek new breed? Practices and implications of blending physical and digital resources for learning in HE	Technologies for STEM learning	Digital resources, networked resources, networked learning, hybrid digital material, PIRATE, SenseBoard		C&C & EEES	Steve Walker (C&C) and Sarah Davies (EEES)	Using OpenStudio in STEM learning	Dec-12	Nov-15
99	9	May-16	16I-ETSKMHI-CC-01	Elaine Thomas, Soraya Kouadri Mostéfaoui and Helen Jeffers	Visualising the code: are students engaging with programming at level 1?	Technologies for STEM learning	Programming teaching, visual programming, computer science education, student engagement	TU100	C&C		<p>Thomas joint PL - Hybrid/Digital Networked Learning scruffy mongrel or sleek new breed?</p> <p>Thomas - Using OpenStudio in STEM learning</p> <p>Kouadri - Paving the Way Towards an Extended Assessment Model</p> <p>Kouadri - Assessing 'alternative media' elements: is there a generic mode?</p> <p>Kouadri - Supporting Degree Apprenticeship students: Tutors' and Students' perspectives</p>	Oct-15	Jul-19
100	10	Dec-16	17F-LTNN-LHCS-01	Linda Thomson and Nicola McIntyre	Online tutorial design: can we do better?	Supporting students	Online, synchronous tutorials, group tuition policy, flipped lectures, tuition strategies, attendance	SDK100, SD329	LHCS	Gerry Golding (M&S)	Thomson joint PL - The impact of live streaming module-wide events in student engagement and motivation	Jun-17	Due Jun-21
101	12	Jan-18	18E-LTMV-LHCS-01	Linda Thomson and Maria Velasco	The impact of live streaming module-wide events in student engagement and motivation	Technologies for STEM learning	Online, tuition, interactive labcasts, science community building, student engagement	S111	LHCS	Kate Bradshaw (STEM Deanery)	Thomson joint PL - Online tutorial design: can we do better?	May-18	Due Feb-21

102	6	Jun-14	14-ET-CC-01	Elaine Thomas	Using OpenStudio in STEM learning	Technologies for STEM learning	OpenStudio, audio visual resources, student interactions, artefacts, creative practices, community of practice		C&C	Leonor Barroca, Helen Donelan, Karen Kear and Jon Rosewell	<i>Hybrid/Digital Networked Learning</i> <i>scruffy mongrel or sleek new breed?</i> <i>Practices and implications of blending physical and digital resources for learning in HE</i>	Oct-14	Dec-18
103	7	Feb-15	15G-KVCH-MS-01	Karen Vines and Chris Hughes	Sonification of depictions of numerical data	Equality, diversity and inclusion	Inclusivity, visually impaired students, sonifications, numerical data,	MU123, MST124, M140, S104	M&S	Hilary Holmes (M&S), Vic Pearson, Laura Alexander (SPS), Claire Kotecki (LHCS), Chetz Colwell	<i>Sonification partial pilot on M140</i> <i>Hughes joint PL - Supporting MST224 students with bridging material during their transition from level one mathematics</i> <i>Hughes - Evaluating the accessibility of an alternative format of module materials in Maths & Stats</i>	Jul-15	Dec-16
104	10	Dec-16	17E-KVCH-MS-02	Karen Vines and Chris Hughes	Sonification partial pilot on M140	Equality, diversity and inclusion	Accessibility, inclusion, visual impairment, disability, sonification, learning analytics	M140	M&S	Carol Calvert (M&S) and Chetz Colwell	<i>Sonification of depictions of numerical data</i>	May-17	Apr-18
105	2 AL	Mar-20	20G-RW-CC-01	Richard Walker	Remote sighted helper support for visually impaired students: exploring good practice: Stage 1	Equality, diversity and inclusion	Accessibility, VI, sighted helper, remote support, visual programming	TM111	C&C	Christine Gardner (C&C) and Sarah Mattingly (M&S)		Jul-20	Dec-20 - with eSTEEM for review
106	1	Feb-11	11D-SW-CC-01	Steve Walker	Infinite Bandwidth Zero Latency - IBZL2	Technologies for STEM learning	Next generation networks, broadband, futurescaping, imagine/triple task		C&C	Simon Bell (E&I)		Apr-11	Feb-12
107	12	Jan-18	18E-JWHG-LHCS-01	Janette Wallace and Hannah Gauci	Assessing the effectiveness of the induction process for novice Associate Lecturers in the School of Life Health and Chemical Sciences in preparing them for the Associate Lecturer role	Academic professional development	Associate Lecturers, ALs, induction, academic support, novice, working practice, practitioner, confidence	SK299	LHCS		<i>Wallace - Does attendance at unrecorded online module wide tutorials on a science module enhance student enjoyment, engagement and success? How might this impact tuition strategy for current and future LHCS modules?</i> <i>Gauci - Summer Series of Journal Clubs: an opportunity to develop employability skills and a sense of community amongst students in secure environments</i> <i>Evaluating a new STEM AL Induction programme</i>	May-18	Due Mar-21
108	10	Dec-16	17E-AW-CC-01	Ann Walshe	Towards A Structured Process for involving ALs in Module Tuition Strategy Design and Review	Supporting students	Tuition, Associate Lecturers, module group tuition strategy toolkit, module design, review		C&C	Simon Savage (C&C) and Sharon Dawes (AL)	<i>Joint PL - Perceptions, Expectations and Experience of Group Tuition: towards a shared understanding amongst stakeholders</i> <i>Joint PL - Investigating the perceived benefits to computing students of remote pair programming</i>	May-17	Jan-19

109	14	Jan-19	19D-JW-LHCS-01	Janette Wallace	Evaluating student perspectives of different types of learning events, provided on SDK228, a level 2 LHCS module	Supporting students	Science, SDK228, Tutorials, interactive, enjoyment, engagement, informal, student success	SDK228	LHCS	Isabella Henman (AL) and Claire Rostrom (LHCS)	<i>Assessing the effectiveness of the induction process for novice Associate Lecturers in the School of Life Health and Chemical Sciences in preparing them for the Associate Lecturer role</i> <i>Does attendance at unrecorded online module wide tutorials on a science module enhance student enjoyment, engagement and success? How might this impact tuition strategy for current and future LHCS modules?</i> <i>Joint PI - Evaluating a new STEM AL induction programme</i>	Apr-19	Due Feb 21
110	1	Feb-11	11D-MW-CC-01	Michel Wermelinger	iChart – Interactive Exploration of Data Charts	Technologies for STEM learning	Interactive, visualisation tool, data charts, Scatter, scatterplot, maps.		C&C	Paul Piwek (C&C)		Apr-11	Jul-13
111	9	May-16	16I-PWJCKMTC-EEESKMI-01	Phil Wheeler, Julia Cooke, Kadmiel Maseyk and Trevor Collins	Assessing The 'Open Field Lab': Evaluating Interactive Fieldcasts for Enhancing Access to Fieldwork	Technologies for STEM learning	Interactive, widgets, fieldcasts, fieldwork, accessibility, inclusion, authentic, tuition	S206, SXF206	EEES & KM	Julie Robson (EEES)		Oct-16	Dec-20 - with eSTEEM for review
112	13	Jul-18	18K-PW-CC-01	Patrick Wong	Understanding and mitigating students difficulties in undertaking complex practical activities on their computers	Online/onscreen STEM practice	Practical activities, networking, real-time student feedback, technology, mobile device, tablet, software configuration, installation, virtualisation technology	TM129, TM255, TM351, TM352	C&C	Helen Danelan (C&C) and Tony Hirst (C&C)		Nov-18	Sep-20 - with eSTEEM for review
113	11	Jul-17	17E-CWSW-EEESCC-01	Carlton Wood and Steve Walker	Piloting OU Analyse and the Student Probabilities Model on 12 STEM Modules	Supporting students	OU Analyse, retention, progression, analytics, early alert indicators, predictive data		EEES & C&C	Maria Kantirou (STEM Deanery), Tom Olney (STEM Deanery), Anactoria Clarke (WELS), Carol Calvert (M&S) and Moira Dunworth (AL)	<i>Walker - Infinite Bandwidth Zero Latency – IBZL2</i> <i>Wood - Assessing and supporting student experience of synchronous online tuition</i>	May-17	Aug-19
114	5	Sep-13	13L-JW-CC-01	John Woodthorpe	An Investigation into the Use of Artificial Neural Networks to predict student failure, and the efficacy of sustainable additional support for those students	Supporting students	Neural networks, predictive modelling, OU Analyse, tutor contact, retention, progression	TU100	C&C	Chris Dobbyn, Frances Chetwynd (C&C) and Helen Jefferis (AL)	<i>Joint PL - How students' use of language relates to learning, retention, and performance in assessment on TU100: Implications for learning design, assessment strategy, and tuition practices in the MCT faculty</i>	Dec-13	Mar-16
115	5	Sep-13	13L-JWID-CCWELS-01	John Woodthorpe and Jim Donohue	How students' use of language relates to learning, retention, and performance in assessment on TU100: implications for learning design, assessment strategy, and tuition practices in the MCT Faculty	Innovative assessment	Language, learning, retention, assessment, tuition practices, linguistic analysis	TU100	C&C & WELS	Nel Boswood, Caroline Coffin, Qian Kan, Sarah Madhejee (WELS), Val Hancock, Mandy Honeyman, Cheryl McAndrew, Heather Morris (ALs) <i>Jim Donohue joint PL until 31 Jul 15</i>	<i>Woodthorpe - An investigation into the use of Artificial Neural Networks to predict student failure, and the efficacy of sustainable additional support for those students.</i>	Dec-13	May-16
116	1 AL	Feb-19	19F-AY-EL-01	Alan Yate	Do OU students understand the Learning Outcomes on courses in general and in T176, T192, T193, T194 in particular?	Supporting students	Learning outcomes, academic literacy, student journeys, TMA	T176, T192, T193, T194	E&I	Steve Dutch (AL)		Jun-19	Due Jan 21

Key findings/Impact
<p>Our project has highlighted that students who have studied S112 show some evidence of developing employability skills, however certain LOs (business and customer awareness) and the use of radar diagrams as compulsory to record skills development are not popular. Students also find it difficult to engage with PDP at the start of the module where they lack a benchmark to assess their skills against.</p> <p>We met with the Module Team in October 2020 to share our findings, and a constructive discussion ensued. The MT were unsure about making radar diagrams optional, but were keen to:</p> <ol style="list-style-type: none"> 1. Help students establish as realistic a benchmark as possible at module start (e.g. promotion of the Are You Ready For S112? quiz). 2. Provide tutor guidance, including materials to promote self-assessment in the introductory tutorial session. 3. Increase tutors' awareness of students' confidence levels in existing skills at module start, and provide guidance to tutors in helping students see the value of PDP / to facilitate authentic engagement. <p>Our own awareness of PDP design for future modules will probably avoid radar diagrams, or make them available as an optional tool. The S112 MT are considering numerous small changes in PDP on S112 in order to improve student engagement with this. This should enhance students' PDP on the module in future presentations. Furthermore, it is better for PDP to be introduced to students using a consistent method for recording them throughout a qualification .e.g through use of the FutureYou tool.</p>
<p>Development of a Geology Photo Blog tool based around a Google Maps interface, to enable OU geology students and tutors to share pictures related to their studies and encourage discussion. Tool embedded in S209 Earth science</p>
<p>The single thing that the OU could do to improve the SISE experience is to fix and enforce a Final Enrolment Date for SISE students. This would:-</p> <ul style="list-style-type: none"> • increase the likelihood that SISE students receive their module materials in good time • allow sensible geographic allocation of SISE students to tutors, making some face to face tuition possible • ensure that in each prison Education Officers only have to deal with one tutor per module, allowing tutors to build up relationships with the EOs and improving communication <p>For high population modules with more than say 10 SISE students, SISE only tutorgroups offer significant advantages as there is a considerable overhead for tutors in navigating module materials, SISE procedures etc. It would also allow the SISE only tutors to work more closely with the relevant module team to improve the resources available over time.</p>
<p>Ongoing strategic collaboration with Brazilian institutions leading to further publications and study visits</p>
<p>At the time of writing (March 2019) it is too early to identify any significant findings or measures or impact. The site is just launched, and students are only beginning to engage with it. The comic site has been advertised in online/ live module-wide tutorials for both T219 and T319 cohorts. These broadcasts remain available as podcasts to students on either module.</p> <p>This project was all about reaching out to students via the means of a story about collaborating in online groups presented in a graphic novel. To achieve maximum outreach the project achieved co-funding by Open Media and Informal Learning (OMIL) and is available along with a variety of supplementary materials in its final form at: https://www.open.edu/openlearn/science-maths-technology/design-innovation/when-two-worlds-collide-achieving-wisdom-online-groups</p>
<p>Students who were invited to the project had no previous knowledge of haptics, the specific device used, nor the concept of how haptics worked in the virtual realm. Thereby students were introduced to new fields of design interaction and prototype assembly. Many of the students have since followed up their interest in haptics. One specific case of a NS participant (now a PhD student) reading haptics (Air Haptics) and was inspired by the particular process and device and stated he would like to include the shape assembly project as a literature review in the future.</p> <p>The longer term impact revealing the effect on students' retention etc... will be measured after more testing with mobile haptic devices or gesture haptics.</p> <p>The legacy this project has left with academic teaching staff has been interesting. From the three volunteer design ALs selected to work with the BETA version of the shape assembly, all of them have been inspired to read further on haptics in education. They all were interested and stated they were inspired about the OU investing in research for design TEL.</p> <p>Externally this project has led to the project lead adding to an external blog through University Hertfordshire (UH). It has also been placed in the project leads PhD thesis, as a main trial of haptic testing. Papers have been submitted to external haptic conference.</p>

This project involved further data analysis in relation to various aspects of the assessment in S207 - both continuous assessment and various exam components. Data from other modules in related areas was also examined. Results suggested that the difference in success between the genders in S207 could be not explained by the assessment strategy or by other factors (e.g. online forum activity, gender of tutor) (Jordan et al, (2015)). Demographic information gave no obvious differences for women and men e.g. age, previous qualifications etc but for Open University student previous study is very varied and individual student information known is very limited. To determine further information in this area some students on the 2016 presentation of S217 were surveyed and a cohort of these students interviewed by phone. These telephone interviews allowed more detailed discussions of students' reasons for studying S217 as well as their preparedness for the module particularly in terms of any previous study of physics and/or mathematics. Common themes were identified and allowed recommendations for additional resources to be made to the module team.

Our detailed focus on the realities of tutorial provision in this area of our curriculum therefore suggests a modified approach to tutorial provision using a greater variety of approaches/techniques that may better serve the variety of expectations of our students. The design of future module tutorial strategies may encompass the following without the intention that all students will use all types of provision.

- A greater variety of types of well signposted, small group tutorials, clearly defined in terms of expectations of active student participation, including drop in support, clinic, problem solving, skills focused sessions, assessment focused sessions.
- Provision of large scale, high production value (potentially previously recorded) 'lectures' providing the additional 'voice' which explains key module concepts and gives the coverage many students crave.
- Provision of genuinely large-scale synchronous events, which add value to the student experience such as live debates or lab casts.
- Creative use of forum spaces to provide places for follow up asynchronous or synchronous discussion of online 'lectures' or other synchronous but large scale events.
- Complete integration of the tutorial provision within the online module materials - from the module planning stage onwards.
- Opportunities for student collaborative tasks which emphasise the importance and value of student to student interaction.
- Opportunities for peer to peer 'tutor less' synchronous meetings.

The findings from the project have been incorporated into an Induction Programme for a group of students on a Level 1 Mathematics entry module. This Induction Session has also been made available to all the students on the 2017 February start for entry level Mathematics & Statistics modules

1. The pilot has established that a substantial number of students are keen to take part in an opportunity to start M140 on a more flexible basis prior to the October module start. Students have identified the benefits in terms of reduction in stress, better time management and a better understanding of how study at the OU is organised.
 2. Student responses to the questionnaire were clearly showing how much they valued the tutors and the tutorials support and yet uptake of the facility offered by tutors seemed low. This may simply be that it was important for the student to KNOW the tutor was there if needed but that actually the materials were well within the understanding of the majority of the students.
 3. Neither students nor tutors feel that there are strong benefits for most students of having the same tutor on the early start programme as they do on the main presentation.
 4. Student retention has improved by 2-3 percentage points between registration and module start. Around 30-40 more students passed M140 than we would have expected compared with registration numbers in 2015 and 2016. It is anticipated that student satisfaction will also have improved but it is unlikely that will be identifiable within the annual University student satisfaction survey (SEAM).
 4. The cost involved was for 40 DL days and programme manager time to set up web site and Chair/ project lead to develop and administer the programme. In 181 the faculty will fund 20 DL days and the administration of the programme will be simplified to 5 days. This is off set against a potential retention in 181 of at least 30 students. Thus the programme represents a cost effective way of increasing retention.
 5. The explanatory factor to be added to the predictive model is not "take part" but more critically being "offered a place and not taking up the place". This is acting as a proxy for lack of engagement at an early stage with study.
- Additionally
6. Following discussions with AL's, colleagues in assessment, and the Board of studies it was agreed that we would introduce an element of flexible submission and feedback for TMAs. This meant that students could be offered the opportunity to submit the final two TMAs early and hence receive limited feedback before submitting the EMA in March if they wished.
 7. A discussion with WELS has taken place re adapting the idea to their context.
 8. In the light of current talk about flexibility of starts for students the project has provided some hard evidence of demand, organisational and assessment issues associated with nonstandard starts

Associate lecturers were asked to consider contacting students on the basis of the Early Alerts Indicators and they reported students were generally very happy to be contacted. Students were also asked for their views and they had few reservations of predictions being generated and used as the basis for their tutor to contact them. The pass rates of the students in tutor groups of the ALs involved in the project showed no consistent differences to the pass rates of those not involved in the project.

The impact of this project on student learning and on AL practice cannot be assessed within this project. This project has established a clear message for other ALs- the Early alert indicators are useful but they are a supplement not a replacement to your knowledge. With a secondary clear message that students like you to proactively contact them! The work on simplification should help make the information more acceptable to tutors and the work on quantifying how much accuracy is lost by providing early predictions should help an AL decide how much reliance to place upon it. Using the interim AL report- Annex A- this message has been shared with module teams and Level 1 chairs and influenced the information in use in the October presentation.

There is a clear message for students as well. To a new student is simply that being cautious over how much you commit to at first is good and engaging with the VLE as soon as you can is good. And for students who did that last year we have the quantified evidence that those that did so did better in terms of passing their module. To a continuing student the message is similar: engaging with the VLE as soon as you can is good and bear in mind your previous track record because it is likely to be similar unless you change something.

In both cases we can measure VLE engagement pre-module start but actually any engagement pre-module start is likely to be positive. For Mathematics and statistics modules, where we are increasingly running early access to materials.

<p>To date there is minimal detectable difference in terms of retention for those who took part in the early start programme. This is in contrast with M140 and suggests that the choice of students offered an early start opportunity is critical.</p>
<p>The direct impact of the clinic on S215 16J presentation is difficult to assess. Each presentation has a different cohort of students, some of which may be better or less well engaged with the module materials inherently, so comparisons with previous years can be problematic. Additionally, there were several other retention measures undertaken by S215 module team during 16J, including reductions to course content and the introduction of assessment weeks. Undoubtedly both these measures would have a positive impact on retention – students would be presumably less likely to fall too far behind and thus drop-out. Bearing this in mind, we must be cautious when drawing direct conclusions on the impact of the clinics. Figure 5 shows a comparison of the student retention for the 16J presentation along with similar data for earlier S215 and S205 presentations.</p> <p>Caveats aside, the 16J presentation of S215 was more successful than other presentations, and this may be in part due to the clinic although direct evidence is elusive. As mentioned earlier, we had plenty of opportunities to disseminate our approach and findings both within STEM and the university more widely. In terms of our projects' impact we could claim that there has been an increase in the number of clinic/bootcamp-type initiatives since 16J. However, we cannot claim to be the sole inspiration for this by any means as there were several other initiatives of similar type being piloted around the same time. Some bridging activities that have started since end of our pilot include:</p> <ul style="list-style-type: none"> •S315 "Getting Ready for S315" website and clinic •S294 "Early start", involving some revision type tutorials •Bridging activities in Maths and Stats for students transitioning between levels 2 and 3
<p>During the course of the project work the C & C School replaced the subject Stage 1 60 credit module, TU100, with two 30 credit modules, TM111 and TM112. The first of these – TM111 – uses OUBuild for programming which is a version of Scratch and very similar to Sense as used on TU100. The second of these – TM112 – uses Python a text-based programming language frequently used in education. Whilst the programming teaching on TM111 is of a similar level to TU100, and generally the students do very well on this, the programming on TM112 is of a higher level and moves the students from using visual programming to text-based programming. The first two findings of our project strongly support the decisions made by the School in replacing TU100.</p> <p>The second two findings of this project contribute significant knowledge to the efficacy of running bridging courses for distance learning students. The findings demonstrate that students who are most likely to benefit from attending a bridging course will need to be contacted personally and encouraged to sign up for it and attend.</p> <p>Overall, the project has demonstrated that OU cohort data, when considering multiple modules across a number of years, is extremely complex. Whilst it is relatively easy to track an individual student, following multiple cohorts of students across several possible pathways and qualifications results in a spider's web of interconnectivity. Given the current work on CSR and a new data strategy for the OU, consideration should be given to providing this type of data in a readily accessible and usable format.</p>
<p>This project was included in a cross-Faculty evaluation of module use of analytics (Walker et al, 2018), and as such some qualitative data regarding tutors' views of our project is available. The results of these qualitative and quantitative assessments suggest that there is potential for expanding and rolling out this project across all of our level one Mathematics and Statistics modules.</p>
<p>Our thoughts on setting up the strategic partnership and subsequent exploration into the experience of the first cohort of students was shared within the HE community in Scotland (Crighton & Berndt, 2017a) and the STEM community (Crighton & Berndt, 2017b).</p>

<p>In conclusion, we can strongly recommend our approach for the first round of observations, noting the importance of our three-step process, and its value in terms of impact on teaching practice. Feedback from ALs at a recent professional development event indicated no immediate appetite for another round of observations, however ideas from both rounds continue to provide food for thought and benefit to AL practice. We conclude, therefore, that the paired-peer observation scheme has worked extremely well as part of on-going professional development initiatives within the community.</p> <p>All participants noted that as a result of this intervention they planned to take actions to develop their practice in various ways. The impact on students is beyond the scope of this project, but forms part of on-going professional development work in the community.</p> <p>Our thoughts on peer observation was shared with colleagues in the wider higher education community through presentation papers delivered by both authors (Crighton & Potter, 2018a) and by the first named author (Crighton & Potter, 2018b).</p>
<p>The overall intended outcomes are to inform strategies for helping student support teams guide students towards appropriate module choices and enabling the module team to 'design in' improved pedagogic approaches to teaching difficult concepts and a tuition strategy that maximises retention and progression for the students we are currently losing.</p> <p>This is particularly important given that SDK125 will be replaced in 20151 by a 60-credit module (SDK100) addressing similar curriculum areas and skills development, but with greater emphasis on virtual scientific experimentation and scientific literacy.</p> <p>A prototype structural specification checking tool for Java was developed and tested on M250. In addition to a [Blue] plugin tool, a version of the software was deployed on the module's VLE, where it was used extensively.</p> <ol style="list-style-type: none"> 1. The software developed offers a way for students to check their understanding of specifications, to a large extent without the need to consult their tutor. Reuse of the tool offers iterative feedback of the student's progress towards completing code according to the required specification. 2. CheckM250 offers a way of quickly checking some aspects of a solution, and we hope that tutors may therefore give more attention to other aspects of code that are less easily tested automatically, for example the readability of the student's code. 3. Module teams have a tool they can use to check that provided solution code meets our own question specifications. 4. Tutors who used the software observed that it helped them find errors in students' work, though it may have slowed them down somewhat. Some indicated that a changed workflow might lead to shorter working times. The tool could also act as a self-assessment of marking, depending on the workflow adopted. 5. We noted that structural specification checking should succeed for unit testing to take place and that it may detect errors that unit tests have not catered for. <p>Although there were some concerns expressed over the use of automated marking tools, we consider the project to have provided good evidence for the advantages of automated assessment of code quality in a variety of scenarios.</p>
<p>A key aspect of this project was the need for rapid and frequent feedback to the rest of the Module Team, to allow for ongoing development of the assessment and feedback regime in time for the following presentation (128) and to put in place additional resources and make module modifications in the fastest timescale possible. The interviews supplied us with material for many changes to the design of 128 TMAs and Tutor Guides.</p>
<p>It has provided a timely investigation that is pertinent to the engagement manifesto and current discussions on digital scholarship. Results have been shared with the Communications office and working relationships established with the 'Catalyst for Public Engagement with Research' team. These working relationships are ongoing and this project continues to contribute to the development of tools for running workshops on research impact and digital engagement.</p>
<p>The biggest impact of this research is to provide a group of tutors a voice. It allows different module teams to learn more about how a group of tutors work together, and how they offer students additional support by creating additional materials. It has also been instructive in terms of exposing significant differences in OU Live practice.</p> <p>In terms of impacts on programming, a significant finding that will be continued to be communicated to module teams is the importance of helping students to carry out problem solving and troubleshooting by the use of different tools. To offer help to our students, tutors have created videos. A key recommendation is that video resources are used to show students how to work with code, whilst bearing in mind the importance of addressing accompanying accessibility challenges.</p>
<p>The tutor discussions that took place can be summarised by a set of keywords: purpose, importance, dimensions, acknowledgment, dialogue, frequency, practicalities, negotiation, feedback, differences, opportunities and connections. Discussions from the staff tutor focus group can be summarised as: philosophy, relationships, dialogue, guidelines, feedback, online, experience, priority and opportunities. One of the immediate outcomes of these focus groups was to uncover a set of practical and adaptable guidelines that have been used for Science tutors.</p> <p>Looking towards the future, a systematic survey of tuition practice, attitudes and experience could be established. Also, since the research has been carried out within the Faculty of STEM, it may be useful to extend this work to other faculties to uncover a more detailed and broader attitudes surrounding tutorial observations. A further action is to complete and the writing of a formal academic paper that summarises the literature review and the findings from the two focus groups.</p> <p>To conclude, there are a number of key themes that are key to successful tuition observations, and this is reflected in the results from the two groups. These themes are of course, the importance of trust between tutor and line manager, and the importance of clear communication.</p>

Over the next 20 years:

- The world will be changing rapidly to respond to the pressing challenges of a changing climate, a polluted planet, depleting resources, and a growing and increasingly-mobile world population.
- New technologies, such as quantum computing will emerge, while other technologies like rapid manufacturing and nanotechnologies, will be widely deployed.
- Digitalisation will permeate every aspect of our lives and the world around us.
- Data will always be captured about individual people and objects, giving rise to both ethical questions and unprecedented evidence-based engineering.
- Product development plays a vital part in creating a sustainable and prosperous future for all. Whilst at the same time, it will be profoundly affected by the wider changes in our society.
- Product designers will increasingly be empowered by advancements in simulation and AI to design the desired behaviour before defining the system structure.
- Products will involve much greater integration between mechanical parts and software as sensors become cheaper and more effective, and products are connected to user data through the internet.
- While the rate of change in technology is increasing, the need to reuse existing components and systems will also rise to conserve resources. Components and subsystems will be shared across multiple products as consumers demand integrated solutions.
- Principles of circularity will become mainstream and new materials will come to the market to replace those that become scarce.
- The ability to simulate product behaviour in multiple use contexts almost instantaneously will open up the possibility to design behaviour together or even before the structure is defined.

Modelling and simulation will become common throughout the development process and enable companies to simulate individual-use cases and product life cycles. This will be supported through analysis of user performance data. With rising computer power, simulations will become instantaneous. This leads to a gamification of product development where designers can try out options and build up product intuition through rapid feedback. This will bring about a new logic in product development, where product behaviour can be placed at the centre of the process. Instead of a process of transforming requirements through design and evaluation to produce verified products, desired behaviour can be explored with users, and created by combining existing solutions with novel technologies. Through simulation in combination with intelligent data processing, emerging solutions are formed and ultimately validated in its use context. Rapid evaluation cycles allow discovery of new applications and evolving designs.

To achieve this, engineers will need to work in tightly-coupled interdisciplinary teams which bring together people from different backgrounds, including generalists and highly specialised experts. Engineering teams will also include data scientists and mathematicians. They will become more diverse in gender and ethnicity, with many freelance experts

The impact on thinking and practice in Shanghai has yet to be established but the reflections outlined in Appendix 2 of the final report suggest that contact with the OU has already added an extra dimension to their view of teaching. Collaboration with the OU is seen by many of the online colleges to be a mark of 'quality' and is highly sought-after. Discussions have recently been had, and support in principle obtained from the Dean of MCT, around the inclusion of engineering in developments arising from the successful Wolfson bid. This will require commitment of time and effort from a number of individuals if progress is to be made.

Low-level strategies were put in place to support students to engage with the group work i.e. weekly bulletins, project group tutorials and 'progression calls' and these were well-received and could be implemented in the future (see the recommendations below).

Initial synthesis of the results indicates that lack of engagement by some students is a key issue for both students and tutors. Some tutors are expending time and energy on strategies to engage students including setting up the project groups and encouraging engagement but in many cases this may have little or no impact on those not engaging either because they do not want to and/or because they do not have sufficient time and/or because they are prevented by social anxiety for example.

On reflection the research question and aims would be better framed around strategies to support students to engage and strategies to help tutors to engage in the online group work. However a bright light has been shone on the context in which tutors are working and the types of strategy that could have impact on student engagement.

A majority of students do enjoy the group work, at least in the end, and that in terms of achievement marks and TMA responses indicate that learning is taking place. The impact on learning and teaching is not known and it is not possible to come to any conclusions about strategies to 'best support' students and tutors.

The OpenWASH Modules and Trainers' Handbook are now available in pdf and Word for print in English and are being translated into four Ethiopian regional languages. They are also available online as OERs. The modules will be piloted in eight Ethiopian colleges where they are being used for curriculum support for face-to-face teaching.

The project was inspired initially by a combination of personal experience from making a series of videos for the undergraduate module U116 Environment: journeys through a changing world and from participating in the HEAT (Health Education and Training) programme in Ethiopia. OpenWASH was therefore informed by and is informing OU teaching as it now brings added value to the rewrite of U116, currently in progress, and demonstrates the beneficial links between OU teaching and applied development work. As well as the tangible output of the Modules and Handbook, the project also led to successful in-country capacity building that will contribute to sustainable improvement in learning delivery. The experiences of the Ethiopian authors were assessed in a short survey. This revealed overwhelmingly positive responses and demonstrated the emergent secondary benefits that can result from a collaborative international teaching project of this type.

The planned next phase is to extend the benefits of OpenWASH to a wider audience in other countries. As OERs, the OpenWASH modules can be used and adapted for WASH projects around the world, supporting the United Nations' Sustainable Development Goal to achieve safe drinking water and adequate and equitable sanitation and hygiene for all by 2030.

The OpenWASH resources are available at: <http://www.open.edu/openworks/OpenWASH>

The interviews revealed that OpenWASH has been highly successful and had a positive impact on WASH teaching and training in Ethiopia. All current users are enthusiastic about the modules and value the added dimension and innovation that OpenWASH has provided.

There is considerable scope for expanding the use of OpenWASH by wider dissemination to more colleges and to other potential users.

The report concludes with a set of recommendations for possible future activities to further develop the impact of OpenWASH in Ethiopia. The recommendations are:

1. Expand use of OpenWASH to other colleges
2. Provide more Training of Trainer events
3. Clarify links between OpenWASH and Occupational Standards
4. Promote use of Count me in! Inclusive WASH in Ethiopia
5. Organise an OpenWASH publicity event
6. Establish an OpenWASH user network
7. Complete translation work.

The recommendations include some suggestions for possible implementation.

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Impact on student learning has been indirect through our increased understanding of the purposes of group tuition. This understanding is being applied when working with our colleagues to design module tuition strategies, write module materials and in writing online staff development materials for ALs to use. We are also able to apply our own increased understanding when developing our ALs through tutorial visits and other development events.

Students everywhere have similar support needs and expectations of tuition. We can apply what we have learned from Open University tutors to a wider set of tuition models. The project is contributing to student success through increased expertise that has been passed on to our STEM ALs and other ALs in delivering group tuition through staff tutor discussions and staff development. Online staff development materials for ALs draw directly on the outputs of this project and invite a wide range of staff from all faculties to reflect and share their own thoughts on the purposes of tuition in groups - which has an effect on their practice and hence on their students.

The inclusion of a discussion around the role of tuition in several level 1 modules has also raised this idea in the minds of learners. It is clear that this needs to be further developed in the future.

The above benefits apply to students not directly involved in our project, indirectly through the ALs who we can develop with the expertise gained in the project. All students benefit from better informed and engaged tuition.

We are gradually influencing module content and tuition strategies. We expect that others will have an interest in what makes effective and engaging tuition, and will be willing to share examples of good tuition practice, as well as reflecting on what they feel are students' perceptions of a tutorial. This, in turn, should influence how materials are developed, the design of teaching and learning materials and a desire to better understand the expectations of students.

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The activity which was incorporated into S295, which is of a similar design to the one reported here, was also intended to be a confidence-building activity which helps weaker students. It is scheduled very early in the module presentation with the aim of helping S295 students to engage with others in their tutor group, and with their tutor, early in the presentation. This should help engagement and retention on S295.

During the dissemination of the project outcomes and via subsequent discussions with the Careers and Employability Project, the lessons and broader objectives of the project have been incorporated into ongoing discussion and development of the Employability Strategy of the OU in general and the STEM faculties in particular. Specific examples of how the project has contributed to the development of employability opportunities for students (who were not included in the project) include:

- Employment related activities from T161 are being included within the new TM129 End of Module Assessment
- The T161 Visiting Experts activity is being taken forward into a new STEM Ambassadors project being developed in partnership with STEMNET and the OU Careers Service (and the subject of a new eSTEM project in conjunction with Nigel Mason from Science)
- The transfer of learning about using ePortfolios which is being implemented in TM129

<p>The online survey showed that a higher proportion of men were already working in the IT industry, whereas more women were looking to enter into an IT related role for the first time. This suggests that studying computing and IT on its own may be more popular with students with well-defined career intentions, and already situated in the IT industry, whereas the broader joint honours may be of preference to those not yet working in the industry and seen as offering wider work and skills development opportunities. However, there were also examples where women deliberately chose a combination of subjects offered by the joint honours degree to provide entry into more specific roles, such as data science. Our findings also show that a higher proportion of women than men had a previous STEM-related degree. Nevertheless, some women expressed confidence issues, in particular about entering into careers in the industry rather than their ability to study IT. This suggests that employability in computing, even among women who have successfully completed STEM degrees in the past, or are already working, continues to be influenced by structural gendered barriers and behaviours.</p> <p>As a response to the suggestions raised in the Focus Group about networking opportunities, we reflected on how we could meet these needs in the online and distance education context. Two new strategies have been developed to meet this need. We ran an online webinar on Ada Lovelace Day with an invited panel of senior women working in the technology sector, and over 50 students attended with a lively question and answer session. And we have recently initiated an industry Mentoring project for women students with industry mentors, again to support the transition into employment.</p> <p>We secured funding for the pilot Mentoring project mentioned above, which will involve recruiting Alumni who are already working in industry as mentors working with our women students.</p>
<p>a) Student experience</p> <p>As immediate impact of the project the women returners programme successfully supported over 60% of the pool of 40 women returners into placements, full time work in STEM or to pursue further STEM qualifications. The successful outcomes reinforce the conclusion that even within a small group of relatively similar learners, one size does not fit all, and that with a range of ways to engage with content and support, participants can personalise their own learning and benefit from whichever of the components are appropriate.</p> <p>In terms of the contribution of the project towards increasing student success, with the BOC at the core of Equate Scotland's blended learning programme, participants were able to enrich their current knowledge, gain accreditation and develop their own individual pathways back into STEM employment. "In a nutshell, the programme's got me from, in the beginning, not knowing where to start, to now, in a couple of week's time, I'm going to start a 6 month placement."</p> <p>The model of blended learning in a community partnership could be adapted for other under represented groups, thus benefiting students who have not yet directly been involved in the project.</p>
<p>b) Teaching</p> <p>The publication of the journal article has enabled OU colleagues as well as external scholars to learn from this model. We hope to be able to roll the mode out to a wider audience through further funding.</p>
<p>c) Strategic change and learning design</p> <p>The Returning to STEM BOC and community partnership model has been cited as an example within the OU's Women in STEM campaign – it is frequently cited in policy responses and funding bids as an example of the university's commitment to equality and diversity. The OU in Scotland has included this as an example of good practice in their Gender Action Plan.</p>
<ul style="list-style-type: none"> • A major success of this project is the collaboration with the University of Aberdeen that resulted in the implementation of a comparative study examining different teaching and learning conditions and their impact on students' perceptions. • The project requested and has been successful in securing additional funding from eSTEEM for analysing , in addition to the students' perspectives, the teachers' perspectives. • The project provided valuable insights as to how to improve the pedagogy around the use of VMs in online modules. These insights could inform module teams and the eSTEEM final report guidelines design or design of modules that make use of the VM. The dissemination of outcomes outside the university can contribute to informing the pedagogy in other HE institutions. • We have been less successful in directly influencing the teaching practice at the OU as constraints (financial and others) made impossible the application of insights to practice i.e. improving the design of existing activities that make use of the VM in Health and Earth science courses.
<p>Associate lecturers feel hugely valued and supported by their staff tutor, but ALS consider the wider Open University to be distant. There is a real need to ensure the staff tutor and AL relationship is maintained in order to both facilitate an AL academic community to avoid isolation and to provide professional support for this highly skilled group of staff. However ALS also express a feeling that the wider university does not value their professionalism and, as such, there is a need articulate the wider role that ALS play in the organisation.</p>
<p>Recommendations</p> <ul style="list-style-type: none"> • Clear definition and communication of the Staff Tutor role and the value the role plays in the organisation • Organisational commitment to ensuring good quality online access to all meetings as routine • Urgent review of the new promotion framework and analysis of feasibility for Staff Tutors to meet all the criteria. • Increased administrative support <p>The need for good quality remote access to meetings in Milton Keynes on a routine basis is a constant theme throughout the responses. This recommendations alone would enable Staff Tutors to free up time to engage more deeply with the non-managerial part of their role. More importantly it would ensure that Staff Tutors were always visible, connected with central campus, had the same opportunities as central staff to serve of committees and equally considered in all opportunities.</p> <p>There is an urgent need for a review of the new promotions criteria and a thorough analysis of both the promotions data and an analysis of the feasibility for Staff Tutors to engage with these criteria. This analysis needs to be carried out in the context of the closure of locations, which has a substantial impact on the working conditions and career opportunities for Staff Tutors.</p> <p>These recommendations have been disseminated to each STEM Athena SWAN group and Heads of Departments to be used in Athena SWAN submissions. The University Secretary's Office, PVC Academic, STEM Executive Dean and Strategy Office have considered recommendations in this report as the basis for requirements for home working. The University Promotions Committee have also been considering how this work can feed into a review of the promotions criteria.</p>
<p>The research found that the experience of the students taking part was similar to that which has been reported of the majority of Open University students. The Open University was chosen in response to personal circumstances and family commitments and was seen a place where study would be flexible. Technology had played a part in this flexibility by enabling students to study in ways and at times to suit. However, there was concern about the implications of the increasing use of online experimentation on students' preparedness for work. Interaction with other students was also seen as an issue and was key to perceptions of the value for money offered by the Open University.</p>

<p>Based on the results of this project we recommend that the school of Mathematics and Statistics adopts this alternative format across the curriculum in addition to its existing outputs. We propose that the output be named DAARA: Designed As A Reasonable Adjustment.</p>
<p>The workshops lead to the identification and prioritising of key Tricky Topics by the module team and ALS. The module teams were asked to consider putting in place new interventions into their modules to address one or more of these Tricky Topics. This was underpinned by the ambition to help students increase their understanding and lead to higher student success rates/satisfaction and progression.</p> <p>Results of the project are mixed, with very positive results from one particular module (S215), and more ambiguous results from the other two modules (MST124 and H800). However, the process itself has been evaluated and shown to produce excellent outcomes, when key elements are in place. The most critical of these we have identified, is the engagement, or buy-in of the module chair(s) and also the ALS; however this is heavily related to, and dependent upon, available time in which to put in place any subsequent interventions.</p>
<p>The issues raised by this small-scale study into peer observation for online synchronous tuition need to be considered in the wider context of providing staff development for teaching practice using this medium. While the study set out to explore peer observation in an online setting, it is important to stress that the key issue is the facilitation of effective development, rather than the promotion of peer observation per se. This is particularly pertinent in an educational environment, where peer review is taken as an indication of the commitment to institutional quality assurance: 'Peer review' risks becoming the goal, rather than a means, to achieving more meaningful developmental goals.</p>
<ul style="list-style-type: none"> • Many students and ALS have a poor understanding of our assessment strategies, including conventional summative continuous assessment. This is in line with a frequently found result that students have poor understanding of the nature and function of assessment. • No evidence has been seen to support a return to summative continuous assessment. However, it has rightly been pointed out that examinations cannot authentically assess all aspects of university-level skills. The use of two components contributing to the "overall examinable score" (OES), e.g. an examination and an experimental write-up, seems a sensible way forward, with the formative thresholded components helping students to prepare for both components.
<p>The findings suggest that personal profiles and photos in Moodle forums helped some students to feel in touch with each other. Others, however, did not feel the need for these facilities, had privacy concerns or preferred to focus on the forum postings. Students also had privacy concerns in relation to social network sites, although their concerns were allayed somewhat after studying material on social networking in TU100. These findings will inform the design of the replacement module using what has been learnt from the project and also the experience of teaching the previous module to help students to understand about online social networking and how it relates to employment and also to their educational experience.</p>
<p>We make the following recommendations based on the findings of this study:</p> <ul style="list-style-type: none"> • Continue with the good practice of keeping assignments simple to begin with and gradually make them more sophisticated • Provide clearly the word limit for each question • Develop and embed academic literacy and/ or scientific literacy materials in Level 1 and possibly Level 2 for students on how to write explanation, discussion and reflection texts in science and if possible build on what has been done in Y033 (this may include providing good examples of these text types in the short term) • Conduct student needs analysis in terms of their scientific literacy and academic literacy regularly via module surveys • Conduct more scholarship work or research on widening participation students in science modules with regard to their academic and scientific literacy to inform future module designs.

The main findings are that the T215 model has potential to provide a flexible and consistent way of assessing a wide range of alternative media artefacts. In its current form it lacks the facility to assess the artefacts holistically but this can be addressed by slightly modifying the existing model's criteria. However, the T215 model can be difficult to retrofit and is not easily applicable to process-based assessments.

It was found that few students seriously used diagrams before their study of the modules; that they were either enthusiastic or sceptical about their value although most said they would use them in future; that the number of diagrams and the technologies used to create and share them were often burdensome in the two modules investigated; and that the group work could provide a better experience for using diagrams but that this too could be blighted by timing and technical issues. In addition many students disliked the mainly online delivery of the two modules, wanting printed books, and would like to have seen face to face tutorials where diagrams could be created and discussed. Open Design Studio has not proved helpful as a sharing technology compared to other modules and more work is needed to understand this and to find a technological solution that does suit students and ALs alike to compensate for the lack of face to face events.

The findings have impact on efforts to improve the student experience across the qualification, including designing module specific inductions to OpenStudio, the redesign of modules and OpenStudio module activities in the qualification, and the implementation of the Student Advisory Website. A wider audience of STEM academics and L1 staff benefitted from the project findings in the workshop which took thinking beyond the implementation of OpenStudio in individual modules to think about progression strategies across a qualification. Finally, the project opened up new avenues for collaboration with external academics and bidding for external funding to investigate the design of social online learning environments in design and innovation.

Bringing staff, faculty and students together in cross-level engagement events and working as partners in organising and running these events offered an excellent experience for everyone. Students felt more confident about their study direction, skills and abilities, and they became more aware about their progression pathways. Students gained experiences that proved valuable for employability and building their CV's. Moreover, some students became advocates of the qualification to other students and the public. The community building aspect of the cross-level events has been embedded as an ongoing process and is now considered routine by the Qualification team.

This project had a strategic change in mind from its onset, but was taken by surprise about the real impact it has achieved in this area. We were able to secure MSQ funding to investigate a second year of trials, exploring different locations and types of events. We were then able to secure School funding to make these events a permanent part of curriculum delivery. The project already had wide-ranging impact on strategic change of how the curriculum is delivered. Future events will even go further. The cross-level events for the coming year will trial employability workshops to offer student applied experience in solving real world problems through design thinking. These events facilitate the generation of new ideas for the 'BDes', our new Design Qualification, with a true cross-level and qualification wide approach to curriculum design.

- Student experience: the Foundation Degree in Paramedic Sciences has been discontinued because professional requirements have changed and the entry qualification for a Paramedic is now a Bachelor's degree. Thus any benefit to students from this work will affect future students on cognate qualifications. Nevertheless, we believe that the impact of our findings could be significant for students if our recommendations are implemented, giving them a better learning experience and thus enhanced success in their studies and careers.
- Teaching: our findings have fed directly into plans for a Laboratory Scientist Apprenticeship (STEM Faculty), and the module team for the WBL components of this qualification have spent considerable time and effort to design a student support framework that will improve their workplace experience. We have also disseminated our results to colleagues elsewhere in the OU, and our project has been used as a case study on the Employability Hub <https://learn3.open.ac.uk/course/view.php?id=300840&cmid=158516>.
- We hope that as a result of this our findings will guide colleagues' plans as well. Outside the OU, we have presented our data at an international conference (10th EDEN Research Workshop, Barcelona), where it was well received by teaching practitioners.
- The work has already benefitted the STEM Faculty's practices, and we anticipate it being useful to colleagues elsewhere in the University.
- We have received no additional funding so far, but the publication of our findings in a peer-reviewed journal (see below) has resulted in an invitation to examine a Masters' thesis for Central University, Queensland.
- Both Fiona Aiken and Hilary MacQueen have been asked to act as reviewers for the journal Higher Education, Skills and Work-Based Learning.

<p>Students expressed their support for both face-to-face and online asynchronous and synchronous ways of communicating with each other, with the course team and with employers. The main proposals put forward included the opportunity for peer conversations and mentoring; interdisciplinary work within courses; networking with students, professionals and academics; a forum open at different times of the year; career planning using the careers advisory service linked to job centres; provision of notice boards for information; industry webinars; links with the National Vocational Qualifications (NVQ) system to add to qualifications; access to careers fairs, and more opportunities for face-to-face practical class opportunities.</p> <p>This report highlights the importance of the relationship between the OU and prospective employers, inclusion of module teams in responding to employability concerns, and maximisation of both student and tutor skills as well as specific tools that could support students' employability.</p>
<p>At the outset of the project we felt that the findings may have the potential to inform other modules in which problem-solving and/or programming feature. However actual feedback was that tutors and students found the greatest benefits of screencasting to be closely allied to the visual nature of the programming environment OUBuild, which is unique to TM111. It is not clear how that would translate into text-based programming languages such as Python used on TM112.</p> <p>Hence, we intend to continue to promote and develop individualised screencasting for TMA feedback on TM111 and explore more cautiously the possible extension of screencasting into other modules.</p> <p>We presented a poster on this project at the 2020 eSTEEM conference. Discussion with participants indicated interest in pursuing individualised screencasts for TMA feedback on other computing modules; and in assessing whether students with text disabilities (dyslexia etc) might particularly benefit from screencasts. We intend to discuss and pursue these ideas further as appropriate</p>
<p>We would prefer to see VFTs being used to support, enhance and extend physical fieldwork so that students can make the most of their time out in the field. We perceive VFTs an invaluable aid in the goal to maintain physical fieldwork in the curriculum - at all levels.</p> <p>The discussion and examples on VFTs in this and other sections of the report are from Geography, Geology, Environmental Sciences and Biology - disciplines that have a long tradition of physical fieldwork and first-hand experience of phenomena out-of-doors - and these disciplines have been our focus in this project.</p>
<p>The main changes to modules in response to feedback from this project, forum postings and SEAM surveys are:</p> <p>S206/SXF206 –</p> <ol style="list-style-type: none">1) Including link to Studying online in StudentHome in the module guide. <p>S209 –</p> <ol style="list-style-type: none">1) Linking to a Virtual Microscope screencast much earlier in the module2) Shifting an activity using Visible Geology (an external website tool) earlier in the module, and creating a screencast on how to use the tool3) Link out to a resource on using Excel (from Physics)4) Addition of larger image option for several more figures5) Provide central 'home' for Errata, rather than just on forums6) We will also provide links to the 'Studying online' material – not sure where as yet, possibly in the Module Guide but maybe also in the Study resources section. <p>S215 –</p> <ol style="list-style-type: none">1) Making the second halves of the final 2 blocks optional.2) Moving one of the more difficult blocks later in the module.3) Including link to Studying online in StudentHome in the module guide.4) Adding document giving advice to students from students on the 14J presentation.5) Adding 'Are you ready for' quiz to website.6) Spelling out exactly what students are supposed to study each week and giving an estimate of time taken.7) Noting in the Study guide for each block which activities need to be studied online.8) Providing print-on-demand. <p>S295 –</p> <ol style="list-style-type: none">1) Introduction of a template for navigating the site and making notes.2) Amended items on 15J website in real time. Mark amended items by crossing through title on link.
<p>The significant findings from the project will inform future curriculum developments – case studies need to reflect the spectrum of prior experience of all students, not only those who already work in engineering roles.</p> <p>Extra support has been put in place for female students, eg annual conference to celebrate International Women in Engineering Day, networking through a dedicated Women in Engineering forum, currently working with employers to find potential mentoring opportunities for final year students, working with Careers and Employability to encourage student placements, Women's Engineering Society student group established.</p> <p>The E&I School has gained a Royal Academy of Engineering Visiting Professor for 'Transforming Engineering Cultures' (Carol Morris is Co-I). The outcomes of the project are informing the work of the Visiting Professor on inclusion. This will be of benefit to all future engineering students.</p> <p>The findings from our facilitator focus group indicated that our practitioners valued the OJC experience in terms of their own development. Feedback suggested that the experience was transformative for their AL practice, resulting in their tuition becoming more facilitative with a student-centred approach, rather than being solely tutor-led. Facilitators suggested that the experience of the student-led ethos of OJC might be of interest to the wider AL community, and accordingly we propose that offering this opportunity to a wider AL audience may provide opportunity to influence AL teaching style.</p> <p>We presented our OJC model and preliminary findings related to participant and practitioner experience at the Advance HEA Teaching and Learning Conference, (July 2019).</p> <p>Additionally, we have had external enquiries from the University of Swansea about our OJC experiences and approach. We hope that this interest may lead to incorporation of OJC models into tuition at other higher education institutes.</p> <p>OJC was identified as an example of best practice in the 2019 Quality Monitoring and Enhancement (QME) Board of Study reports. Our innovative model of facilitative teaching and learning during OJC events was discussed during a LHCS tuition workshop (April 2019), so may have influenced development of tuition across our unit.</p> <p>Online journal clubs have been included within early start initiatives of S112, S294 and S390 capstone project modules</p> <p>Our project has involved fruitful collaboration of mutual benefit with colleagues in different units across the University, for example, discussions with colleagues in the OU Library resulted in addition of links to library resources being added to the OJC website and hosting of adverts for OJC events on the library Training and events page. The involvement of Curriculum Manager Hazel Church facilitated creation of our dedicated OJC website and quiz and collaboration with FutureLearn colleagues led to the generation of the OJC microbadge. Indeed, enthusiasm for a digital microbadge, not only from OJC participants, but also visitors to the OJC website, suggests that provision of badged online content to support study skill development may be welcomed by students.</p> <p>We propose an online journal club for ALs, to offer them the opportunity to enhance their academic currency and deepen connections with other ALs as part of an academic community. AL OJC might provide a vehicle for CPD, which complements programmes currently in place. We envisage that AL journal clubs could take the form of mini presentations by several ALs followed by time for collegiate discussion. Examples of possible topics could include an overview of an aspect of their research or scholarship project, some interesting news in their academic field, discussion of a case-study to illustrate an aspect of student support / teaching, or an update about an aspect of their involvement within the University e.g. what it is like to serve on the AL Assembly. We have submitted a proposal to the STEM By-ALs for ALs programme to pilot this type of journal club.</p> <p>Following on from the success of OJC, our model was adapted to transfer the enriching experience of journal club to the face-to-face SISE setting (eSTEEM project: Summer Series of Journal Clubs: an opportunity to develop employability skills and a sense of community amongst students in secure environments)</p>
<p>This report has shown that there are several apps available that can be used in the field of environmental monitoring. Two of the apps were tested by novice groups of users. The apps, many of which are free, can be incorporated into the teaching of environmental engineering and environmental science. Importantly, the apps can be used in teaching communities to generate real-time data that can be uploaded to a central server and can then be available for others to use.</p>

<p>The use of smart phone Apps promises potential for skills development amongst students studying technological subjects. For T868, these Apps can be a means of acquiring environmental data from diverse regions, and this data can be used towards teaching environmental engineering. It is best if bespoke Apps are created specifically for use on the module.</p>
<p>As primary stakeholders, the results of the project have been discussed with the Module Team Chair (Kerry Murphy) and the author of the Cardiovascular Topic (Lynda Cook) to consider impact on teaching strategy. The results suggest that some students may have found downloading and running the Heart App challenging, and as a result, the instructions associated with the Heart App within the OpenScience Laboratory have been made clearer. It may be the case that once this initial step is made clearer to students, there will be an impact on later experiences. These instructions will also need clarification with the Apple App Store, as the Heart App is available to a wider audience beyond the OU – this will impact users outside of the confines of the module.</p> <p>As the majority of students who responded to the 181 and 171 student surveys reported that they had not used augmented reality applications before, a short video has also been produced, which will be added to the SK299 module website, to clearly demonstrate to students what the Heart App should look like when it is running in full AR mode. This should remove any uncertainty as to whether the Heart App is running in desktop 2D mode, or AR mode and ensure that the students can fully use all the designed features, and hence may more fully support learning. Additionally, the check boxes and radio buttons have been maintained on the module website, and it is anticipated that these will be collected data each year, to assess usage of the Heart App.</p> <p>This project found that over three quarters of students reported that they would like to see augmented reality used more often to support learning, which suggests that students have an appetite for the use of new technologies.</p> <p>The results of the project indicated that ALs may not necessarily be aware of the Heart App and as a result of this, as Link Staff Tutor for SK299, in conjunction with the Module Team, we will provide further guidance to encourage them to use the Heart App themselves, to help them appreciate the student experience. ALs will also be encouraged to post a message in their tutor group forums, to support students use of this learning tool.</p>
<p>The interviews confirmed the anecdotal evidence that students felt more positive about studying practical science online after they had studied the modules and 71.2% of students were pleased that they participated in the module. High percentages of students agreed that they were able to carry out practical science when it suited them and that they were able to design experiments and draw conclusions from experiments with other distance learners. There was an increase in students agreeing that they were able to learn well by reading text on screen. Only a low percentage of students agreed that their group found it easy to make group decisions together, this aspect of collaborative group work forms the basis of another ongoing eSTEEM project.</p>
<p>As a result of these investigations, some adjustments to the placement of the quizzes in the Study Calendar and to the structure of the self-reflection questions in each TMA have been made for the next module presentation.</p>
<p>The revise and refresh for MST224 site has now been augmented to cover revision for students preparing to study MST125: Essential mathematics 2 and M248: Analysing data.</p> <p>We are currently liaising with two teams within the School of Mathematics and Statistics who are creating further R&R sites, one for level 3 mathematics and statistics modules, and another for MST210: Mathematical methods, models and modelling and M208: Pure mathematics, which will both be launched in 2019. Along with revise and refresh for MST124, this suite of resources will then cover the majority of the modules for the mathematics and statistics undergraduate qualifications as well as modules taught as part of degrees within other schools such as engineering and science.</p> <p>The team are in the early stages of discussions for disseminating the information to the Sigma (mathematics support centre) Network steering group who are interested in our distance learning support techniques to further</p>

<p>A novel type of ICMA question was implemented (using OpenMark) and deployed in TU100 (~2000 students per presentation) and is still in use. As a result of the analysis of student mistakes in the TMA question on argument mapping, material for a tutorial session was developed for the TU100 day school. This is in use by tutors at the day school.</p>
<p>Overall, we think that the combination of techniques we have developed and applied to identify, extract and analyse data for this project can be seen as contributing to an overall evaluation framework, which could be used not just for this project, but in general for studies of a similar nature. That said, the framework still needs adjusting and evaluating, so that further work is required. In particular, this research will benefit from a follow-up project. The project has already triggered interventions within the modules under study in order to improve retention. Outcomes are being monitored on ongoing presentations. The project was able to surface and share good practice, which has already led to adaptations of some of the teaching and assessment within the modules</p>
<p>The project aimed to evaluate the existing resource site in terms of its usefulness, availability and accessibility for ALs. The anticipated impacts were the potential improvement of the current site and the development of a new site for level 2 engineering modules, which were to be informed by AL feedback. In addition, it was hoped that if the findings suggested that the current arrangement has been useful for ALs, it would be possible to share the outputs to inform the development of a resource site for other departments or schools. In order to achieve this, it was hoped that a template could be developed to support the use of this approach elsewhere.</p> <p>For ALs, the intended impacts of the project were to be improved peer learning and sharing of resources whilst for students, it was hoped the impacts will be a greater consistency of AL support across modules and between presentations.</p> <p>Outcomes from the project were to be shared across the tutor forums of each of the modules participating, and across level 2 engineering modules and within the School of Engineering and Innovation; they could also be extended across STEM as well. Finally, it has been agreed that a SHARE First Friday session, led by the ALs working on the project, might also be offered in March 2020 and a poster presentation submitted for eSTeEM 2020.</p> <p>To date, the level 2 engineering site has only been shared with the T272 tutors, for use during their 2019D presentation. The next stage is to hold a hard launch for the site across the other modules including T271 in November 2019 and T276 in February 2020. The findings summarised in this report will also be shared with the tutors who were sent the survey initially. However, based on the outcomes above the team are seriously considering whether the site could be re-housed on a VLE site that better meets its needs.</p>
<p>The findings of this research will inform the future development of the STIP programme. One significant measure of success in the process of undertaking the research is the unique opportunity to engage with meaningful conversation around pedagogic development at postgraduate level amongst three sets of stakeholders:</p> <ul style="list-style-type: none"> • STIP students outside of their OU module environment • STIPers – alumni of STIP – with their benefit of in-work post-study experience • STIPer – employers <p>Each set of respondents demonstrated a keenness to continue with the conversation around clear mutually beneficial initiatives.</p>

As with the first phase of the eSTEEM project 'Enhancing systems thinking in practice at the workplace', the findings of this research will inform the future development of the STIP programme, particularly as it unfolds during the approved refresh of the two core modules for 2020. A continued measure of success in undertaking the inquiry is the opportunity to engage with meaningful conversation around pedagogic development at postgraduate level and the wider role of higher education in society amongst four sets of stakeholders:

- STIP educators within and beyond The Open University
- STIP alumni with their benefit of in-work post-study experience
- STIP employers
- STIP related professionals

Each set of respondents demonstrated a keenness to continue with the conversation around clear mutually beneficial initiatives.

Through orchestrated conversations, we will continue developing a platform for managing a system to support systems thinking in professional practice and/or systems thinking in practice as professional practice. The work here will provide a helpful complement to the development of a postgraduate (Level 7) Systems Thinking Practitioner Apprenticeship scheme being developed and led by Ray Ison and the ASTIP team at OU in collaboration with a consortium of employers from different sectors, with financial and human resource support secured from The Open University. The employer-led consortium will be responsible for setting up Standards for the proposed 'trailblazer' Systems Thinking Practitioner apprenticeship.

The participants in this study told us that students prefer to receive the majority of communications from the OU by email. Whilst some feel that there is a need for more personalisation in the messages we send, they are happy to filter the messages themselves and select which are relevant.

Students in all three of our sample groups underestimated the number of email communications they receive from the university, despite the majority of them checking spam filters giving a high level of confidence that messages are being received. Many students reported that they filter the messages themselves, which may account for the perception of receiving fewer messages.

Despite the lack of awareness of the volume of messages being received, students are happy with both the mode and number of communications.

Recommendation 1: Email should continue to be the primary mode of communication between students and the main hub of the university.

Recommendation 2: The subject field of emails to students should be used thoughtfully to assist students in filtering and searching for particular messages or information.

The scope of this study was focused on investigating student feelings regarding the volume of messages they receive. Analysis of the data has highlighted that there is significant variation in the number of messages being sent to students studying the same module. Further work needs to be carried out to investigate why there is such variation.

Recommendation 3: Further work should be carried out to investigate the variation in number of communications sent to students studying a single module.

Although participants were asked if there was any information missing from the communications they had received, this study did not carry out any evaluation on the effectiveness of messages sent.

Recommendation 4: Further work to be carried out to evaluate the effectiveness of our email communications.

Our results were encouraging with high student engagement in all types of activity, and students reporting that they found them both useful and enjoyable. Some differences were apparent between the different types of activity, with chat-box activities being less favoured. Lack of time and confidence were given as the main reasons for not participating, and perceived benefits of engaging included the ability to attempt similar questions and benchmarking against other students.

We also found that technological problems remain significant, and that the demands on tutors are high. Further AL staff development is necessary to encourage more wide-spread use of these tools for active learning in online tutorials in Adobe Connect; our results provide motivation and practical tips.

The results have informed ALSD (see deliverables), and will continue to do so through the M&S ALSD group. The aim is to increase active learning in online tutorials, and to add to the current research literature on active learning in synchronous online tuition, thereby reaching students both within and outside the OU.

Our project was mainly focussed on volunteer engagement and learning. Our

feedback questionnaires and volunteer attendance suggests we have successfully engaged volunteers, encouraging them to return to surveys and to attend workshops.

Our data is used in S396 to allow students to develop analytical skills of exploring data and using correlation to develop hypotheses.

This project was listed in the REF submission as engaging the wider public in research where it formed part of an impact statement that was used as an example for others to follow.

Over six years the project increased the numbers of volunteers more than three-fold through wide advertising. Annual workshops were run to enable volunteers to engage in the findings and the research process. Volunteer attendance at counts and workshops was maintained and volunteer engagement assessed through questionnaires and interviews. Evidence arising from the project has led to new ecological information about a rare plant found on internationally important sites for nature conservation and more in-depth volunteer research is showing a link between the snake's-head fritillary and bumblebees.

Data collected by the project are used in 3 Open University undergraduate courses (S206, S396 and S397) and the project has maintained a wide external profile, engaging with many organisations outside the University and with slots on Countryfile, BBC Farming Today and BBC Wiltshire.

This project will be listed in the REF21 submission as part of an Impact Case Study around engaging the wider public in research.

<p>The above findings suggest that students may be more likely to engage with formative assessment in the form of online practice questions if they believe them to be directly relevant to the exam. Encouraging engagement is important because the results suggest that active engagement with online practice questions may help performance at pure mathematics at Level 3, especially for students with grade 2 or 3 passes in relevant modules at Level 2. Students can feel more confident if given plenty of opportunity to self-test on resources specifically designed to mimic examinations.</p> <p>These results will be disseminated and will inform the development of other similar quizzes. In addition similar techniques could possibly be used to create TMAs, individualised TMAs or TMA-like questions.</p>
<p>Data collected by the project are used in 3 Open University undergraduate courses (S206, S396 and S397) and the project has maintained a wide external profile, engaging with many organisations outside the University and with slots on Countryfile, BBC Farming Today and BBC Wiltshire.</p>
<p>S815 is using peer assessment in 2014. SX*390 has expressed an interest in using it to develop the students abstracts. It is being used in a number of modules in Social Sciences. The University agreed a number of principles for assessment of which number 6 is "Students should be given opportunities to engage in and develop their skills in peer review and self-assessment."</p> <p>As well as persuading LTI to release the workshop tool to all modules I have subsequently worked with LTI in developing a guide on workshop for Module teams to use.</p>
<p>This project will be listed in the REF21 submission as part of an Impact Case Study around engaging the wider public in research.</p>
<p>The project began its work when the design of the new Level 1 Computing and IT curriculum had already been decided and production was underway. However, the main impact of this project is to establish that the School of Computing and Communications decisions on the design and development of the new Level 1 curriculum were well-founded. The project has confirmed that our impressions of the variation in students' responses to the teaching of programming in TU100 My digital life were correct. Therefore, the project will provide a reference point for future studies on the teaching of programming at Level 1 in the School. In addition to disseminating the work of project within the University, we were able to present our work at an international conference in Zagreb and so promote the School's approach to the teaching of programming to an international audience.</p>

<p>The design of activities involving OpenStudio should also take account of the following recommendations:</p> <ul style="list-style-type: none"> • Students should be provided with guidance on giving feedback to their peers and, importantly how to evaluate the feedback they receive from their peers. • Students need time to develop the confidence and the skills to offer more 'in-depth' feedback to their peers. Confidence increases with the student's experience of study. • Time management skills are particularly important for students carrying out activities in OpenStudio where students are dependent on each other for feedback, so they need advice on these skills. • Where possible, aligning the different stages of commenting activities to a specific time frame is helpful to ensure that students receive peer feedback at appropriate times. • The learning activity should take account of Kolb's experiential learning cycle so that students have an opportunity to review their artefact in the light of their reflection on the feedback they have received. <p>Finally, OpenStudio offers a means of collecting and curating digital artefacts for the duration of a module so students can look back over their work. However, it is not possible currently for students to carry over their work in OpenStudio from one module to another. This might be something to consider for further development of OpenStudio in future.</p>
<p>The aim of this study was to see how effective sonifications can be as alternate accessible versions of plots and graphs in module materials. The results in this study show that the sonifications did enable most of the participants to get the gist of the plot; this was despite being initially unused to being presented with plot and graphs in this format. Greater experience with sonifications should only increase participants' ability to interpret plots and graphs given in this format.</p> <p>The sonifications also enabled the participants to gain an impression of the plot or graphs quickly, each of the sonifications was only 6 seconds long. Although participants generally listened to sonifications more than once, using them did not add significantly to study time. Participants indicated that listening to sonifications was not an unpleasant experience, and expecting students to cope with multiple sonifications in a single study session does not appear to be an unreasonable ask. Based on this we feel that sonifications of plots and graphs should, where possible, be made available to students.</p> <p>Phase two of the project is piloting sonification on M140</p>
<p>We have concluded the following:</p> <ol style="list-style-type: none"> 1. It is possible to include audio graphs on modules website, even for modules where the material is not delivered via structured content. 2. Although only a minority of students appeared to get a benefit from the audio graphs, the instances in which it appeared to detract from the study of others were very rare. 3. Where audio graphs are to be used, guidance about how to interpret them should be offered. In particular reassurance about what is and is not reasonable to pick up from them. 4. Some further technical development of the method by which the audio graphs are produced is desirable.
<p>We have used the IBZL approach successfully to engage over 40 people from a range of backgrounds in generating 25 named output ideas. Comfortably over half of these participants have either been engaged in the second phase or indicated that they would like to be. Three consortia have been formed to take on specific ideas to their next stage of development. The outcomes of the work of these consortia will be reported later.</p> <p>One area for improvement in future IBZL workshop activities is the reporting and recording of the work of the working groups within the workshop format, to allow both for a clearer link to subsequent developments and to support systematic evaluation.</p> <p>We have not attempted to define the kind of applications that can be developed. We are exploring whether the approach we have developed can be successfully used to address more specific NG problems (such as educational applications) as part of a significant extension of the IBZL approach in STEM.</p>
<p>Although the intention of the review had been to collect feedback about the tuition strategy designs, much of the feedback was about how the strategies had been implemented and some feedback was about other aspects of the AL role. The resulting changes to the tuition strategies varied from module to module. Not all changes were a result of the AL feedback. Module teams and staff tutors continue to develop their own views in the light of experience about how best to design tuition strategies. Some changes appear to have been influenced by what other module teams were doing.</p> <p>If under GTP we continue to review module tuition strategies, it is important to allow strategies to stabilise and the tutors to develop their practice, and not to have a review with every presentation.</p> <p>It is recommended that a review should be started on the module tutor forum, with ALs alerted by email. Then a synchronous F2f or online meeting should be held, followed up with further forum discussion.</p> <p>As expertise develops and evidence of effectiveness of decisions is collected, this should be disseminated across and beyond the school so that future decisions can be based upon the expertise and evidence. We should learn from our ALs because they know how to deliver supported open learning at a distance to an exceptionally high standard. The emphasis should be on increasing flexibility within the tuition strategies, to enable ALs to develop and work within a community of shared professional practice, to share expertise between themselves, to trial new ideas and to adapt to the needs of their students.</p> <p>At the same time as reviewing the tuition strategy, staff tutors and ALs should have the opportunity to review how the strategy is implemented. Tuition strategies should be written in such a way that they allow ALs to use their professional expertise in providing dynamic and innovative tuition for the benefit of our students.</p> <p>This project is contributing to school discussions around developing tuition policy. Improvements in the appropriateness of tuition provision will benefit students.</p> <p>The findings from this project are feeding into discussions with the Director of Teaching to influence tuition policy. Discussions with colleagues involved in all aspects of module tuition will influence the direction taken.</p>

There will be follow-up actions in presenting the final version to the OpenScience Lab and module teams.
Recommendations: 1. Learning analytics should be considered as one option in a range of retention strategies. 2. Learning analytics should be considered as one way to initiate conversations between tutors, students and module teams about students at risk. 3. The timing and content of training provided to tutors and module teams needs to be reviewed. 4. The development of new learning analytics dashboards and the strategies and guidance that goes with them, should be developed through consultation with tutors and owned by module teams. 5. For first presentation modules, module teams should make only TMA submission scores and VLE engagement data available to tutors before introducing OUA PLA on second presentations onwards if required. 6. Further research into uses for the OUA PLA should be undertaken, particularly in the field of producing static learning design visualisations.
Interest in this project from within the STEM Faculty and elsewhere in the University has been driven by the potential improvements in student retention and completion. That interest has been split between the neural network aspect and the role of the tutor contact part of the project. Coming at a time of increased emphasis on retention and on the use of data analytics to improve and personalise our support for students, the project has been very timely. Indeed it anticipated much of the current interest and has been a pathfinder for aspects of improving retention and support. Now the project has finished, the work has been taken up by the STEM Faculty, who are funding its continuation on the remaining presentations of TU100. This support includes determining the feasibility of training others to use the neural networks on TU100 and on other modules.
Improvement in retention (in as far as the impact of changes implemented can be traced amidst multiple variables affecting student and tutor performance) Professional development for the 4-6 MCT ALs involved, and for the MCT and language central academics Development of repertoires of practice and a repository of products which will underpin MCTs retention and assessment strategies