

The 8th eSTEEeM Annual Conference
STEM Scholarship – From Inquiry to Implementation
8-9 May 2019

FINAL PROGRAMME

Day 1: Wednesday 8 May 2019

Time	Session	Venue
9.00 – 9.30	Registration and Coffee	Hub Suite
9.30 – 9.45	Welcome and Introduction	Hub Lecture Theatre
	Diane Butler and Clem Herman, eSTEEeM Directors	
9.45 – 10.15	Opening Keynote Presentation	Hub Lecture Theatre
	<p>Jane Seale, Professor in Education, Faculty of Wellbeing, Education and Language Studies (WELS)</p> <p>My personal journey into the student voice arena: making the connections between policy, research and scholarship</p> <p>My research takes place at the intersection of technology, disability and inclusion, and it is my interest and knowledge of these three fields that has drawn me to explore approaches for implementing student voice initiatives in my own teaching practice and in higher education more broadly. In this presentation, I will share my student voice journey with you. In doing so, I will draw on three student voice projects that I have undertaken between 2007 and 2014 to illustrate three particular arguments I wish to make about how best to approach student voice work:</p> <ol style="list-style-type: none"> 1. Theoretical and epistemological frameworks can provide a useful foundation on which to build valid and meaningful student voice initiatives 	

	<p>2. There is a real need to critically examine the outcomes of student voice initiatives in order to make valid conclusions about their success or effectiveness</p> <p>3. If we as a community can do one or both of these things, then when we write up our internal student voice projects there is no reason why what we produce should not be labelled research instead of scholarship.</p>			
10.15 – 10.30	Coffee-to-go			Medlar and Juniper
10.30 – 11.30	Parallel Session A: Short Oral Presentations – Innovations in Assessment & Supporting Students			
Session A Chair: Tim Lowe	Jeff Johnson	90% Student Retention by Design	High retention (90%) can be achieved by a new assessment strategy and integrating ALs into module teams. Assessment can be designed to encourage students to complete their TMAs (especially TMA01), even when they have to cover a lot of material in a last-minute pre-submission rush. The approach has been successful on two modules.	CMR 15
	Paul Piwek	Confidence-building assessment for Level 1 Computing and IT students	This talk describes an approach to formative assessment consisting of online quizzes combined with students gaining marks, via a TMA question, for engagement with and reflection on the quizzes, not the quiz scores. We report on engagement with the formative assessment and its impact on module forum discussions in TM112.	
	Lesley Boyd, Rob Janes and Tom Olney	Using technology-enabled learning networks to drive module improvements in STEM	An action research story of collaborative participation in problem solving and improvement, and putting ALs 'close to the solution'.	
10.30 – 11.30	Parallel Session B: Short Oral Presentations – Supporting Students & AL Development			
Session B Chair: Steve Walker	Sharon Dawes and Simon Savage	Learning from Associate Lecturer Experience in Tuition Strategy Design and Review	In 2017 Associate Lecturers participated in a review of the newly created module tuition strategies. We will report on how the review feedback was collected and acted upon for undergraduate modules within the school of Computing and Communications. We consider how we can learn from the expertise of our ALs.	CMR 11
	Hannah Gauci and Janette Wallace	Assessing the effectiveness of the induction process for novice Associate Lecturers (AL) in the School of Life Health and Chemical	Appropriate induction for our ALs is key to ensure they are adequately prepared to provide effective tuition. Here we report the success of a new induction program offered to novice ALs in the school of Life Health and	

		Sciences (LHCS) in preparing them for the AL role	Chemical Sciences and make recommendations for future AL induction programs.	
	Janet Haresnape, Nirvana Wynn and Fiona Aiken	Situated learning via the STEM-ByALs-ForALs programme - feedback from participating ALs over different phases of the programme	The STEM-ByALs-ForALs programme provides tutors with opportunities to share practice, providing a supportive situated learning environment (Lave and Wenger, 1991) which fosters peer support, and helps ALs improve their online interactions with students. Analysis of feedback from participating ALs demonstrates the programme nurtures community spirit, and provides valuable development opportunities.	
10.30 – 11.30	Parallel Session C: Workshop/Demonstration – Technologies for STEM Learning			
Session C	Danny Barthaud, Amel Bennaceur and Vikram Mehta	PiMaze: Teaching Programming through Tangible Interfaces	This demonstration introduces programming using a tangible interface to guide students to program a player to find its way in a maze. This experiment can be used by modules that develop programming skills especially TM112 for the simplest version and M269 for more advanced versions.	CMR 1
10.30 – 11.30	Parallel Session D: Workshop/Demonstration – Supporting Students			
Session D	Lynda Cook, Diane Butler, David Appleton, Anthony Short, Oliver Burney, Dan Berwick and Marcus Badger	How do we support students who study full time? Findings from a Stage 1 interdisciplinary science module	What do our students studying at a full time rate need to succeed? A multidisciplinary team approach to find out using a Stage 1 science module.	Systems Seminar Room (S0049), Venables
11.30-11.45	Coffee-to-go			CMRs 1,11, 15 and S0049

11.45-12.45		Parallel Session E: Short Oral Presentations – Online/Onscreen STEM Practice		
Session E Chair: Liz FitzGerald	Claudi Thomas, Katrine Rogers and Hilary Holmes	Achieving student participation and encouraging active learning in online tutorials	This presentation describes a mixed methods study investigating the effectiveness of three types of online activities in achieving student participation and engaging students in active learning. These activities include answering mathematical questions by polling; on-screen activities such as drawing and 'drag and drop'; and using the text chat and microphone.	CMR 15
	Mark Jones, Sarah Chyriwsky, Judith Croston, Ulrich Kolb, Susanne Schwenzer and Sheona Urquhart	Online Team Investigations in Science (OTIS) – Analysis of student interactions in team-working projects	We present an analysis of student forum discussions used for team projects in astronomy and space sciences at the OU. Following classification of forum messages as relating to group building, group learning, team self-organisation, and expression of individual feelings, we report on commonalities and differences between different types of project.	
	Bryan Singer and Rafael Hidalgo	Improving Student Engagement via Interactive Videos	Video presentation is a critical feature of online distance learning. We are testing whether dividing online videos into multiple interactive segments improves understanding of module material, engagement, and satisfaction.	
11.45-12.45		Parallel Session F: Short Oral Presentations – Technologies for STEM Learning		
Session F Chair: Bernie Clark	Derek Jones, Nicole Lotz and Georgy Holden	Are we making Progress? A longitudinal study of OpenDesignStudio (ODS) in design education	Virtual Design Studios can encourage and support complex social learning behaviours and how this takes place is only now being understood. Research from a large-scale study of OpenDesignStudio will present a social learning model based on empirical findings and show how simple social learning mechanisms can support student success.	CMR 11

	John Baxter	Notetaking and on-screen learning: conclusions from a level II science course	An optional onscreen notetaking tool was integrated into onscreen teaching materials. This presentation explores: student uptake of the tool; other notetaking strategies adopted; the correlation between achievement and notetaking intensity; the notetaking strategies adopted by high- and low-achieving students; student/teacher differences in perception about notetaking.	
	Julia Cooke, Philip Wheeler, Kadmiel Maseyk, Sarah Davies and Trevor Collins	Live, interactive fieldcasts: How flexible and robust is our technology and teaching design to multiple changes?	How well do interactive field broadcasts weather different conditions? We will explore the robustness and flexibility of the technology and teaching design that we have developed for interactive 'fieldcasts' in which second level Environmental Science module students apply the scientific method to design and complete a field investigation.	
11.45-12.45	Parallel Session G: Workshop/Demonstration – Technologies for STEM Learning			
Session G	Ale Okada	VISION Visual Interface for students and professionals to annotate, map and outline academic papers in STEM	This exploratory workshop aims to examine the use of annotation mapping tools by STEM students and tutors in online courses for personal and collaborative annotation.	CMR 1
11.45-12.45	Parallel Session H: Structured Discussion/Briefing – Innovations in Teaching Through Assessment			
Session H	Sue Forsythe, Cathy Smith and Charlotte Webb	An exploration of effective teaching through feedback on students' assignments	In this discussion session we will consider effective teaching through the provision of assessment feedback and invite colleagues to offer their views. We will explore current practice in providing feedback and are especially interested in innovative feedback practices, used in Open University modules, which make them more effective.	Systems Seminar Room (S0049), Venables
12.45-13.15	Poster Presentations Delegates are invited to vote for the best poster. The winning poster will be announced during the closing keynote session on day one.			Hub Lecture Theatre
13.15-14.00	Lunch Delegates are welcome to continue browsing posters over lunch.			Hub Lecture Theatre

14.00-15.30	Parallel Session I: Short Oral Presentations – Innovation in Teaching and Learning, Supporting Students, Equality, Diversity and Inclusion & International Curriculum Delivery			
Session I Chair: Duncan Banks	Karen New and Fi Moorman	Online journal clubs (OJC) in distance higher education: an opportunity to develop skills and community?	We will provide a progress update of our innovative online journal club to date, including a brief website tour. We will present preliminary survey data and future directions, highlighting the unique tutor-student dynamic and the opportunities for confidence and skill building within the informal setting of the online journal club.	CMR 15
	Anne-Marie Gallen, Trevor Collins and Chetz Colwell	Creating a discipline-based accessibility working group	This is the story of how a group of people that cared about making their teaching inclusive formed a working group to help improve the accessibility of their discipline. Hear the story and take away strategies for improving the accessibility of the learning experiences within your own discipline.	
	Carol Morris, Sally Organ and Moira Dunworth	Leaky pipeline or untapped potential? An investigation into the motivations and aspirations of female engineering students at the Open University	An investigation to understand the motivations, aspirations and experiences of mature female engineering students at The Open University (OU). These women are often well-qualified in non-STEM disciplines and we will discuss whether the 'leaky pipeline', as a metaphor for retention and progression in STEM, is applicable.	
	Stephen Burnley, Sinead O'Connor and Richard Campen	Supporting environmental management MSc students in Kenya	This project is investigating the experience of postgraduate students studying in Kenya to enable us to improve the support we give to students in developing countries. Preliminary results have identified some of the cultural and practical issues that they face and their positive experiences of study with the OU.	
14.00-15.30	Parallel Session J: Short Oral Presentations – STEM Engagement, Technologies for STEM Learning & Supporting Students			
Session J	Andrew Smith and Amel Bennaceur	Using social media to guide teacher participation and development: Cisco MOOC experience	We utilised pre-existing learning resources from the Cisco NetAcad platform and integrated the use of Social Media. Resulting in 2500+ teachers reached over three courses	CMR 11

Chair: Chris Hughes			and a retention/completion/pass rate of over 20% (and higher).	
	Chitra Balakrishna	Impact of Gamification on Student Learning Experiences	Play is our favourite way of learning things and Mark Prensky, in his work argues that the two key reasons for using computer and video games to learn real-world content and subject matter are (Prensky, 2001) that our learners have changed radically and these learners need to be motivated in new ways. The objective is to assess the impact of the game play mechanics on student motivation, engagement, participation and overall learning commitment specially when learning a new technical subject such as computer networking and cyber security, particularly on young adults (secondary/post-secondary).	
	Christine Gardner, Allan Jones, David Chapman and Helen Jefferis	Analytics for tracking student engagement	This research explores the efficacy of technology enhanced teaching and learning (TELT) resources on module TM355, "Communications Technology", via the Analytics for Action (A4A) data analysis tool and semi-structured student interviews. The research questions cover two key areas; the effectiveness of the analytics tool and students' perception of the TELT resources.	
	Jakub Kocvara, Martin Hlosta and Zdenek Zdrahal	Explaining models for predicting at-risk students	Complex black-box predictive models are more accurate than ever at recognising at-risk students and improving retention. With added complexity, we often lose interpretability in the process. In this session, we present innovative techniques for explaining these predictions.	
14.00-15.30	Parallel Session K: Structured Discussion/Briefing – Innovations in Teaching Assessment			
Session: K	Laura Alexander and Alexis Lansbury	When STEM students are offered a blend of digital and non-digital learning materials, what choices do they make, and why? An overview of a study into this, and a chance to	We offer our students online resources, and expect them to use them effectively, but do they? This session reports on research carried out looking at how students on three level 2 STEM modules actually study. We invite you to discuss the implications of the results, and any further research required.	Systems Seminar Room (S0049), Venables

		discuss the impact of the results on how we design online modules		
14.00-15.30	Parallel Session L: Workshop/Demonstration – International Collaboration in Learning, Teaching and Student Support			
Session L	Mark Endean, Daphne Chang	Longitudinal impact of visiting scholarships on the professional practice of scholars from China	Since the year 2000, more than a dozen staff from Chinese universities worked at the OU as ‘visiting scholars’. We contacted and interviewed 14 former scholars from four separate Chinese universities. Early analysis shows these visits to have created long-lasting impact on the scholar’s career, their peers and their institutions.	CMR 1
	Sally Crighton and Steve Walker	Reflections from the Shanghai Open University Immersion Hub 2018	Please join us for a whirlwind tour of our experience of the Shanghai Open University visiting scholar programme, 2018. We will share our thoughts and those of other scholars from online and distance learning institutions from seventeen countries.	
15.30-15.45	Afternoon tea-to-go			CMRs 1,11,15 and S0049
15.45-16.15	Closing Keynote Presentation			Hub Lecture Theatre
	Mick Healey, Higher Education Consultant and Researcher, Emeritus Professor, University of Gloucestershire			
	A model for engaging students to work in partnership with staff in higher education			
	Ways of engaging students in higher education as partners in learning and teaching is arguably one of the most important issues facing higher education in the 21 st Century. This session will outline a model for investigating four ways in which students may be engaged as partners through:			
	a) Learning, teaching and assessment; b) Subject-based research and inquiry; c) Scholarship of teaching and learning; and d) Curriculum design and pedagogic advice and consultancy.			

	The session will introduce the workshop on the next day, which will explore the application of students working in partnership in the context of The Open University.	
16.15-16.30	eSTeEM Scholarship Projects of the Year Awards and Best Poster Prize Awards for the Scholarship Projects of the Year in two categories – Innovative/Original Approach to Teaching and Enhancing the Student Experience. The Best Poster will also be announced as voted for by conference delegates.	Hub Lecture Theatre
16.30-17.15	Wine down Delegates are invited to reflect on day one with colleagues over some light refreshments.	Medlar and Juniper
17.15	Close	

Day 2: Thursday 9 May 2019

Time	Session			Venue
8.45-9.15	Registration and Coffee			Hub Suite
9.15-10.45	Parallel Session M: Short Oral Presentations – Employability, Supporting Students & Trends in Industry			
Session M Chair: Helen Donelan	Chris Hutton and Fiona Aiken	Student perceptions of employability skills in level 1 Science: are they on the radar?	S112 uses radar diagrams to encourage students to self-assess and reflect on their development of employability skills. This project examines how students perceive the use of radar diagrams, and how their skills develop. Initial findings and any emerging themes will be reported, and suggestions/discussion welcomed.	CMR 11
	Soraya Kouadri Mostéfaoui and Christine Gardner	How Can we Better Support OU Degree Apprenticeship Students?	This presentation summarises our findings investigating the support needed by Degree Apprenticeship (DA) students during their first year of studies. This initial study primarily focussed on the first cohort of English Digital and Technology Solutions students within the School of Computing and Communications.	
	Hilary MacQueen and Fiona Aiken	Cushions in the workplace? What vocational students need to succeed	Graduates of a Foundation Degree were surveyed at the end of their studies to identify factors in the workplace that had influenced their success on their qualification. In this session we will present the final results from this research and outline how the findings have been incorporated into the design of Degree Apprenticeships.	
	Claudia Eckert	What will engineering design practice be like in 2040: insights from a workshop on trends in product development practice to 2040 and implications for engineering teaching	Engineering technology is rapidly changing, yet long term trends in engineering practice are visible. This talk reports on a series of interviews and a workshop with industry experts about trends in product development practice to the 2040. It discusses skills gaps and the opportunity for the OU that will arise from them.	

9.15-10.45	Parallel Session N: Workshop/Demonstration – Supporting Students			
Session N	Elaine McPherson, Kate Lister, Anne-Marie Gallen, Victoria Pearson and Tim Coughlin	Inclusive approaches to student communication	The Open University has over 25,000 disabled students (Oct 2018), and we are well known in the sector for the excellent support we offer students with additional study needs. However, the language we use to discuss disability and study needs with students has been shown to alienate them and discourage them from requesting support. In this workshop we present findings from a study on the language students prefer to use; we present new guidance on inclusive approaches to language and we explore ways in which we can be more inclusive in our approaches to language and disability in order to support our students to succeed.	CMR 1
9.15-10.45	Parallel Session O: Structured Discussion/Briefing – Supporting Students			
Session O	Nicole Lotz and Georgina Holden	Time to think bigger? Can qualification f2f events succeed where module tutorials fail?	Tutors have seen large drops in attendance at face-to-face tuition events. We report on an eSTeEM project that trials and evaluates several alternative face-to-face or blended, cross-level engagement events. We would like to discuss how we can move from module-thinking to qualification-thinking to engage students and tutors in more attractive and worthwhile face-to-face events.	CMR 15
10.45-11.00	Morning coffee break			Hub Lecture Theatre
11.00-16.00	Students as Partners Interactive Workshop			Hub Lecture Theatre
	<p>Ways of engaging students in higher education, as partners in learning and teaching, is arguably one of the most important issues facing higher education in the 21st Century. Partnership is essentially a process for engaging students, though not all engagement involves partnership. It is a way of doing things, rather than an outcome in itself. This interactive session will explore four ways in which students may be engaged as partners through –</p> <ul style="list-style-type: none"> • Learning, teaching and assessment • Subject based research and enquiry • Scholarship of teaching and learning • Curriculum design and pedagogical consultancy 			

	<p>The workshop will be facilitated by Prof. Mick Healey, PFHEA, HE Consultant, Emeritus Professor at the University of Gloucestershire and Senior Editor of International Journal for Students as Partners. Mick will draw on mini case studies from a wide range of disciplines (especially STEM), institutions and countries, which will demonstrate the value of the partnership approach and then support us in developing our own ideas and proposals around this theme via a 'Liquid Café' discussion.</p>	
16.00	Close	