The University of Nottingham
Teaching and Learning Conference
3rd May 2019

Universal Design: meeting the teaching and learning challenges in 21st century higher education

#UoNTLC2019

Schedule

9.00 – 9.30am	Registration Coffee, tea and pastries available
9.30 – 9.45am	**Welcome:** Professor Sarah O'Hara and Professor Sarah Speight **Teaching and Learning Observation College re-launch:** Dr Fiona McCullough and Dr Tina Byrom
9.45 – 10.00am	**Plenary 1: Cassie O'Boyle** *A curriculum for all and for everything*
10.00 – 10.25am	**Plenary 2: Dr Richard Windle** *Digital Learning Development: stepping out of the comfort zone*
10.25 – 10.30am	Question and answer session (Dr Richard Windle and Cassie O'Boyle)
10.35 – 11.05am	**Parallel Sessions 1**
11.05 – 11.30pm	Coffee and tea break
11.30 – 12.30pm	**Workshop sessions**
12.35 – 1.05pm	**Parallel Sessions 2**
1.05 – 2.00pm	Lunch and networking
2.00 – 2.45pm	**Keynote: Professor Pauline Kneale** **Meeting the teaching and learning challenges in 21st Century Higher Education**
2.50 – 3.20pm	**Parallel Sessions 3**
3.25 – 3.55pm	**Parallel Sessions 4**
4.00 – 4.15pm	Final plenary and closing remarks

Keynote Speaker

Professor Pauline Kneale

Pauline Kneale studied at University College London and University of Bristol, and has held academic posts at Bristol University, Trinity College Dublin, Kingston Polytechnic and the University of Leeds, before moving to Plymouth in 2009. Her early research focused on water quality, chemistry and catchment management. Her hydrology and teaching and learning expertise was recognized through her Chair appointment as Professor of Applied Hydrology with Learning and Teaching in Geography. She was awarded a National Teaching Fellowship in 2002. Pauline established the Pedagogic Research Institute and Observatory (PedRIO) at the University of Plymouth, one of the six cross Faculty University Institutes. Now in its ninth year, it has an excellent track record in developing staff as pedagogic researchers, and has developed a conference series which attracts staff from many Universities.

Pauline's current research focuses on student skills, Masters level teaching, inclusive assessment and student's experience of University. Recent research publications in collaboration with the PedRIO team and external partners have addressed: transition issues to university; the retention of non-traditional students; evaluating the role and impact of undergraduate research conferences; evaluating the impact of academic development interventions; and the position of pedagogic research in REF2014.

Plenary Speaker

Dr Richard Windle

Dr Richard Windle is an Associate Professor, Faculty Digital Learning Director and gained National Teaching Fellow status in 2018. Ever since appointment as a Lecturer in Health Sciences in 1999, he has had a passion for exploring how digital learning technology can be used to support learner-empowerment and ownership in order to address the learning needs of his students. Over the years his work has progressed in a more strategic direction and Richard now spends much of his time supporting colleagues to develop, deploy and evaluate digital learning interventions within complex, vocational curricula.

Some of his most impactful work has been in facilitating the creation of multimedia open educational resources by communities of practice drawn from a wide range of stakeholder groups within health, including practitioners, patients and carers. Richard is supported in this work by an award-winning team known as the Health E-learning and Media Team that he co-leads, and by funding from a wide range of health and education organisations. Richard has also pioneered the production of multimedia learning resources by students as co-authors, having worked with 150 students from HE institutions across the UK and Ireland. Richard's work is supported by applied research around pedagogical design and learning effectiveness.

Plenary Speaker

Cassie O'Boyle

Cassie is the current Education Officer, having commenced the role in July 2017 following her graduation from American Studies and English at The University of Nottingham. During her time as a student, Cassie demonstrated high levels of commitment to teaching and learning through her involvement with the Education Network and her role ass as Course, Education and Faculty Rep. Cassie is passionate about student voice and the ways in which students can inform practice within the university.

During her tenure as Education Officer, Cassie has secured free graduation for all students and continued the drive for compulsory lecture capture. More recently, Cassie had turned her attention to policy developments on hidden course costs and assessment timetables.

Information Stalls

Blackwell's

Blackwell's will be presenting an information stall at the conference, which will provide information on their services that support course delivery at the University. Information will be available on services such as eLearning, Study Skills support and financial solutions for books, as well as hearing testimonies from lecturers who have previously used the services. Blackwell's will also be delighted to share their University Bookshop Trusted Partner strategy and what this means in relation to the University of Nottingham.

Plenary 1: Cassie O'Boyle

Title: A curriculum for all and everything

Abstract: To follow

Plenary 2: Dr Richard Windle

Title: Digital Learning Development: Stepping out of the comfort zone

Abstract: The development of digital learning within Higher Education has mirrored the rise in the use of technology within wider society, but whereas universities often lead innovations within many fields of research, developing ideas, tools and approaches that are adopted and applied outside of academia, the use of technology within learning generally lags behind innovations elsewhere in the digital sphere. There are a number of potential reasons for this and some will be explored here.

As an academic, my personal journal within digital learning has paralleled the developments within the sector over the last 20 years. Starting out as an early adopter, I have moved into a role of supporting others to design and develop digital learning materials, being part of a large digital learning research and development team known as HELM (health e-learning and media) and currently as Digital Learning Director for the Faculty of Medicine and Health Sciences.

Digital learning has the potential to be transformative within Higher Education and facilitate wider change. Whilst there are some truly remarkable examples of this that need to be celebrated, in reality it often tends to reinforce the status quo (Flavin, 2012). A move to the transformative requires all actors, including the institution, the academic and the learner to step outside of their comfort zones. This is the reason that the recently devised digital learning vision for the University of Nottingham is not focused on specific technologies or infrastructure, but on "*nurturing a culture of excellence in digitally-enhanced teaching and learning*" The emphasis is on providing the environment in which stepping out of the comfort zone is possible.

Things that can feel less comfortable or familiar can include the need to engage with technology itself at its fast moving pace, but also the need to engage head on with the whole area of pedagogy in addition to our more familiar area of subject expertise. We also need to think about how technology changes traditional roles in terms of who is the content provider and who is the learner. This can be challenging for institutions, academics and students alike. Systems of reward, recognition, time allocation and risk management also need to be tackled directly if we really want to unlock the potential for digital learning.

This paper will explore some of these comfort zones and the challenges, opportunities and benefits to stepping out of these together with initiatives at the University of Nottingham enabling this.

Flavin, M. (2012). Disruptive technologies in higher education. Research in Learning Technology, ALT-C 2012 Conference Proceedings. 102-111.

Keynote: Professor Pauline Kneale

Title: Meeting the teaching and learning challenges in 21st century higher education

Abstract: The next ten years in Higher Education are going to be interesting, with changes we can anticipate and the unexpected still below the horizon. Students in the mid- late 2010s are placing new and challenging demands on university staff. They have grown up with social media and the technologies to research online at all times. They have expectations and concerns not seen in the past, and they know that the workplace ahead of them is changing and unpredictable. They have mental health concerns that are well beyond what has been seen in the past. In part change has come from new digital solutions and the ongoing automation of some jobs is perturbing the workplace, and national and international economic and population pressures add to the uncertainty.

Consequently the role of academic staff is changing, and those that train, support and mentor staff need to be ahead of the game to make sure academic staff are not left behind! There are many reasons why academics are feeling uncertain. Not least that the core traditional role as a collator and interpreter of information from many library-based sources into a lecture with supporting Reading List has been overtaken by information available electronically to everyone. This technology has potentially transformed the role of the academic, freeing up time for research, co-research and co-production of knowledge with students. Students have the tools to search and collate, to be more active learners, and less the receivers of information through lectures. But just how ready are all these players to embrace new processes, and how can they be supported?

In this session there will be an opportunity to evaluate and speculate about how these new circumstances should influence the design of the academic curriculum and broader student experience. Being positive and confident, and resilient to change is critical. Supporting staff to ask questions about the characteristics of an appropriate and challenging higher education (HE) curriculum; the teaching pedagogies which support students to be excellent in their discipline and develop critical enquiry skills alongside the skills of excellent researchers that may also have longer term workplace relevance; and supporting professional services staff to evolve the broader student experience are all pertinent points that may be mentioned.

Key words for 2019 onwards: Active learning; Authentic; Autonomous; Co-created; Collaborative; Context relevant; Community-based; Digital confidence; Entertaining; Enthusing; Ethical; Flexible; Inclusive; Participative; Practice led; Professional: Refection; Research in all aspects; Sustainable; Visual.

Parallel Sessions 1

10.35 – 11.05am

Room: Teaching and Learning Building C10 **Paper 1**

Author/s: **Beverley Allan and Tamsin Majerus**

Title: Investigating the impact of co-developing an assessment rubric with Foundation students on their perceptions of and engagement with feedback

Abstract: Assessment and the feedback provided to learners, on their skills and understanding, play a crucial role in the development of learners throughout their academic career. Previous studies have argued that for feedback to be effective in developing the learner, it is important that it is timely and contains concise, informative and clear instruction on how to modify the content for improvement and achievement of the associated learning objectives. Indeed, authors have shown that learner views identify criticisms of illegibility and negative tones, but mainly complain that feedback is vague and ambiguous. In addition, learners have raised concerns regarding the timing of feedback, and have criticised the lack of clear, specific points to take forward for direct application to subsequent pieces of work. However, studies investigating a variety of interventions for providing effective feedback, frequently find that learner engagement is poor. For effective learner progress, good quality feedback requires active engagement with the feedback from the learner. Therefore, a lack of engagement is a concern not only for the progress of the learner but also for institutions being graded for performance in teaching and learning by feedback received from learner surveys.

Foundation Science is designed to prepare learners for progression onto a degree course without having the required qualifications for direct entry. Recent analysis of learner access to feedback on the foundation course identified a lack of engagement with the detailed written comments provided, suggesting learners do not investigate the reasons for achieving a given grade. Consequently, they are not engaged with how to improve in subsequent assessments. The aim of this research is to investigate whether the use of a purposefully developed rubric, co-designed with the learners, with some verbal feedback can improve learner satisfaction and engagement with feedback whilst maintaining high-quality feedback in a timely manner. Further it will demonstrate whether this approach provides a clear pathway for the learner to develop and improve in subsequent assessments, thereby reducing future workload for the marker. The chosen assessments for rubric development are laboratory reports within the Foundation Science programme but could be adapted across disciplines and assessment types.

The intended impact is to share alternative approaches to providing feedback and the outcomes of applying of the new approaches, including learner perceptions and the co-design process. This should provide a platform for those educators looking for alternative ways of providing timely feedback that the learners are more likely to engage with and hence develop their own targets for improvement from. A clear outline of how the feedback rubric was co-developed with the learners will be presented, along with the rubric developed and some initial analysis of learner engagement. These would provide practical resources that other educators could take, adapt and put into practice.

Room: Teaching and Learning Building D04 **Paper 2**

Author/s: Elizabeth Newall and Rachael Green

Title: Alumni Digital Competencies: the reality of the digital workplace

Abstract: From vets to architects, account managers to project managers, economists to psychologists, management consultants to civil servants, which digital capabilities do you think are the most important to recent graduates in the workplace?

With only 41% of higher education students agreeing that their course prepares them for the digital workplace (1), the University of Nottingham conducted a survey of alumni who graduated in the last five years to help assess the extent to which it prepares its students. Alumni were asked to rate the importance of fifteen distinct digital capabilities (2) to undertaking their jobs successfully, as well as the extent to which their courses had helped them to develop the same capabilities. Additionally, alumni were asked which digital tools and applications they use most frequently in their jobs and which did their employers expect them to know how to use when they first started working.

The initial idea for this research originated from discussions with the University's academic Digital Learning Directors, was facilitated by the Campaign and Alumni Relations Office, and was designed and managed by the Libraries' Senior Librarian for Digital Literacy. The data was used to help Schools and Departments prioritise where new support for the development of students' digital capabilities should be targeted. Overall, the work supported the Careers and Employability Service's drive to embed professional competencies in the curriculum. (3)

In this session, delegates will: learn which digital capabilities are important to recent graduates in doing their jobs successfully; gain insight into the skills and experiences that would better prepare graduates for entering the digital workplace; and, consider which digital capabilities might be required for work in the next five years.

Room: Teaching and Learning Building D05 **Paper 3**

Author/s: Denise Sweeney, Irina Hawker, Nuala Byrne and Steve Justice

Title: Reflection in Practice: The what and the how. A study of how university teachers use reflective practice in their university teaching and professional contexts

Abstract: This paper will report on the preliminary findings arising from a qualitative research project conducted in the School of Education under the 'Teaching Transformation Sandpit Project' funding around reflection and professional reflective practice.

The central research questions of the project are:

- What is the perceived usefulness of reflection and its impact on teachers' practices and principles?
- How do university teachers go about the process of reflective practice in their professional practice?
- What is the process they follow?
- What are they influenced by?
- What is the students' experience of 'learning' to reflect and their understanding of how this can be used to support their academic development?

The University of Nottingham has identified four competencies (professional communication, coordinating with others, reflection and digital capabilities) after extensive consultation. These new professional competencies will be integrated into the university curriculum in the 2019 2020 academic year.

As educators supporting international students and academic staff we wanted to know that our participants were ready to apply or support their students with reflection, one of the four professional competencies.

The purpose of the study is to:

- Build a shared understanding of reflective practice for professionals.
- Investigate what a reflective practitioner does when reflecting and how they go about the process to support our development as practitioners teaching reflection.
- Develop teaching resources to support our students in their reflection

The research used a differential interview strategy with 12 CELE tutors, students and PGCHE participants and alumni across all five faculties.

Phase one involved 12 30 minute generalised interviews while phase two involved 12 30 minute contextualised in-depth task specific interviews, all of which were audio-recorded for data analysis purposes.

This research has identified stark findings and as these professional competencies will feature inn School Educational Enhancement and Assurance Reviews in the future, it is imperative that we can support staff and students appropriately and adequately with reflection in professional contexts

Room: Teaching and Learning Building D06 **Paper 4**

Author/s: Fay Cross, Robert Atterbury and Julian Tenney

Title: Creating Flexible 'outbreak scenarios' with Xerte Online Toolkits

Abstract: All third year veterinary students must complete the Veterinary Public Health Module which includes a study of outbreak investigations. Historically, this has been challenging to teach in a realistic way which engages the students and gives them room to think and try different approaches. Consequently, students often complain that these sessions are inflexible and "painting by numbers".

In recent years this topic has been tackled by students working on a fictional outbreak of salmonella linked to farm, in which they work to a budget and order a series of laboratory tests in an attempt to locate the source of the outbreak. Although successful, this approach created a lot of work behind the scenes as the fictional results of any ordered tests had to be compiled and sent to the students before their next session. It was with this in mind that Robert Atterbury (School of Veterinary Medicine & Science) and Fay Cross (Learning Technology) began development on a new 'scenario' Xerte Online Toolkits template which could automate much of this work and take it online.

This session will include a demonstration of the new 'scenario' Xerte template and show the potential for similar scenario-based digital learning content to be created and used in other disciplines. Initial findings and feedback from the first use of the template in the Public Health module (February 2019) will also be presented.

Room: Teaching and Learning Building D08 **Paper 5**

Author/s: Michael Taylor, Heather Wharrad and Richard Windle

Title: Making Nottingham Education Excellence Global by Sharing Expertise

Abstract: Nottingham, as a Russell Group University has a longstanding reputation for providing its students with educational excellence and expertise. As a major 21st century institution, this includes a firm commitment to online, digital approaches to learning. Whilst providing excellence for our own students, the University also has an ambitious programme to be a world leader in sharing this expertise with a wider global academic audience.

One successful example is the open source initiative Helm Open (https://www.nottingham.ac.uk/helmopen/), which is based in the University but has helped to make an impact and open channels of communication, awareness and opportunity that reach out globally. Helm Open for example is an online Open Education Resource (OER) repository containing over 200 'free to share' Reusable Learning Objects (RLOs). Helm Open has recorded more than 6 million global access hits between 2014 and 2017 to its online catalogue, thus showing that the sharing of high quality open digital learning content developed within the University is well established. The impact of this sharing was rated in the last REF exercise as having international significance.

However, in order to further develop this impact globally, we are now attempting to go beyond sharing OER to sharing our tools, processes and expertise themselves, as an example of Open Education Practice (OEP). For the past 3 years Helm have delivered a successful free to access Massive Open Online Course (MOOC) entitled "Designing Learning for Health", to a global audience. Through this course, the HELM team have engaged with an international online community, encouraging them to develop their own learning resources by following the development methodologies that have originated from within the University. This online training has allowed Helm to openly distribute its participatory approach to design and pedagogical practices, as well as introducing the RLO Aspire framework and development workflow practices onto this international community. So far the course has been accessed by more than 11,000 learners and we are aware of a number of ongoing learning resource projects that have started as a result.

Furthermore, recently funded global projects, rather than simply generating content to be developed at Nottingham have had the specific aim of supporting our instructional designers and learning technologists to training and mentor learning technologists from around the world within their national localities. By sharing our experience and expertise, it is hoped to grow the impact of high quality, pedagogically driven, learner-centred resources globally.

This paper discusses the impactful of our work in OEP. It will examine the challenges raised and the barriers and benefits that have already been encountered through our experiences of working on a number of International projects, whilst examining the complexities of managing such projects. We will take a look at some of the cultural issues raised in the development of transnational shared content development and the benefits associated with developing such content with global partners for all learners.

Room: Teaching and Learning Building D09 **Paper 6**

Author/s: Nick Mount

Title: Why specify when one could (should) design? A strategic challenge to curriculum development and the integration of digital

Abstract: In this paper, I contend that there is no such thing as 'digital learning'. Instead, I argue that the phenomenological process by which learning happens is technology-'agnostic'. It is an outcome of the myriad mediations and feedbacks that happen as part of a range of activities that a learner, their teachers and their peers engage with, and which provoke the modulations of concept and practice that are characteristic of learning. From this perspective, no digital tool or technology – no matter how sophisticated it may be – will ever be able to generate learning in and of itself. However, when properly understood as tools for facilitating and enabling the activities through which learning happens (acquisition, inquiry, collaboration, discussion, practice and production), a compelling argument for using digital tools and technologies to enhance the learning process and student experience can be made.

So what does this mean for the 'digital agenda' in teaching and learning at the University of Nottingham? Are we in danger of creating an orthodoxy that over-emphasises the pedagogical value of digital tools and technology and under-emphasises the pivotal role of teacher-learner-peer relationships in learning? Are we falling into the trap of assuming that by investing in better digital tools and infrastructure we will de facto enhance our student's ability to learn and improve their experience? Crucially, are we using the right curriculum development protocols and processes to ensure that digital tools and technologies are used appropriately in our curricula and teaching practices?

In exploring these questions I will focus on some of the problems associated with top-down curriculum development processes that centre on the 'specification' of curricula (the what) rather than its 'design' (the how) and delivery (the who). I argue that specification isolates individual modules from each other and, whilst this may be useful in facilitating the rapid and convenient construction of new programmes by curriculum co-option, it risks pedagogical rigour and incoherent learning experiences. Building on Laurillard's1,2 'Conversational Framework', I will suggest a different, bottom-up view of curriculum design. This approach begins at the unit of individual learning activities, and the mediations that they are designed to support. It encourages the identification and (only where appropriate) integration of digital tools and technologies that can enhance these mediations; recognising that low technology approaches can be more effective. It then works upwards to articulate and integrate these activities, and their digital infrastructure, into coherent modules and programmes. I argue that such a framework provides a strong justification for investment in digital tools and technologies, by the institution, by academic staff and by students alike, because it is founded on a burden of proof that is pedagogic rather than technocratic.

Room: Teaching and Learning Building D10 **Paper 7**

Author/s: Sharon Romeo, Sheila Ilangovan, Salomy Sumithra Krishna and Thamil Vaani Arvaree

Title: Peer Assisted Learning Program (PAL): A student-centric engagement tool for Foundation students

Abstract: Over the years, the School of Foundation in Science has noted a trend with the Mathematics modules whereby students' failure rate is 5-15% for every Mathematics module offered each semester. The Peer Assisted Learning (PAL) program was designed as a pilot program to provide learning support that the students will need before the re-assessment examination. Prior to the implementation of the PAL program, a briefing was done and a survey was conducted to gauge students' level of commitment towards to program. From the survey, 67% of students were either likely or very likely to be part of the program. 94 % believed that Peer Mentoring will be able to improve their knowledge. Students who had to resit the Mathematics modules were encouraged to participate in the PAL program on a voluntary basis. Those who responded were assigned to student volunteer Mentors who scored distinctions in their Maths modules. A minimum of 20 hours mentoring was required to be fulfilled by each of the Mentor-Mentee pair. In summary, the findings support much of the previous literature and case studies related to PAL programs. In addition, both PAL mentors and mentees perceived a number of benefits from the program. The re-assessment examination results also showed that the mentees outperformed their peers who prepared for the examination via self-study.

Room: Teaching and Learning Building D11 **Paper 8**

Author/s: Daniel Beneroso

Title: Improving the engagement of UG ChemEng students towards abstract modules – A successful proven methodology in a chemical and phase equilibria course

Abstract: Engineering teaching approaches to highly abstract modules have been traditionally focused on the delivery of an extensive amount of abstract content, where students do not typically have enough opportunities to interact, thus failing to engage with the lecture sessions, materials and teachers. The engineering lecture format has only changed in recent years and teachers have introduced more opportunities for student participation and interaction in higher education. Students who are engaged in the learning process are usually more likely to achieve the learning outcomes, and are generally more motivated, satisfied and self-confident when tackling with the module content.

Chemical and Phase Equilibria (CPE) is one of the most conceptually challenging modules that students encounter on a chemical engineering course. Although the material is quite abstract at times, the knowledge and skills learnt in this module are applicable in the context of many of their engineering careers. Nevertheless, students have usually struggled to properly understand the fundamental concepts behind equilibrium thermodynamics and hence, to engage with the module content. Ultimately, this might prevent them from properly understanding the foundations of designing chemical equipment in later stages of the course.

Regardless of the number of different teaching approaches used during lecture sessions, a smart methodology set out before designing any learning element could potentially nurture such approaches. Herein, the use of a highly contextualised student-centred teaching methodology to improve the engagement of students during lecture time is proposed and analysed based on two questions:

- How engineering lecturers could face a step-change in the traditional way of teaching modules involving a high degree of abstract information?
- To what extent does this have an impact upon the engagement, and ultimately upon the satisfaction of students?

The presented teaching methodology is expected to inspire chemical engineering lecturers by adding value to the learning experience of their students and avoiding them to become passive recipients of abstract information. Results from SEM surveys clearly indicate that the quality of learning has been greatly improved. The satisfaction of students increased by more than 50% after implementation of the proposed teaching methodology.

Room: Teaching and Learning Building D12 **Paper 9**

Author/s: Mike Clifford

Title: How do students prepare for exams?

Abstract: Students prepare for unseen assessment (exams) in many ways. These include working through past paper questions, annotating lecture notes, attending revision lectures and tidying their rooms*. As well as these self-directed methods, lecturers may schedule revision sessions, which could contain activities such as working through past paper questions, covering the course learning outcomes or simply providing printed solutions to exam papers.

In this session I discuss student attitudes to revision, drawing on results of an online survey which asked students to rank what they find useful when it comes to preparing for exams. I also present and discuss focus group findings with groups of students and academic staff, with the aim to improve how we prepare our students for unseen assessments.

* Research has shown that some revision strategies may be more productive than others.

Room: Teaching and Learning Building D13 **Paper 10**

Author/s: Wei Hoong Choo

Title: Exploring the sense of belonging of UK undergraduate mature students at The University of Nottingham

Abstract: As a follow up to a successful research conducted in 2017 on the experience of Black and Minority Ethnic (BME) students at the University of Nottingham, a corresponding study was conducted to explore the experiences of UK undergraduate mature students as they are a minority whose experiences have not been well understood and who can frequently not feel part of what they may perceive to be the dominant culture at the university. In the most recent statistics on non-continuation rates of students in higher education, in comparison to other Russel Group universities, the University of Nottingham is under-performing in terms of non-continuation rate of mature students and is performing better than average at retaining young students (Higher Education Statistics Agency, 2018).

This qualitative study aims to enrich our understanding about mature students' sense of belonging by exploring the factors that influence mature students' engagement, with a focus on their classroom experience, academic support and tutorials, careers advice and guidance, and other forms of career preparedness activity. This work can facilitate the university in making changes that target the mature student population to improve their experience.

Face-to-face semi-structured interviews were conducted with 10 participants from across the University of Nottingham who are undergraduate students domiciled as UK students for fee purposes and are 21 or above at the age of initial registration to the university. Participants were recruited using an open approach process and were selected using the principles of maximum variation sampling. Transcribed data was coded and analysed using thematic analysis.

The findings suggest that participants had very clear purposes of pursuing a degree and there was a consensus that the key themes were related to the feeling of exclusion: ease of adjusting to university life; meeting personal learning objectives; and connection with people. Efforts have undoubtedly been made by the university to provide a more inclusive and supportive environment for mature students, which is documented in the positive events that students in this sample have experienced. However, there were also examples provided on how fitting into a university system where the dominant culture is young often leaves students feeling excluded and unvalued, in the worst cases, this leads to them having thoughts of discontinuing their studies.

Along with the findings are a series of recommendations proposed to address mature students' feeling of inclusion by mapping out their end-to-end journey and identifying different touchpoints that could influence their sense of belonging: from organising university induction for first year mature students to examining Year 1 teaching materials and providing academic preparation courses, to academic staff's engagement with students, as well as designing schemes that complement other formal forms of academic support. These actions plans may overlap with studies into students from other Widening Participation backgrounds, which can be implemented collaboratively. However, it is imperative for future research to consider the intersectional aspect of mature students' identities as these students may have unique experiences that are contextually different from students with single category Widening Participation background.

Workshops

11.30 – 12.30pm

Room: Teaching and Learning Building A03 **Workshop 1**

Author/s: **Professor Pauline Kneale**

Title: Moving towards inclusive assessement

Abstract: What is the best kind of assessment for learning – as opposed to the best assessment of learning? As soon as we frame assessment in this way, we have to ask ourselves why we are doing many things that we take for granted as part of 'normal' teaching and assessment. And we also need to consider the diverse needs and experiences of our students. Always remember that *inclusive assessment* does not compromise academic standards. It instead improves the chances for all students to demonstrate their ability to meet the learning outcomes.

Gibbs and Simpson (2005) tell us that assessment is the most critical influence on what and how well students learn, yet NSS scores relating to assessment and feedback consistently give cause for concern. Research suggests that assessment design is best addressed at programme level, with a recognition of the need for a variety so that students 'don't get through entire degree only by doing one thing.' There are tensions in design and pulls from the different actors. Staff need creative ways to cope with providing support, marking, feed-forward and feedback. Student thoughts in design or choice of assessment are important. Graduate employers emphasize that they look for 'soft skills'. While employers are generally satisfied that the academic element gives graduates enough subject knowledge, they also seek commercial awareness, 'common sense' and 'people skills' in their employees. Actual and simulated work experience can help to develop these attributes.

Thinking about assessment for learning leads to authentic assessment tasks. A common problem is that module outlines contain too many 'knowledge' Intended Learning Outcomes (ILOs), forcing the focus towards regurgitating content in exams, whereas students could learn similar material while developing skills (teamwork, report-writing, critical thinking, etc.) by working on meaty, wicked research and practical tasks. Inclusive assessment is a big, complicated, multi-dimensional issue. This short workshop will explore some of the options for assessment that allow all students to present to the best of their ability.

Room: Teaching and Learning Building D04 **Workshop 2**

Author/s: Beth Yearsley and Hayley Gilmore

Title: Re-thinking Member-led Learning

Abstract: Objectives

By the end of the workshop we want participants to:

- Have an increased understanding of the benefits of member led learning, including, what this means in practice,
- Understand how we deliver this in the Students Union
- Apply potential benefits of member-led learning for both learner and teacher into their contexts

Who are the Students Union? (10 mins)

Interactive Activity (10 mins) – Myth Busting Quiz – Opening the lid on what it means to be member-led, what the SU really does, what training we offer, what learning packages are available to our members.

Outline the journey we've been on as an SU – 'what do we need students to be able to do'? – Face to face delivery equated to staff development, bums on seats = learning.

Where we're up to now: We are building a foundation of independent learners and reflective thinkers. We have reviewed all training and now we adopt a blended learning approach with a move to 70% student led learning and 30% facilitation. Students have access to online courses with appropriate competency assessment built in and we deliver face to face training to students through a range of methods – traditional classroom style, work based learning, one to one coaching, situation based mock assessments etc. Understanding and development is checked through formal / informal formative and summative assessment.

Interactive Activity: (15 mins) How did we get buy in for this? Take participants through our journey with staff who offer learning opportunities for students and brought them on board with new styles of developing our members and the opportunities we offer. Help participants map out their own buy-in plans.

What Member-led Learning makes possible (10 mins): Member led learning allows us to learn from our students, in the same way that reverse mentoring is gaining in popularity engaging our students in more dynamic discourse around their own development allows them to not only shape their learning journey but allows us to build our knowledge of our students and establish meaningful outcomes.

Interactive activity: (15 mins) Case Study – Welcome committee. How do we develop them? Put this pedagogy into practice, Case Studies for review, how could this be redesigned using 70/30 methodology?

Impact of Member-led Learning and Next Steps (10 mins) – Exploring case studies from students who have accessed learning opportunities in the Union. Can we find a link between 'better' training and longer term engagement? Where are we going next? Goal 2 of the strategy embeds a requirement for us to prepare students to make a successful transition to university and after the leave us. What does this look like for us as a Union? *Takeaway learning* – how can you apply this in your own context? Resources and case studies will be provided to support staff to review their own learning practices.

Room: Teaching and Learning Building D05 **Workshop 3**

Author: Glyn Lawson, Nick Mount, Richard Windle, Cecilia Goria, Cristina De Matteis and Neil Hughes

Title: Digital Solution Spaces

Abstract: Digital skills and competencies are now broadly accepted as essential skills in most subject areas. This is reflected in several of the university strategies, including the Global Strategy 2020 Review and Refresh, which also hints at the magnitude of the challenge in adapting our processes, practices and cultures as digital technologies become embedded in our curricula.

To support this change, we are developing several Digital Solution Spaces; places which can support a range of activities related to developing digital teaching and learning capabilities and practices. These activities will include: workshops to define the digital needs of our staff and students; training and support; demonstrating state-of-the-art and emerging technologies; hosting external speakers and companies; and becoming centres of excellence. Despite the apparent focus on digital, the work will be set in the context of pedagogic frameworks and, in-line with the Vision for Digitally-Enhanced Teaching and Learning, will retain focus on student experience and user benefits – not technology for technology's sake.

The approach taken within the Digital Solution Spaces will be to connect users with digital tools and technologies best suited to their pedagogic, curricular, or logistical challenges, while optimising the student experience. It will support staff in their exploration of digital innovations, reducing the barriers to adoption, and encouraging them to experiment with the technologies in safe places.

The Digital Solution Spaces will become part of a network of activities supporting our work in these areas. E06 in the Teaching and Learning Building will be central to the hub and spoke model, with spaces such as the Engineering Education Development Studio in Coates building offering local expertise and subject-specific support. With this model, we can effectively counter fragmentation, promote knowledge and facility sharing across the university, and signpost to the specialist facilities that best suit staff or students' needs.

This workshop will be key to raising awareness of the Digital Solution Spaces and to ensuring successful staff engagement with them. It will be run by the Digital Learning Directors, who are developing several of the Digital Solution Spaces. Participants will be asked to suggest activities they would find useful in these spaces. They will also be asked to consider any networks they are currently involved with which would benefit from joining part of this larger system. Finally, discussions will be held around the approach being adopted by the Digital Solutions Spaces and participants will be invited to suggest the best ways these could work with the academic community.

Room: Teaching and Learning Building C17 **Workshop 4**

Author/s: Helen Whitehead and Sally Hanford

Title: Engaging students in keeping learning journals and blogs: digital tools for assessed blogs and reflective journals

Abstract: Reflection is one of the four key Professional Competencies identified by the University of Nottingham (*Professional Competencies in the Curriculum*, Nalayini Thambar, Director of Careers and Employability, September 2018), defined as "to give serious thought and consideration in order to develop enhanced understanding and insight." Blogs and learning journals have been used to support learning and assessment in HE for some years with great success (Hansen, 2016; Park, 2003; Smith, 2010).

This workshop will look at practical ways for using technologies such as Moodle forums, blogs, e-portfolios and OneNote, to engage students in reflecting and reporting on their learning in the form of forums, blogs and reflective journals. These approaches can be used to encourage collaboration, to prepare for an assessment, to allow students to reflect throughout a module or programme and/or to monitor student learning.

The journals/blogs can be assessed in a number of ways. We will draw on experiences, examples, case studies and contributions from modules and staff in the Faculties of Arts and Social Sciences, as well as best practice elsewhere.

Participants will look at case studies, and be guided in examining and identifying best practice and will then look at how this can be applied in their own practice, choosing the technology/technologies most suited to the student needs and their own expertise. We will look at how blog prompts can used to focus participation and engage students.

We will share successful resources and strategies, as well as hints and tips for effective and time-efficient monitoring of student learning journals (Moon, 2004; Whitehead, 2018). By the end of the workshop those who wish will have planned a reflective activity, either formatively or summatively that they can then use in their own module(s).

The workshop will have the structure (60 min):

- 15 min presentation, including a look at each of the technologies, and how they can be monitored and assessed
- 15 min looking at, analysing and discussing case studies and successful examples (guided groupwork)
- 15 min designing a blog or learning journal activity (groupwork)
- 15 min feedback, plenary and action plan.

This submission best fits the theme of Student engagement as it includes a number of strategies to engage students with their learning via reflection and evidencing their learning. It also addresses the theme professional competencies (Reflection) and Digital learning.

Room: Teaching and Learning Building D08 **Workshop 5**

Author/s: Pauline Maden, Chris Jones, Carmen Tomas and Emma Whitt

Title: Reflective learners to successful professionals

Abstract: The University of Nottingham Professional Competencies - professional communication, co-ordinating with others, digital capabilities and reflection - are vital to helping prepare students to succeed in the changing world of work after graduation. In addition, these competencies, particularly reflection, are fundamental in fostering student autonomy, which is key to more effective learning.

It is often suggested that students will 'naturally' gain these skills through their course of study by being given opportunities to present information, work in groups, use digital learning technologies and reflect on their own work, however this is not always made explicit for students or clearly reflected in their learning activities and assessments. We suggest that greater integration of professional competencies in programmes of study may be achieved through good programme level design, explicitness of learning outcomes in assessment and active student engagement in assessment and learning.

This workshop will take perspectives from the Science Faculty Careers Team and the Teaching Transformation Programme alongside examples of good practice from various Schools to look at how good practice in assessment design can lead to the effective embedding of professional competencies and vice versa, with a particular focus on the importance of developing reflective abilities in students and graduates to support both their academic learning and their future employability.

Activities will include discussion of the links between effective learning behaviours and professional outcomes; designing learning outcomes related to professional competencies; review of current examples; and reflection on where and how to incorporate active student engagement in the curriculum.

Room: Teaching and Learning Building D09 **Workshop 6**

Author/s: Denise Sweeney, Andy Townsend and Anne Bishop

Title: Supporting you to put your teaching and learning inquiry development plans into action NOW!

Abstract: The Educational Inquiry Network is intended to develop an inclusive learning culture for all practitioners with an interest and or involvement in teaching regardless of their disciplinary background, contract status or position. It is intended to enrich and inform the scholarship of teaching and learning conversation both within our own research-intensive university as well as the wider higher education community. The purpose of the research is to:

- build a shared understanding of educational inquiry and the scholarship of teaching and learning across the university
- investigate what an educational inquirer does and how they go about the process
- map the current activity of educational inquiry across the institution.

The aim is to provide a better knowledge base on which to design and develop the EIN.

With the recent introduction of the Teaching Excellence and Student Outcomes Framework (TEF) and its recognition of excellent teaching in higher education by rating institutions as gold, silver or bronze, this focus on teaching has further intensified. The EIN is not intended to serve these metrics, but we believe that providing a means for people who are about education and want to develop their work through inquiry to do so in a collaborative and supportive setting can only enhance our educational practices and thus our response to these metric driven performative measures. This workshop therefore supports the development of inquiry into teaching and learning with suggestions of practical ways in which plans can be put into action.

Room: Teaching and Learning Building D10 **Workshop 7**

Author/s: Katharine Kadio and Max Biddulph

Title: Championing Trans Student Inclusion within Active Learning Environments

Abstract: This workshop explores the challenge of Trans inclusion in HE classrooms ('student engagement' theme). As part of the knowledge economy, Higher education is experiencing multidimensional transition…shifting from the more traditional lecture-focussed classroom setting to more learner-centred environments. Active learning strategies are key tools in this aim and should empower learners, encouraging them to participate in the construction of knowledge. Creating safe and engaging environments for students is therefore essential to engender effective learning and to underpin student retention.[1]

There are many teaching contexts in which students are active participants, and any social group has a background 'climate', experienced by some as hospitable, by others as hostile – especially small group learning where rules and expectations remain tacit and skilled facilitation is required of academic leads. They are the arbiters of how (socially) safe the learning environment is, and how, often tacit, rules about learning from peers are negotiated, enacted or enforced. Research carried out by UoN colleagues has examined these social learning environments and established that they are often 'chilly classrooms'. They have shown small group learning environments to be gendered, through "…a range of *informal practices* and *implicit policies* which, despite their *relative subtlety* and the fact that they may not be intended as harmful, do systematically disadvantage women relative to men".[2] Chilly climates pose special problems, and there is some evidence-based guidance on how to address them. There is less coherent guidance about chilly classrooms and students who do not fit binary gender norms, or are transgender, even though a significant proportion of Trans students "have seriously considered dropping out of their course."[3]

It is clear that there are particular issues and fears faced by Trans people, which may not be experienced or understood by the majority of non-trans people, despite increased awareness around the complexities of gender identity and expression. Individuals often conflate sexual identity and gender identity when in reality they are separate though interrelated concepts. Both students and academics in the classroom may have limited prior interactions with individuals whose gender identity moves beyond the gender binary.[4] Consequently, both may be unfamiliar with issues that arise for those who live as persons with non-conforming gender identities. We use the Ward-Gale model for LGBTQ inclusivity in Higher Education[5]alongside the concept of 'chilly classrooms' to initiate conversations about what this uncovers in our own teaching practice. Drawing on an extensive literature review Ward-Gale have drawn together a model for the LGBTQ-inclusive curriculum which consists of three domains of inclusivity (Language, Content and Role Models) and three levels of inclusivity (Awareness, Additive and Transformative). Applying these domains to evidence-based information about trans student experience, this workshop will identify how inclusive practice can be better embedded within active learning environments. Workshop participants can expect to use this model (paper or electronic copy, for participants to annotate and use post-workshop), and the concept of gendered chilly classrooms to: share perceptions; discuss constraints; and identify opportunities to embed good practice to support Trans student engagement in active learning environments.

Room: Teaching and Learning Building D11 **Workshop 8**

Author/s: Caroline Anderson and Zoey Spendlove

Title: Consciously and unconsciously embedding professional competencies into the mainstream curriculum

Abstract: The University of Nottingham Transforming Teaching Programme encourages the development of Professional Competencies within students' education. It is understood that the acquisition of professional competencies enhances employability and assists graduates with adaptation to professional environments. The development of professional competencies is suggested to be heavily conditioned by the teaching-learning methods used (Coll-Serrano, Pardo-García and Pérez, 2018). This workshop seeks to engage participants with reflective and discursive activities to critically consider approaches to embedding professional competencies into the University of Nottingham's curricula. These competencies are: Professional Communication; Co-ordinating with Others; Reflection; Digital Capabilities.

The presenters will compare and contrast how they embedded professional competencies into their curriculum in conscious and unconscious ways. This will include discussion of successful partnership working with employers and the Careers and Employability Service to develop learning and teaching activities which embed professional competencies within the curriculum. Workshop participants will be given the opportunity to identify suitable development opportunities to consciously embed professional competency development and employer partnership working within their curricula. The workshop also aims to assist participants with critically exploring the unconsciously embedded professional competencies present within their existing curriculum. In addition, workshop participants will be encouraged to consider ways in which they can help students to understand that they are developing skills which will enhance their employability through engagement with learning and teaching activities.

The workshop will therefore be structured as follows:

1. Introduction - 5 minutes

The purpose and structure of the workshop

2. Consciously embedding professional competencies in the curriculum - 10 minutes

The development of the Midwifery module, with a particular focus on partnership working with employers and the Careers and Employability Service

3. Group discussion point 1 - 15 minutes

What opportunities do you have in your curricula to work in partnership with employers and how can these opportunities be used to develop the professional competencies of current students?

4. Unconsciously embedding professional competences in the curriculum - 5 minutes

How a review of the Foundation Science curriculum helped to make the implicit explicit

5. Individual activity - 5 minutes

Which professional competencies have you unconsciously embedded into your curricula and how can you surface these?

6. Making the implicit explicit to students - 5 minutes

The challenge of making the professional competencies explicit to students

7. Group discussion point 2 - 10 minutes

How can we help students to recognise and value the professional competencies which they develop through engaging in their education?

8. Conclusion - 5 minutes

Room: Teaching and Learning Building D12 **Workshop 9**

Author/s: Helen McCabe, Gillian Murchie and Stephen Vaccarini

Title: Building Professional Competencies into Teaching and Assessment through Assessed Placement Modules and Beyond

Abstract: The School of Politics runs a well-established assessed placements module for Final Year students. Due to student demand, from autumn 2019 the module will run in both semesters, offering a total of 70 places. Placement partners include a wide range of local organisations. Students learn through traditional workshops (generally five per semester), and through experiential learning on placement (one day a week for 10 weeks). Key professional competencies developed in the module include: Professional Communication; Co-ordinating with Others; Digital Capabilities; Reflection. In this workshop, the team will briefly outline how we help students develop the first three competencies, but mainly focus on reflection. Josefson (2005) makes a strong case for the benefits of reflective writing for students of political science, aside from its use as a tool in encouraging learning on placement: Moon (2004) and Schon (1991) make a persuasive broader case for the need for students to become 'reflective practitioners' as learners as well as potential future workers. Reflective writing can be adopted outside of placements with positive consequences for student learning – as was reflected more anecdotally in many of our students' reports this year.

We propose the following structure:

1. Brief introduction to the Politics Placement module; placement provision; organisation; administration; teaching; and assessment. (5 minutes)
2. The placement provider's view: one of our placement providers (exact participant TBC) will explain what competencies they think students develop and evidence on placement. (5 minutes)
3. Introduction to the reflective model we encourage students to use, and to key reflective behaviours they have to evidence in their reports (e.g. internal and external dialogue; exercising judgement; making plans; putting plans into practice). (5 minutes)
4. Reflective writing exercise 1: Blogging. Workshop participants have a go at identifying a 'What?' of a key learning point they have picked up from earlier parts of the conference and writing a short, initial reflective piece (of up to 500 words). (10 minutes)
5. Advice on blogging best practice (5 minutes)
6. Reflective writing exercise 2: Going beyond blogging. Workshop participants try further reflection on the point raised in the blog, adopting a reflective model to consider 'So what?' and 'What next?' regarding the learning point identified earlier. External discussion with other members of a small group is encouraged in order to make a plan for future action. (15 minutes)
7. Assessing reflection: using the assessment criteria developed for our module, participants practice assessing their own writing (10 minutes).
8. Conclusion: flagging up further literature and advice on incorporating reflective writing into the curriculum beyond placements. (5 minutes).

Parallel Sessions 2

12.35 – 1.05pm

Room: Teaching and Learning Building C10 **Paper 11**

Author/s: Rozilini Fernandez-Chung

Title: Common Assessment Protocol: the solution in tracking student achievements?

Abstract: The University of Nottingham adopted Professional Competencies in 2017 as one of several methods to promote and support innovation in teaching and learning, in addition to improving graduate quality. The Professional Competencies (PCs) were benchmarked against the 10 skills identified by the World Economic Forum (WEF) for the 21st Century. Despite the importance of these targeted PCs, methods to effectively and consistently measure students' performance in this regard have yet to be developed at the university level.

To address this issue, the Teaching and Learning Fund in 2018 University of Nottingham Malaysia funded a study to obtained background information current global development in the measuring and tracking of students' achievement of skills similar to that of PCs. The final objective of this study is to support the development of a Common Assessment Protocol (CAP) that is both user-friendly and effective as a vehicle for assessing and tracking the achievement of PCs.

Based on the literature and survey findings, it is clear that a tool such as the CAP will be valuable to both students and teachers. In summary, the findings show that CAP will act as a social *platform ++* where students can (1) input information on their achievements, (2) get it verified and assessed by tutors/mentors/peers and (3) ensure that their achievements are benchmarked to the learning outcomes. Significantly, however, a tool such as CAP will place the responsibility to acquire skills and learning on students, as it should in any successful outcome based education system.

The paper shall present the findings from the study and proposal for the way forward in developing a CAP for assessing and tracking student achievement at the University of Nottingham Malaysia. In doing so, the team hopes to obtain feedback from participants in order to improve on current understanding.

Common Assessment Protocol (CAP) Team:

Chew, Renee Shiun Yee, Fernandez-Chung, Rozilini M, Judge, Simranjeet Kaur, Le Roux, Marie Therese & Suria, Selasih Angit

Room: Teaching and Learning Building D04 **Paper 12**

Author/s: Andy Fisher

Title: Decolonising the Curriculum: current and future work

Abstract: Over the past decade, universities around the world have faced calls to 'decolonise' their curricula. Building on earlier work on critical race pedagogy, decolonisation efforts highlight the importance of representing greater diversity in our curriculum. This includes covering a wider range of authors and more diverse themes, which can pose challenges for lecturers who fill underequipped to make these adaptations. This paper draws on preliminary findings from a multi-institutional, multi-disciplinary project to reform the curriculum in politics and philosophy departments. It provides an overview of the current levels of representation of ethnically diverse themes and authors in these disciplines as well as our students' perceptions of diversity and representation. The paper then asks for some suggestions for practical ways we can go about increasing our curriculum diversity within the constraints of time and resources.

Room: Teaching and Learning Building D05 **Paper 13**

Author/s: Cherry Poussa, Michael Taylor, Heather Wharrad and Richard Windle

Title: Exploiting the synergy between the digital curriculum and funded digital development projects for embedding professional expertise and experience

Abstract: Digital learning is at its heart a disruptive technology with the potential to break down traditional barriers, power relations and definitions (Flavin, 2012). For example, it challenges the view of "*Who is the expert?*" by enabling a wide range of individuals, both inside and outside of the institution to contribute content to the concourse in a given subject. It also challenges the view of "*Who is the Learner?*" by enabling content to be shared widely with both formal and informal learners. In subjects such as health, the advantages of the breakdown of such barriers are clear, exposing students to patient and practitioner voices supporting a wide range of professional competencies within a curriculum. It also enables curriculum content to be accessible externally to the so-called "expert patient." The challenge, however, is to maintain criticality and quality.

The Health E-learning and Media (HELM) team operates within this disruptive space, undertaking an ongoing programme of digital learning activity development that combines internally funded curriculum-led content development with externally funded project-led content development. These external projects are frequently funded by professional organisations with the aim of supporting competency development in defined learner groups. Crucially, whilst the drivers prioritising areas of work differ between external and internal projects, the developmental frameworks and workflows used for each are harmonised. Both are focused on learner-led, community of practice approaches and the development of small, focused individual learning activities. Similarly, whilst the target learner audiences differ, being students in the first instance and often practitioners or health consumers in the second, the same processes of quality control and evaluation are employed.

Synergy arises as both routes focus on the development of self-contained learning activities with reusability at the heart of the development process. Therefore, the resources developed with external funding are usually embedded into courses, where they provide authentic examples of professional competency. Vice versa resources created for internal use are regularly released openly and have been shown to have a significant impact on wider groups of individuals such as patients and families.

In this paper we will explain the workflows used for the creation of learning activities via each route, looking at the similarities and differences, barriers and drivers in each case. We will also explore some of the tensions that can arise from this dichotomous approach. We will show examples of the resources that have been developed by both routes and which have crossed the divide, looking at their use and impact on competency development in unintended groups.

Room: Teaching and Learning Building D06 **Paper 14**

Author/s: Georgina Ferguson, Philippa Hammond, Stathis Konstantinidis, Simon Patchett, Caitlin Glover, Olivia Bass, Maisie Hopkins, Danielle Bowles, Jessica Mead, Sabine Tötemeyer, Wendela Wapenaar

Title: Open Labyrinth - A universal gateway to blended learning?

Abstract: Employing innovative e-learning methods to deliver veterinary education in the undergraduate curriculum is essential to maintain and improve the high quality education which centres on the individual student experience. Open labyrinth (OL) is an open source software package to develop virtual cases. OL provides an easy-access interactive group work environment which encourages students to have in-depth discussions around clinical cases using a range of different tasks and quizzes. Our aim was to improve student engagement and clinical reasoning by introducing interactive OL cases in the core curriculum.

Five undergraduate and three postgraduate students collaborated and developed new and redeveloped existing clinical cases into an interactive OL format which were integrated in the 1st, 2nd and 4th year of the veterinary undergraduate curriculum. Common clinical case scenarios were used to encourage students in groups to work through the decision making process. Academic staff involved reviewed the progress of all groups during and after the session and could therefore target feedback specifically to the areas of concern derived from the collected learner analytics.

Twenty-five cases are embedded in seven modules across the course. Student feedback was positive, highlighting that contextualizing the material and having varied types of interactive tasks and quizzes makes it more interesting and enjoyable compared to other less interactive delivery methods. Students appreciated the immediate and individualised feedback. ‘This is more interactive and matches many of our learning styles. It feels more structured as well.’ (Year 1 vet student)

When introduced in later years of the course, the main barrier for students and staff was a reluctance to change and engage with new technology. When introduced in the first year OL was embraced as part of the innovative curriculum teaching methods.

’Ideally OL should be introduced from year 1, us year 4 don't like change!’ (Year 4 vet student) We present a critical examination on the use of this digital learning approach within the higher education environment and evidence that the approach has enhanced the student learning experience. OL provides a safe and transparent environment to evaluate approaches, understand processes and develop clinical reasoning, especially when introduced early in the course. The interactive cases were beneficial to encourage reasoned decision making in a safe environment, without putting real patients at risk. OL is thus far mainly used in small group problem-based learning sessions and personalised self-directed learning. Future plans include the implementation of OL in a flipped classroom style and to explore open source accessibility. In this presentation we will present learner analytics, student and staff feedback and aim to discuss with conference delegates how this method of e-learning aligns with good pedagogical practice and the development of digital learning.

Two Faculty of Medicine and Health Sciences Small Education grants enabled this teaching innovation.

Room: Teaching and Learning Building D08 **Paper 15**

Author/s: Glyn Lawson, Martin Harrison, Adam Moore, George Dimitrakis and Juliano Katrib

Title: The 'thin client' solution: offering engineering software as a virtual application

Abstract: This paper describes a new approach to software provision in which a computationally demanding application was hosted virtually on a cloud server. It was used for Process Dynamics and Control, a third year module within the Department of Chemical and Environmental Engineering, which had previously experienced problems with timetabling a sufficiently large computer room for the class of approximately 160 students.

The project team developed a virtual application for the Matlab mathematical computing software, with Simulink plug-in, which ran on a virtual machine through a Citrix platform. Students were able to access and run the virtual application via any computing device (hence 'thin client'), from anywhere on or off campus. They were able to connect at any time, although server availability was scheduled based on anticipated usage: more servers were scheduled to run during class times and in the run up to the in-class exam. Students were able to save their work to their OneDrive account.

The module ran in the autumn semester 2018. Due to the risks associated with a pilot project, the class ran in computer rooms, but students were encouraged to access the software through the virtual applications rather than on the software installed on the computer room PCs.

Usage data showed that students accessed the virtual applications during and outside class times. Usage ramped up in the weeks prior to the module test. All access out of class time was either during the day or evening; no students accessed the applications during the night. The average number of hours per user was most commonly up to 3 hours, but rose to 4-5 hours on some days.

An in-class survey revealed that most students accessed the virtual applications from on-campus, but some reported access from off campus. Subjective ratings for ease of use, confidence while using, ability to access, and support for learning were all high. Reported difficulties included the (slow) speed of the applications, saving files, and unreliability. The overwhelming majority felt that more engineering software should be made available via virtual applications.

There was a statistically significant improvement in student performance in the in-class exam ($t=-2.27$, $df=287$, $p<0.05$) from 2017/18 to 2018/19. The only major change to the module in this period was the introduction of the virtual application. While not all of the questions in the exam relate to the software, the software is used to teach the concepts within the module. Thus, it is feasible that the improved software provision lead to greater student attainment.

In conclusion, the thin client solution offers students flexible and remote access to the software they need, from any device. This approach could alleviate demand on computer rooms, or inform an alternative approach to provision of computer services. In either case, the success in this instance was evidenced by the positive student feedback and performance improvements of the virtual application approach.

Room: Teaching and Learning Building D09 **Paper 16**

Author/s: Cecilia Goria and Sally Hanford

Title: Using Teams for a COM-PLETE online learning experience

Abstract: A pedagogical model based on sense of community, participation and openness will be discussed as highly significant in shaping a distance learning educational experience. In this context, Microsoft Teams serves as hub for communication, collaboration, and increased productivity.

The model, named COMP-PLETE (Goria 2018), has emerged inside a professional development programme, the design of which joins principles of constructivist and experiential learning to define the role of content knowledge, teachers, learners and their interactions.

COMP-PLETE was developed by combining (Konstantinidis and Goria 2017, Goria and Konstantinidis 2017) features of the Community of Inquiry model (Garrison et al 1999), features of the Community Indicator Framework (Galley et al 2014) and the notion of Personal Learning Environment (Attwell 2007). The outcome is a highly participatory model of online teaching and learning which, based on the synergy between *community, openness, multimodality, participation, personalization, learning, experience and technological-enhancement* provides an academic experience that empowers the learners to act as agents in determining personal learning goals, in shaping the community of practice within and beyond the boundaries of the programme and in informing the content and structure of their studies.

In this scenario, the functionalities offered by Microsoft Teams play a key role in supporting COMP-PLETE's pedagogical goals. Teams bridges the geographical gap between our distance learners and the institution by creating a dynamic learning environment which fosters connections, communication and participation, strengthening, as a result, the learners' engagement with the programme.

The development of COMP-PLETE will be outlined and discussed and suggestions will be advanced for building technology-enhanced strategies to ensure the sustainability and transferability of the model. The role of Teams in achieving COMP-PLETE's goals will be illustrated.

Room: Teaching and Learning Building D10 **Paper 17**

Author/s: Dave Towey, Doran Lamb, James Walker, Lauren Knwoles, Prapa Rattadilok

Title: Exploring Device-Based Classroom Interaction Enhancement at the First Sino-Foreign Higher Education Institution

Abstract: The concept of increasing classroom interaction using clicker technology or device-based student engagement and interactivity platforms has been developed over the past few years. We are an interdisciplinary team at the first Sino-foreign higher education institution (SfHEI) — University of Nottingham Ningbo China (UNNC). We have been motivated to investigate how best to enhance student engagement and interaction in our classrooms. Our various backgrounds and experiences, and our professional commitment to reflective practice, led us to decide to investigate the potential positive impact that electronic feedback devices (such as clickers) could have. We were motivated in part by the literature surrounding the so-called Chinese Learner, or Confucian Heritage Culture (CHC) learners, but mostly from a desire to see more engagement in our classes.

This paper outlines the background to our study, including our educational context at UNNC, and our professional practice and development. A brief survey of the CHC learner literature is provided, followed by an overview of classroom interaction interventions, especially within the CHC context. We then go into the detailed motivations of our current project, to identify and evaluate device-based interaction enhancement, in line with University of Nottingham's e-learning strategy 2020 goal of 'enhancing excellence and innovation in teaching and learning through a shift from repository use of digital tools to a participatory, interactive and collaborative use in line with blended learning concepts and pedagogies.' An aspect of the study includes attempting to engage students who had previously not engaged with the classes before, therefore addressing the idea of 'enhancing student achievement through flexibility and choice for learners.' This is an innovative approach to student engagement that could potentially help struggling students, and could supplement traditional support currently used, such as tutorials and engagement officers at UNNC.

Room: Teaching and Learning Building D11 **Paper 18**

Author/s: Rajeevnath Ramnath and Arun Prabhakar

Title: Untrodden Ways: exploring interaction in the college classrooms of Bangladesh

Abstract: This is a study on interactive techniques during a mini lesson in the Teaching, Training and Technology (TTT) module taught by a group of college lecturers enrolled in the MA Education programme meant for the Bangladesh College Education Development Project (BCEDP) at The University of Nottingham Malaysia (UNM). The BCEDP is a project under UNM's Centre for Academic Partnerships and Engagement (CAPE) meant to develop the professional competencies of college lecturers and principals in Bangladesh.

The four taught modules aim to introduce interactive and student-centred approaches including the TTT module to the participants who are used to a highly teacher-centred environment in large classes at the tertiary level in Bangladesh.

Data were gathered through video recordings of student-presentations of the mini lessons from the TTT classes spread in four groups with four tutors. The video recordings help to understand whether the participants integrate interactive techniques including the dominant ones in their teaching based on the input from the TTT module. The findings help to understand participants' ability to move towards a student-centred and interactive approach in Bangladesh before they become master trainers (of college lecturers) in Bangladesh.

Room: Teaching and Learning Building D12 **Paper 19**

Author/s: Emma Whitt and Mark Haselgrove

Title: What can animal learning tell us about education?

Abstract: The study of learning in non-human animals has provided psychologists with an understanding of the principles that underpin how animals change their behaviour as a consequence of experience; and these principles have been successfully translated to the psychology of learning in people. Consequently, psychologists have acquired a good understanding of how learners come to acquire and represent relationships between information, and how the learning system regulates the interface between behaviour and learning goals. From this theoretical framework, the key to learning is the formation of associations – mental connections between events. For example, associations between words written in a book, associations between theoretical constructs, or even an association between a particular study technique and the outcome of an assessment.

In this paper we will outline some of the classic principles that have been formulated in the animal learning literature, which can (and have been) applied to learning and teaching in the classroom. These principles inform the learner how to make better use of time, attention, and error in order to drive learning. By being aware of and using these strategies students can improve their independent learning. In conclusion, we shall provide delegates with suggested items for reflection and discussion about how to embed these principles into their learning environments.

Room: Teaching and Learning Building D13 **Paper 20**

Author/s: Kirstie Coolin

Title: Embedding Universal Design Principles into Digital Resource Creation through Real-Time Student Evaluation

Abstract: "Universal design is the design of buildings, products or environments to make them accessible to all people, regardless of age, disability or other factors." *Centre for Excellence in Universal Design.* Universal Design for Learning (UDL) extends the principle to education, and aims to build in flexibility, accessibility and usability to *"…optimize learning experiences for all individuals*". [1] The Division of Midwifery delivers a Flipped Curriculum[2]. Around 50% of course content is accessed online so as valuable face-to-face time is used for interactive knowledge construction. Online, self-directed learning is timetabled and students are expected to complete it to complement their interactive session. Module Leaders and the Division's Learning Technologist have developed over 100 online self-directed learning packages with around 2 hours of activity each. These generally consist of a variety of learning activities and contain a mixture of: Video (produced in-house or linked out) e.g. short lectures, demonstrations, topic explanations etc.; Reading; Quizzes; Reflective prompts.

Over the last 2 years, we have incorporated a short feedback form into each package to gain immediate impressions from students of their user experience. We wanted to ensure that the timings are correct, they are finding the contents helpful for their learning and also to surface any issues with technology quickly so are able to amend these in real-time.

The questions are:

- Rate 1 – 10.
- Was the duration 'less, more, about right'?
- Open comments – likes and dislikes.

And an overview of evaluation so far shows:

- 2538 individual responses since Feb 2017 (784 since September 2018).
- 63% rated resources at over 8/10.
- 25% rated resources at 10/10.
- 59% found resources were the duration they were expecting (59%).
- 756 individual open comments left.

Before each new cohort (there are 2 per year) reports are created for module leaders to give an idea of where changes are required so resources can be improved. On analysing the overall results, the open comments have proven very enlightening. Students write what they like or dislike, and have been very open in commenting how the packages are helping them to learn, and what might improve them. This has enabled us to build a checklist of good practice for the packages and to incrementally improve them as a whole. The concept of UDL in promoting choice and access into different types of learning is validated by student feedback.

In my presentation I would like to; present the learning from these evaluations; demonstrate how we have used the data to provide evidence for promoting a universal design principle; consider how the student voice has contributed toward design; and to share the checklist we are currently working to in designing online resources for students.

Parallel Sessions 3

2.50 – 3.20pm

Room: Teaching and Learning Building C10 **Paper 21**

Author/s: Andy Townsend, Arjmand Kokab and Mary Bailey

Title: Transforming Education through Collaborative Enquiry

Abstract: In May 2017 the School of Education launched a new annual initiative termed the "Teaching Transformation Sandpit". The aim of this event was to bring together staff from across the school to undertake small scale research projects. This was initiated in a sandpit event where participating staff would meet, share interests and collaboratively produce an inquiry proposal which was then presented to all attendees. These presentations were the basis on which funding decisions were then made. Successful projects were then undertaken over a period between 6 months and a year after the sandpit event, although the work involved in some have continued well beyond these dates.

At the last teaching and learning conference in 2018 we gave a workshop which explained the rationale behind our approach and which modelled the sandpit activity. In this paper we will present the emerging findings of our evaluation of this initiative. During the current academic year the team who have led on this initiative have undertaken, with the help of a PGR intern, a series of interviews with staff who have been a part of this innovative approach to developing knowledge and practices of education through collaborative inquiry.

All staff who attended the sandpit events were invited to be interviewed. The interviews themselves explored four main topics: 1. Participants' response to the sandpit event. 2. The ways in which inquiry groups formed and developed. 3. The process of inquiry which they employed and how these led to new knowledge and 4. The ways in which these projects led to teaching innovations. On the basis of this data we will explain what we are learning about these issues in particular and about developing learning and teaching through collaborative inquiry more generally.

Room: Teaching and Learning Building D04 **Paper 22**

Author/s: Cora Lindsay, Jane Evison and Renata Seredynsk-Eid

Title: Team Teaching to Support Refugees: experiences of MA TESOL students

Abstract: The University of Nottingham runs an Advantage Award programme which runs parallel to students' main degree programme and aims to enhance student employability. One of the modules on this programme is English Language Support for Refugees. Each year, a number of teachers on the MA TESOL programme enrol on this module. Working in teams of four, they deliver ESOL support sessions to the local refugee and asylum-seeking community who come from a wide range of countries and backgrounds, and have varying levels of English proficiency. The team teachers also come from a range of national and linguistic backgrounds and have varying amounts of teaching experience.

In this presentation, we report on a small-scale project in which we interviewed eleven of these team teachers about their experience. We asked them about their knowledge of the refugee situation, about their experiences of team teaching and for reflections on the relationship between what they studied on the MA TESOL programme and the practicalities of classroom practice.

Our initial analysis suggests a limited knowledge of refugee issues and some challenges as well as successes in the team teaching practice. As teacher educators we noticed particular tensions between espoused and actual practice. Our analysis of the data gave us insights into the challenges for less experienced teachers in mobilising methodological knowledge in a novel context. We conclude this presentation by considering the implications for teacher educators who design and deliver modules on teaching methodologies.

Room: Teaching and Learning Building D05 **Paper 23**

Author/s: Simon Riley, James Henderson and Richard Windle

Title: Using Office 365 and Microsoft teams to support content delivery through Moodle

Abstract: The integration of Microsoft Office 365 with Moodle offers exciting new possibilities to extend VLE (Virtual Learning Environment) functionality and to address some of the aspects of course design and delivery that Moodle finds harder to manage from both a staff and student perspective. Here, we will demonstrate an early adoption pilot in which we have combined Microsoft SharePoint and the Teams 'App' with Moodle course sites. By mixing the functionality that both do well, we have attempted to create a more socially collaborative development and learning space.

The initiative is focused around the redevelopment and revalidation of the current undergraduate nursing programme. This is a large complex course, offered to 350 students per year, with content designed and delivered by around 80 members of academic staff and a significant number of external stakeholders. In these circumstances, Moodle (like other VLEs) struggles to manage the collaborative activity required for resource creation and delivery, version control, governance and consistent delivery to students. Furthermore, several resources, such as core clinical skills resources are reused across modules and this too needs to be managed. This then offered an ideal opportunity to embed Office 365 functionality with the VLE at the outset.

We developed a model in which Moodle remained the main delivery platform for students, doing what it does best, but in which we also adopted the Office 365 Apps mentioned above as a collaborative development repository. Closed Teams sites were set up around each of the modules of the course. These enabled a space in which large numbers of academics could share, collaborate and review resources. The linking of communication tools directly to individual documents was ideal for these social collaborative workflows. Following on from this, the underlying SharePoint functionality of a second Teams site was utilised as a completed resource repository from which resources were linked directly into Moodle and shared with learners. This model significantly reduces the complexity of Moodle sites and the quality control issues that arose from large teams managing these. Moreover, as resources could be linked to multiple places, this enabled consistent reuse of resources between Moodle course sites and for multiple student views on the same content to be created, facilitating student control over their learning.

A further use of Teams is planned in which a digest of course content will be provided directly to learners through student-facing sites. This will give students a week to week overview of their busy courses and facilitate communication and collaboration between staff and students.

Room: Teaching and Learning Building D06 **Paper 24**

Author/s: Anna Bertram

Title: Going Paperless: the digital teaching laboratory

Abstract: The use of virtual learning environments to support teaching in universities has become common practice providing a flexible platform to deliver content. Many chemistry departments now provide a wide range of learning resources to support practical modules, including books, videos, animations, quizzes and assignments. These resources have normally been used either pre- or post- laboratory but advances in computer technology in the past few years has made the use of tablet computers in laboratories more viable, this has paved the way for a whole new approach to the integration of e-learning resources in laboratory teaching. In the STEM lab in the School of Chemistry, we are very fortunate to have tablet computers provided for each student to use whilst in the laboratory, something that is still quite uncommon across science schools and departments in UK universities.

This presentation will briefly outline advances made in the online provision of resources to support practical modules in chemistry made possible by the provision of tablet computers; these include the provision of interactive experimental procedures; the recording and reporting of analytical data; note taking; the laboratory-based electronic assessment and feedback of experimental data by demonstrators.

The presentation will highlight the development of an electronic laboratory notebook using Microsoft OneNote Class Notebook and a recent trial of Microsoft Teams. The ELN allows students to work collaboratively in teams, to share experimental data and notes, ELN's are common in industry so this has been an important development in preparing students for the workplace.

In summary, this presentation will describe how practical learning environments in Chemistry at Nottingham are evolving and will provide details of a framework that other schools and departments in any practical subjects may want to adopt.

Room: Teaching and Learning Building D08 **Paper 25**

Author/s: Neil Hughes

Title: Rebooting Virtual Learning Environment (VLE) Design in the Arts

Abstract: This paper starts from the position that digital learning, particularly when integrated with face-to-face teaching, is an effective mode of delivery. Whilst still not a conviction in receipt of unanimous support by all university stakeholders, there is sufficient consensus about its veracity, particularly amongst the senior leadership, (1) to ensure its embodiment in a variety of important institutional strategy documents (2) to attract significant financial, human and physical resources- with the DLD initiative just one of the most recent measures introduced in its support.

At the heart of the digital learning agenda lies the University's VLE- (currently Moodle), which, to use an arts-inspired (and completely unoriginal) metaphor, can be considered the canvas upon which all student digital learning is painted. Increasingly, (to coin another often-used digital learning metaphor), it is the doorway or portal through which students access: information covering different aspects of their learning including handbooks and timetables; grades and feedback on their work; learning content such as core texts and formative activities that trigger effective ways of learning; the wider suite of educational tools that are supported by the University such as Engage, Talis and Turnitin.

In the Arts, as in other disciplines, the responsibility for using these resources effectively falls on academic shoulders, who are left, as in the case of all painters when faced with a blank canvass, with the anxiety of what to paint and how to paint it. This paper will set out an initiative in the Faculty of the Arts that has been developed to help academic colleagues address this conundrum. It will explain both the project goals i.e. to improve practice in several areas of digital learning design including content creation, digital learning activity design, user navigation and the effective integration of online and face to-face learning opportunities as well as the research-based insights the project draws upon in areas such as User Experience (UX); pedagogical best practice and Cognitive Load Theory. The paper also looks at the ways in which the initiative is being delivered- through a collaborative approach involving academic staff, DLDs, PhD students- and discusses their different motivations for taking part. Finally, it looks at the impact of the initiative in areas such as the development of exemplars of good practice, academic support, new ways of working and, most importantly, student engagement, collaboration and interaction.

Room: Teaching and Learning Building D09 **Paper 26**

Author/s: Laura Hickman

Title: 'Getting in is one challenge but staying there is a whole different ballgame': the experiences of students from low-income backgrounds at The University of Nottingham

Abstract: This paper presents findings from a project conducted by the researcher for the Students' Union, which is the first piece of research to explore the experiences of students from low-income backgrounds at the University of Nottingham across all faculties and years of study. The research employed a qualitative approach, involving semi-structured interviews with fourteen students from low-income backgrounds to explore their sense of belonging at UoN and their experiences of academic inductions and academic support.

The research drew upon Tinto's (1987) conceptualisation of belonging in higher education which recognises that both a sense of social and academic belonging have an impact on students' experiences. As students from low-income backgrounds are more likely to withdraw from UK universities (HESA 2016/2017), understanding the difficulties they face is important for retention and ensuring this group of students have enough support to successfully complete their studies. Recognising that the difficulties students from low-income backgrounds face are caused by structural disadvantage means that universities have a responsibility to identify and address these challenges to enable them to have the same opportunity to succeed academically as their more affluent peers (Mallman 2017).

The interviews identified that students from low-income backgrounds often feel they enter university with less academic preparation than more affluent students and report low levels of confidence in their abilities. Crucially, participants described difficulties affording key resources for their course (such as textbooks, printing costs and clothing suitable for lab or clinical environments). In addition, some experienced difficulties in the classroom when there was an expectation that they would have access to a smartphone or laptop for class activities. These were found to have negative impacts on their ability to fully participate in learning environments and negatively impacted their sense of belonging.

In addition, their lack of financial stability meant that financial concerns interfered with study and led several participants to consider withdrawal. Most participants reported working part-time alongside their studies for financial reasons (between 8 and 25 hours a week) with some working extremely long hours during holiday periods. They identified that academic staff often do not recognise the extra pressure this causes in terms of time to revise, write assignments or keep up with reading, and previous research has explored how this can also affect social integration at university (Rubin and Wright 2009). Although the university offers a financial support service, students had a low level of awareness of this and many reported reluctance to ask for financial assistance because of the stigma associated with asking for money.

This paper argues that the university can take steps to address these difficulties in learning environments through a number of practical measures, including increasing awareness of the Core Bursary which can help with course costs, the use of formative assessments and signposting students to the study support resources that already exist on the university website. These measures can ensure that students from low-income backgrounds are supported to achieve their academic potential at UoN.

Room: Teaching and Learning Building D10 **Paper 27**

Author/s: Lyubomira Gramcheva

Title: The Effective Feedback Challenge: how to begin developing self-regulated learners

Abstract: The importance of formative feedback for improving student learning is widely accepted (Biggs, 1999; Hyland, 2000; Higgins *et al.*, 2002; Yorke, 2003) and evidence of its benefits abounds (Black and Wiliam, 1998). The paper focuses on my quest for enhancing students' learning through providing effective formative feedback while tutoring at the University of Nottingham School of Law. It follows the various stages of a project that started in 2016/2017 and continues in 2018/2019 academic year. The starting point are the results from a specially designed survey I conducted with the students in my tutorial groups in 2016/2017 academic year, which prompted a re-evaluation of the feedback opportunities incorporated in the assessment design of the Law of Contract module as well as my own feedback in light of the seven principles of good feedback developed within the frames of the SENLEF project (Juwah *et al.*, 2004). The upshot of this re-evaluation was that although the feedback as integrated in the module assessment design as well as my own feedback scored high in terms of the SENLEF principles, they did not help clarify what good performance is and did not sufficiently facilitate students' development of self-assessment skills. The paper then discusses the steps taken to address these weaknesses.

Room: Teaching and Learning Building D11 **Roundtable 1**

Author/s: Judith Wayte and Emma Weston

Title: A Professional Skills Module to Engage Final Year Students in Reflective Practice

Abstract: Reflective practice is firmly embedded in degree courses such as Medicine and Veterinary Science and Nursing. In the School of Biosciences we deliver a final year Professional Skills module to help prepare students for their transition into the workplace which develops one of the Professional Competencies: Reflection. We aim to share details of this module, lessons learned over 5 years of running this module and how this module could be adapted to other degree disciplines. We will aim to involve alumni and employers in this session through Skype or in person.

Over the course of the last five years we have worked with employers, current students and alumni and the Careers & Employability Service to improve and adapt this final year module. The module includes workshops in partnership with the Careers & Employability Service on interviews and self-awareness, sessions run in partnership with returning placement students on areas such as workplace cultures, sessions run with employers on how to prepare for interviews and managing the transition into the workplace and sessions with alumni on career planning. All of the sessions in this module are interactive and most require a short amount of pre-work before the session. Through engaging with a diverse group of alumni, industry guests and professional services in structured workshops, students are exposed to a variety of viewpoints and expertise and guided to reflect on their final year and next steps.

This is a compulsory module for final year Food Science and Nutrition & Food Science students and so enables all students to participate rather than students who choose to engage. In this session we will share the details of this module and how it could be adapted to different degree disciplines across the university. For the module, students build a targeted portfolio with a series of reflective accounts and a final reflective account and associated career development plan. Initial guidance on reflective writing was sought from the School of Nursing and the module includes two pieces of formative reflective writing to give students the opportunity to practice their reflective writing. Methods of scaffolding reflective writing will also be shared in this session. The session will also share how we have worked in partnership with alumni and employers in the design of sessions in this module and how this could be adapted for other degree disciplines.

Room: Teaching and Learning Building D12 **Roundtable 2**

Author/s: Aaron Fecowycz, Panagiotis D Bamidis, Costas Pattichis, Heather Wharrad and Stathis Th. Konstantinidis

Title: Co-creating Virtual Reality Reusable Resources for Healthcare and Beyond

Abstract: Clinical skills labs exist in many Universities and University Hospitals, having a high maintenance cost and not always offering to the medical and nursing students a fully immersive experience. In recent years there has been an expansion of ICT in healthcare education, and a number of online resources in the form of Reusable Learning Objects (RLOs), Virtual Patients (VPs) and other on-screen computer or mobile simulation tools have been created with positive acceptance by the students. However, current efforts, look to provide a cost effective and immersive clinical skills learning experience. Furthermore, Virtual Reality (VR) has existed for many years, but it is only lately that the new generation smartphones make VR accessible to a wider audience. There are a few examples of VR resources for healthcare education (Real et al. 2017, Loukas et al. 2010), and some studies showed promising results (Gurusamy et al, 2008). While simulation based training is identified as a valid teaching/learning strategy, little evidence exists for the design and use of virtual reality reusable e-resources in healthcare education. To this extent, there is no development framework for the co-creation for virtual reality reusable e-resources utilising stakeholder participation. Thus, CoViRR ERASMUS+ strategic partnership co-creates virtual reality reusable e-resources promoting innovative practices in the digital era, by supporting current curricula and fostering open education.

Within this round table, we will discuss the co-creation process for a VR resources by sharing our experiences on developing such resources. Briefly, will provide an overview of the HELM team's exploration of the capture, creation and utilisation of 360 image and video and a CoViRR exploration of Virtual Reality and Augment Reality resources. We will explore the process of 360 image / video creation and some of the tools used to create 360 experiences and methods of distribution with an opportunity for hands-on experimentation with a 360-capture device and through the use of an online open source tool contribute to a 360 tour of the venue.

Last, but not least, the debate on whether these kinds of technologies can be used and/or reused not only to the healthcare related curricula, but across the university will open, expecting that the delegates will actively contribute to the discussion with a fall-back of examples of work presented. Topics to trigger the delegates will include facilitators and barriers to co-design, co-develop and access to these technologies; how to meet highest impact for students; is it possible and how VR Reusable resources can be included in blended learning curricula; advantages and disadvantages of including VR resources into the blended curricula. Feedback from delegates will be fed back to the international partnership of CoViRR project and inform the activities of the project.

The work is supported by the "CoViRR: Co-creation of Virtual Reality reusable e-resources for European Healthcare Education" (2018-1-UK01-KA203-048215) ERASMUS+ programme of the European Union.

Parallel Sessions 4

3.25 – 3.55pm

Room: Teaching and Learning Building C10 **Paper 29**

Author/s: Mike Cook and Helen Cowley

Title: The journey to improved SET scores

Abstract: The aim of this project was to identify a range of teaching staff at the University who have managed to improve their Student Evaluation of Teaching (SET) scores, and to interview them to find out how they did it.

We interviewed 16 members of staff from across the University, for between 40 minutes and an hour each. All of these claimed to have achieved significantly improved 'year on year' SET results for the same modules. We used a common set of questions designed to find out what they had done to achieve a SET improvement.

We didn't find that they'd all found the same 'magic formula' to improve their SETs. A few 'themes' emerged, but several staff had very individual approaches which were surprising and creative. Our presentation will explore this variety of solutions to teaching challenges, and draw out some strategies which have led to SET improvement.

Suitable for: teaching staff who are interested in improving their SET scores.

Room: Teaching and Learning Building D04 **Paper 30**

Author/s: Gill Langmack, Sally Wood, James Henderson and Anna Davis

Title: Sepsis - collaboration is the key to delivering sustainable clinical learning

Abstract: In the UK, sepsis kills around 52,000 people each year, killing 5 people every hour and affecting 25, 000 children each year (UK Sepsis Trust, 2019). Early diagnosis and treatment can mean saving lives, but sepsis is difficult to spot before it results in a critically-ill person of any age. We know from national Commissioning for Quality and innovation (CQUIN) data that sepsis is still not always recognised early and patients can deteriorate quickly with healthcare staff in a prime position to identify, escalate and treat early and it remains an essential priority for care (NHS England, 2018).

In collaboration between Nottingham University Hospitals NHS Trust and the School of Health Sciences, and in response to an alleged lack of knowledge and feedback from both undergraduate, nursing students and by front-line staff (Davis et al, 2016), in 2014 we developed case–based, situated learning to highlight the need for recognising sepsis early in the patient's journey through healthcare for final year students and newly-qualified nursing staff. This was revised in 2016 and re-focused on utilising the newly formed NICE sepsis guidelines (NICE, 2016, ng51).

The updated e-learning Sepsis package was developed in collaboration between the local NHS Trust (Sepsis Lead Nurse, Sepsis Medical Lead, Consultant microbiologists and Antimicrobial Stewardship team) and the School of Health Sciences (critical care lecturer and learning technologist). This package continues to be extremely well received and is mandated learning for both medical and nursing staff in NHS Trusts across the UK with outstanding independently offered feedback from several NHS consultants such as "This is one of the most useful and engaging e-learning packages and parts of mandatory training that I have seen – well done". The Open Access nature of this e-learning means that the package is being used world-wide through the Health and e-learning Media Team (HELM) Open access portal.

We aim to show that collaboration of subject experts from professional and academic staff enhances, and can be essential to the development of engaging learning to embed professional competencies in understanding difficult concepts.

Room: Teaching and Learning Building D05 **Paper 31**

Author/s: James Henderson, Simon Riley and Richard Windle

Title: Harnessing online completion tracking to enhance an activity based digital learning experience

Abstract: Blended learning, that is the combination of lectures and seminars with directed forms of digital/online learning, is now the predominant method of course delivery within the School of Health Sciences, with courses adopting various models and some programmes delivering up to 50% of their content online. However, one of the key concerns around these developments for staff has been anxiety about whether students are completing the online course elements, particularly in professional programmes where completion is a requirement of validation. On the other hand, students are often concerned about managing their time and navigating between the various elements that make up their programme, enabling them to make the most of the ownership of learning this engenders.

The redevelopment and validation of the current undergraduate nursing programme in the School of Health Sciences provided an opportunity to address this from both an instructional design and a technical perspective. The approaches outlined below follow on from student and staff feedback through focus groups, committee groups and surveys.

Using Moodle, resources were divided into a series of clearly defined activities, with the emphasis being on the interaction, not the resources themselves. Activities were defined according to University of Nottingham Quality Manual definitions, with further classifications added for online activities based on Laurillard's Conversational Model (2002). Each activity was accompanied by a set of conditions that defined its completion.

In harnessing the existing completion tracking available in Moodle, we produced a visual dashboard, using JavaScript, to provide a display of real-time progress and engagement in the form of accessible, personalised charts. These charts enhance the look and feel of the module sites and provide learners with a sense of achievement when undertaking and completing activities. Furthermore, it is possible to apply the charts to different elements of a module, such as type of activity, and within chronologically defined time blocks. Tracking elements can also be linked to bespoke feedback to reward completion and direct the learner to related activities.

In this presentation we will demonstrate how the completion tracking elements and dashboard work together and how they can be applied to any Moodle course. We will also demonstrate the user feedback from focus groups and pilot studies.

Room: Teaching and Learning Building D06 **Paper 32**

Author/s: John Turner

Title: Application and evaluation of interactive lectures using helpsheet, audio, video and interactive resources

Abstract: It has become increasingly common for lecturers to be confronted with upraised hands during lectures that hold all manner of modern devices capable of recording, downloading and accessing a wealth of raw facts. As modern educators, we cannot ignore the possible learning potential of these devices and should use student familiarities to help us facilitate their learning.

Integrating modern interactive multi-media into lectures seems appropriate to maximise the students learning potential by making available multiple pathways to learning. The use of different interactive media such as audio, video and evaluation resources can be accomplished through a combination of a help sheet format that displays the outcomes / necessities of a lecture combined with QR codes (quick response codes). These resources allow students to access material that can assist their learning without causing interruptions or inconveniences in the lectures. Additionally, students are presented with the opportunities to assess their learning more frequently and get feedback readily using these tools with the accompanying chance to set frequent targets to aid progression. The article discusses how new media formats can be applied successfully to lectures and aid the educational process.

Room: Teaching and Learning Building D08 **Paper 33**

Author/s: Amanda Rasmussen

Title: Hunting for Answers: linking lectures with the real world using a mobile treasure hunt app

Abstract: Despite the importance of plants to society, people are increasingly blind to local plants. Additionally, students regularly report a lack of connection between the lectures and practical experience. To begin to address these issues in two first year undergraduate courses, I used the ActionBound mobile app with three stages to get students thinking about plants in the environment in a fun engaging way. The three stages: 1) designing their own plant key using material collected and placed in the lab; 2) using their key on plants numbered outside in situ; 3) finding plant groups or traits in the real world that had been covered during lectures. We evaluated how plant blind our students are, engagement levels, and student experiences as well as whether the students increased their awareness of lecture-taught materials. We found there were differences in Plant Blindness with the more diverse 'Life on earth' students demonstrating more difficulty in identifying plant families than the more focuses 'Plant Science' students. Engagement levels were high and most students enjoyed the activity and reported that it increased links to lecture materials.

Room: Teaching and Learning Building D09 **Paper 34**

Author/s: Anna Bertram and Carmen Tomas

Title: Evaluative Judgement in Chemistry Practical Projects

Abstract: A practical module in the School of Chemistry was redesigned to incorporate a yearlong approach to the development of students' evaluative judgement. Evaluative judgement is the students' ability to make judgements about their own work and that of others (Boud *et al* 2018), it consists of an integrated approach to providing information and student engagement in assessment and is rooted in models of self-regulation (Zimmerman 2000; Panadero and Broadbent 2018). Activities designed as part of this integrated approach included:

- Engaging students in understanding & designing assessment criteria
- Engaging students in making judgements about the work of others (co-assessment)
- Self-assessment: engaging students in assessing themselves and making action plans

The conceptual work on evaluative judgement (Boud *et al* 2018) provides a useful and integrative conceptual framework for instruction and learning. Implementation of these various strategies in an integrated manner is less well understood, for example, how many activities and how often will be questions that future studies need to investigate. This case study presents an example of a plan for the sustained development of students' evaluative judgement.

The third year practical module involves the students working in teams to undertake two mini-research projects, one in each semester. The format and assessment of both projects is the same but the chemistry differs. At the beginning of both semesters before each project commenced a series of workshops were run:

Semester 1.

Activities designed to help students prepare for the first project included:

- Identifying skills already developed and those additional skills needing development.
- Identifying appropriate assessment criteria - student generated and staff generated.

Discussion with peers and academics

- Peer review of a range of example reports and discussion with academic staff.
- Peer assessed presentation for formative feedback.

Semester 2.

Activities designed to help students review their performance, reflect, learn and plan further action that they can apply to the second project:

- Students self-assess and review their feedback from the first project.
- Discuss feedback with the assessor.
- Write a development plan for Project 2

Early evaluations show positive impact on students' ability to understand criteria and expectations. The evaluation is ongoing through the year to establish impact on learning and understanding the student experience of these various activities.

Room: Teaching and Learning Building D10 **Paper 35**

Author/s: Cristina De Matteis, Snow Stolnik, Giuseooe Mantovani, Cristina Tufarelli and Xiaoyin Yang

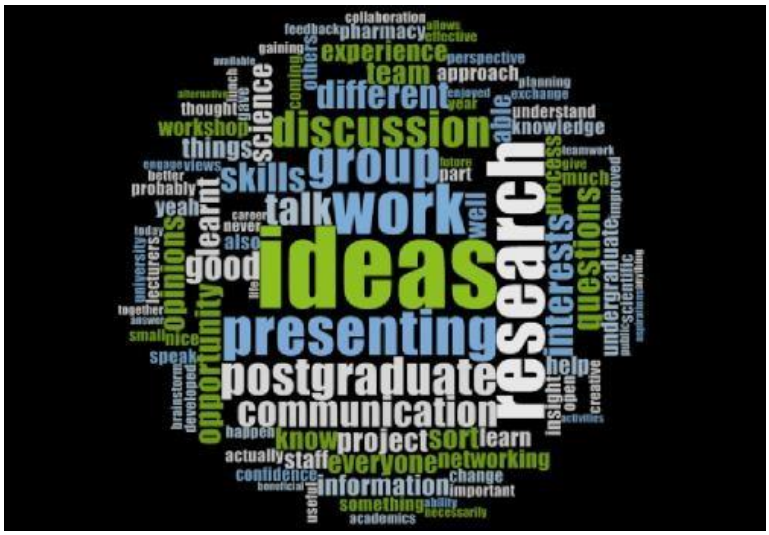
Title: Come on in to our research labs: enhancing UG students' experience of research

Abstract: **"Come on in to our research labs"** is an innovative extra-curricular project structured as task-based workshops that allow undergraduate students (UGs) to 'taste' research through discussions and creative working with postgraduate research students (PGs) and academic staff about the nature of research, experiments, science communication, and through visits to research laboratories.

The research community of practice (CoP) within an academic department is usually composed of researchers, such as PGs and academic staff. Surprisingly, UGs, potential future candidates for the research CoP, have few opportunities for legitimate peripheral participation in the community, so that they have less knowledge about research, few chances to learn about research, and may have low interest in becoming a researcher.[1],[2]

This project has involved Year 1 and Year 2 UGs, and PhD students at the School of Pharmacy and the CDT in Advanced Therapeutics and Nanomedicines, University of Nottingham. UGs and PGs that participated in workshops were designated as "Founding Delegates and Contributors", and encouraged to contribute their ideas and experiences with the project.

UGs' and PGs' experiences of the project were explored using questionnaires and focus groups. The UGs self-reported that they had developed their transferable skills and gained understanding of research. They appreciated the informal 'research experience' and would like further opportunities to be exposed to the research culture, to gain deeper insights into the research CoP. The PGs reported that they had valued the experiences, but in some cases were less clear about the skills they had developed. This suggests that further work is needed to better articulate the learning outcomes for PG contributors.



The words used by the UG students in the qualitative data collected, specifically when asked to describe what they have gained and enjoyed from this experience, and the frequency of the word usage, are displayed in the word cloud