

## Parallel Session 1 (Thursday 7<sup>th</sup>, 09.45-11.15)

### Session A | Curriculum

#### 1A) 1. *Power, Economics, and a Return to Political Economy: A Polemic*, Adam Ozanne (University of Manchester)

The paper will summarise my book: "Power and Neoclassical Economics: A Return to Political Economy in the Teaching of Economics", Palgrave Macmillan, 2016, in which I argue that, without an understanding of power, economists cannot fully answer the core problem they define their discipline by, since marginal productivity theory can only provide a partial explanation, at best, of the distribution of income and wealth in society. I argue that this at least partly accounts for the dissatisfaction with current economics teaching expressed by the Post-Crash Economics Society and related student movements and why Thomas Piketty's "Capital in the 21<sup>st</sup> Century" has so caught the public imagination. The reasons why neoclassical economics neglects power, and attempts by political scientists, philosophers, sociologists and heterodox economists to conceptualise power, are reviewed. It is argued that these latter attempts have failed to achieve a universally accepted theory of power that can be readily applied to economics, but that neoclassical economics offers within its own "tool kit" the means for developing a theory of power: all that is required is a slightly different way of looking at some familiar concepts. An alternative definition of power is proposed which, it is argued, is more suited to economics than standard, behaviouralist definitions, and an approach is outlined for generalising the notion of bargaining power in cooperative game theory to identify a "political economy function" that may be used to analyse power within a general equilibrium framework.

#### 1A) 2. *How to teach ethics and economics*, Stefan Kesting (University of Leeds)

The paper describes the development of a course on Ethics & Economics. This module aims to provide students with the knowledge and skills to contrast and integrate ethics and economics and enable students to apply moral philosophy and economic theory to an appropriate, but freely chosen economic policy or management decision problem. The module aims to provide students with skills in evaluating economic policies and company practices based on a variety of alternative concepts. The paper will present my methods to teach this course, my motivation and how I get them to develop and communicate a moral point of view and to apply it to an economic policy or company practice. The paper

will also reflect on my experience with flipping the classroom.

#### 1A) 3. *D.C. Hague's 'The economist in a business school': a quinquagenarial reflection*, Paul Latreille (University of Sheffield) and Graham Brownlow (Queen's University Belfast)

In a classic Journal of Management Studies paper published in 1965, the eminent economist Professor (latterly Sir) Douglas Chalmers Hague (1926-2014) explored the role of the economist in a business school, offering thoughts on the aims, curricula and teaching of economics, and specifically the theory of the firm, in the context of business education. Much has changed in the intervening period. Business schools, then rare in the UK (Hague himself helped establish Manchester Business School in 1965), are now ubiquitous, with a significant proportion of economists located in 'embedded' economics departments. But the nature of economics itself has changed too. Hague wrote about entrepreneurship and practiced it throughout his career, and his textbook with Stonier (with its Marshallian flavour) was influential as a counterweight to the emerging General Equilibrium drift/formalist turn within economics. In the 1960s management authors like Drucker were also reacting against this turn, suggesting equilibrium itself was to blame; Hague represents an attempt to strike a middle way in which Drucker's emphasis on management/scepticism with equilibrium is reconciled with a less formal, more Marshallian economics. Fifty years on it seems appropriate to reflect on Hague's observations from the very early days of UK business schools, and to consider the contemporary teaching of economics to business and management students. The criticism of economics post 2007-8 for example, may be interpreted not as a need for heterodox economics, but instead a return to a more modest Marshallian conception in teaching.

### Session B | Online learning systems

#### 1B) 1. *The impact of online message boards on student outcomes*, Steven Proud (University of Bristol)

With the growth of student numbers in undergraduate study, universities are increasingly using online message boards to allow for easy communication between student and teacher, and to allow peer to peer instruction; in addition, message boards allow for positive externalities for both staff and students, as when one student asks a question, this provides an answer for all students, and means that the instructor only need answer the question once. This paper examines the impact of the introduction of the Piazza online message board for a first year mathematics and statistical methods unit for

economists. The same students are educated in two successive units (MSM1 and MSM2). The message board software was introduced in the second of these units (MSM2), with support offered only by statistics teachers (but students were free to ask questions of each other). Only 50% of students signed up for using the Piazza message boards, allowing for a difference in difference analysis; the results suggest that students who signed up for the Piazza message board gained no significant improvement in their statistics score compared with students who did not sign up. However, a strong, statistically significant effect is identified in the mathematics part of the unit for those who signed up, suggesting that peer instruction is more powerful for improving outcomes than teacher instruction. Whilst sign-up for Piazza may be non-random, it is likely that this is exogenous from the progress that students make. The results are backed up by student questionnaires, examining the mechanisms through which this improvement occurs.

**1B) 2. *Is Lecture Capture benefiting (all) HE students? An Empirical investigation, Carlos Cortinhas (University of Exeter)***

The arguments for and against lecture capture have been going for some time and the debate is far from being settled either way. Most of the existing research about the impact of lecture capture on student attainment seems to show negligible or little effects while examples of a negative relationship between lecture capture and learning outcomes abound. The main purpose of this study is to add to the existing literature by conducting a large scale investigation (involving 90 modules and several hundreds of Economics and other Business School students at a UK University) on whether lecture capture improves student performance. A secondary objective is to determine whether (i) some groups of students benefit from lecture capture more than others (e.g. International students, high performing students, etc) and (ii) whether lecture capture can lead to differing benefits for students in different subjects (e.g. mathematical subjects versus discursive subjects).

**1B) 3. *A Data Visualization Tool for Monitoring Learners in a MOOC, Christophe Bontemps (Toulouse School of Economics and ENAC)***

Following learners' path while running a MOOC is a challenge for many educators. Learners may not have a linear trajectory and can easily jump from one resource to another, go directly to tests or have preferences for videos, case studies, games, or cartoons if any. Understanding how learners are spread over the available resources is generally done using data provided at the end of the course. However, real-time

monitoring using daily data is also possible as soon as the data are updated and freely available; a situation that occurs on many platforms. We propose a data visualization tool aimed at monitoring a MOOC and show how it was used by educators in two runs of a 4-week course on FutureLearn. On this platform, all the resources are open from the start and data are collected and available for educators on a daily basis. The course has been designed such that each of the 80 resources in this course—each step—should engage learners in a specific discussion page. In theory, educators can follow, advice and engage discussions with some of the thousands of learners following the course, each at their own pace. In practice, having a bird-eyes view and spotting where to intervene, stimulate or direct discussions is a real challenge for educators. We show how the data-driven visualization tool we propose help educators monitor discussions as well as understand learners' path, globally or individually.

**Session C | Workshop**

**1C) 1. *Go Abroad Economics, Nicholas Myers and Sean Brocklebank (University of Edinburgh)***

Economics students at the University of Edinburgh have the opportunity to participate in an extracurricular study group called "Go Abroad Economics." Student places to this group are allocated on a competitive basis. The purpose of this programme is to study the economy of a particular country in detail through a series of student-led workshops. As a capstone, students are taken on a partly-subsidised trip to the country in question. Trips last for 1-2 weeks and we take anywhere between 10 and 25 students per trip. The most innovative feature of the trips is that almost everything, from the site visits to the hotels, metro passes and SIM cards are arranged by the students themselves; the staff just book plane tickets and then act in a coordinating role. Most undergraduates have never had to work together to arrange something this complex before, so they learn a lot from the (sometimes bumpy) process. This programme has been running for more than two years, and has been a success. Destinations so far have included China, Ethiopia, Cuba, and others.

**1C) 2. *Students as Communicators, CTaLE Team: Parama Chaudhury, Cloda Jenkins, Dunli Li (University College London) and Christian Spielmann (University of Bristol)***

This CTaLE workshop session will focus on teaching approaches to enhance students' ability to communicate economics to different audiences. We will explore what effective communication actually means and whether/how we should teach communication skills

to our students. Using our own teaching samples, we showcase teaching approaches which focus on communicating economics and encourage participants to explore ways to adapt them for their own teaching. Finally we will explore appropriate ways for feedback assessment of such communication skills.

## Parallel Session 2 (Thursday 7<sup>th</sup>, 11.45-12.45)

### Session A | Panel session

#### **2A) 1. How should we measure the quality of an economics degree?** Parama Chaudhury and Antonio Cabrales (University College London), Margaret Stevens (University of Oxford), John O'Sullivan (The Economist) and David Sturrock (Institute for Fiscal Studies)

In Economics, we've been trying for years to sketch out the outline of what an economics degree should look like in terms of skills acquired (for e.g. in terms of the QAA content guidelines developed a few years ago) but more importantly how one would measure whether a specific programme achieves this. In light of this, I am proposing a panel to bring together representatives from various UK universities to discuss this. The idea is to make this the first step of a bigger project whereby a common structure of evaluating the degree is developed over time and institutions can opt in to use this evaluation if they wish. Assessment options could range from a TUCE-like test as used in the US, which is taken at the start of the programme and at the end to measure value-added, to a portfolio approach, where students will need to have produced a variety of outputs over the course of the programme.

### Session B | Developing student skills

#### **2B) 1. Developing Financial literacy among students in the UK and Russia,** Inna Pomorina (Bath Spa University) and Nataliva Bruhanova (Altai State University)

Financial literacy is important for people of all ages, but it is especially important for students as they are starting their independent life. Currently in the UK students at schools are supposed to receive basic lessons in the subject as part of their Citizenship GCSE course, but in reality majority of them leave schools without having clear understanding in the subject. Russia is introducing courses on Financial Culture to all students in all universities as part of their financial literacy programme. This paper will be looking at the ways of developing financial literacy (FL) of students in the UK and

Russia, starting from measuring existing levels of FL and developing intervention courses and evaluating their efficiency.

#### **2B) 2. Does Studying Economics Influence Employment and Loan Decisions Later in Life?** William Bosshardt (Florida Atlantic University) and William Walstad (University of Nebraska-Lincoln)

The Baccalaureate and Beyond Longitudinal Study has been an ongoing project of the National Center of Educational Statistics and consists of three cohorts of college graduates from 1993, 2001 and 2008. While the data collected from each cohort varies, each generally includes interview data, transcript data, as well as data from follow-up surveys. This paper will focus on the 2008 cohort which was interviewed a year after graduation, and again in 2012.

We will investigate the employment outcomes of economics majors and students who have taken economics courses. Economics majors and people with economics background tend to make different economics choices in financial decisions later in life. This expands on past research (Allgood, et al, 2011) on the longer-term outcomes of learning economics. Some of the questions the Baccalaureate and Beyond: 2008–2012 data might be able to address are: What kind of jobs do people who have taken economics courses tend to find? How do they pay back student loans? What are the trade-offs people with economics training make between different types of debt? Analysis will use regression models / probit models and will control for basic demographics such as gender, race/ethnicity and family status, as well as the educational and economics background of individuals. Whether economics coursework matters in these decisions is debatable: While economics helps people make more informed decisions about saving for the future (Bosshardt and Walstad, 2017), it is not clear that economics training is needed to understand the need for paying back student loans or car loans or finding a job.

### Session C | Student learning in a flipped environment

#### **2C) 1. Using Technology to Complete the Natural Learning Path in a Principles of Economics Course,** Eric Chiang (Florida Atlantic University) and Jose Vasquez (University of Illinois)

The traditional learning path of a student in a principles of economics course is changing. Traditionally, this learning path has begun with the student attending a classroom session to receive content from the instructor (usually in a chalk and talk lecture format), then completing assessment activities at home

related to that lecture. The drawback of this learning path is that it is incomplete; it does not offer adequate feedback to the student's work. A new classroom model (often called the "flipped classroom") offers a way to complete the cycle. This model involves the student receiving lecture content before class, then completing problems and other peer-learning activities with the instructor in the classroom, and finally completing more challenging assessments at the end of the cycle. But while applications of this new model are gaining in popularity, they have tended to focus more on the instructor's experience and less on the explicit changes to the student's learning path. In other words, there has been little work on how to bridge the student's pre-lecture work with classroom activities. This paper supports a new learning path model, one that introduces a critical component called "bridge questions" that connect the work students complete prior to class with the work they do during class. We offer best practices for instructors to develop effective learning paths for their students. The most important benefit of an effective learning path is to maximize the value of the work students do with their peers and the instructor in the classroom.

**2C) 2. *Flipping the Classroom: Practical Aspects and Possible Outcomes*, Phillip Hedges (University of Westminster)**

This session will consider the principles of best practice in flipped learning and report on student feedback and assessment outcomes based on a flipped classroom experiment in the setting of a large postgraduate economics module for non-specialists. The aims of the experiment were 1) to engage students in developing higher-order skills such as application and evaluation, 2) to nudge students into covering less popular topics as measured by the choices made in exams when selecting an essay topic and 3) to embed and utilise online learning technology in a module previously not using such technology. Flipped learning involves repurposing class time via the setting of pre-class work and utilising face-to-face time for higher-order learning activities. Pre-class activities replace the information transmission of the traditional lecture time with students using lower-order skills such as knowledge and understanding in their own time. I will be referring to best practice guidelines such as those produced by the Higher Education Academy and the Flipped Learning Network. The experience from the experiment led to further refinements in the flipped learning process for the next cohort to study the module and I will discuss these marginal improvements.

## *Parallel Session 3 (Thursday 7<sup>th</sup>, 13.45-15.15)*

### **Session A | Student skills, preparation and determinants of success**

**3A) 1. *The importance of high-school preparation for economics undergraduates*, Daphne Nicolitsas (University of Crete)**

Governments throughout the world are trying to improve the stock of human capital. One of the means for achieving is through an expansion of the number of university graduates. Often, however, this expansion takes place without the necessary preparation at secondary school level and in fact by lowering entry standards. As a result, when students enter university they find themselves unprepared and unable to follow the curriculum. This then leads to a high drop-out rate from academic studies, prolongation of studies and dents the quality of tertiary education. The paper uses individual-level data on the high-school performance of economics undergraduates at the University of Crete between 2003-4 and 2007-8 and exploits, inter alia, changes in entry to University requirements to illustrate the link between high school grades and degree success (grades, duration to degree). The paper aims to assess whether maths or verbal skills are more important for the academic performance of economics students. Demographic (age, gender), school features (public school, private school, region the school is located), the candidate's preference for the University of Crete vs other institutions are factors conditioned upon. The results have implications both for entry requirements and for the degree curriculum.

**3A) 2. *Characteristics that Predict the Likelihood of a Student Experiencing Grade Success in Principles of Micro and Macroeconomics*, KimMarie McGoldrick and Tisha Emerson (University of Richmond)**

While much attention has focused on the factors affecting student performance in principles of economics, far less consideration has been paid to factors affecting attrition. Using student transcripts from five institutions over a 23-year timespan, we investigate enrollments in principles to determine characteristics of both successful and unsuccessful students. Lack of success is defined as either withdrawing from the course or as earning a grade that would not generally allow continued study, i.e., a grade below C- or an unsatisfactory or incomplete. Principles of microeconomics students tend to be early in their undergraduate careers, male, and Caucasian. We find that micro principles students come from a range of majors with large shares from business and engineering,

math and physics. Unsuccessful micro students tend to be female, minority, have a lower cumulative GPA, and to be majoring in something other than economics, business, engineering, math or physics. Analysis of the principles of macroeconomics course is underway to determine whether a different set of characteristics explain success rates across introductory courses.

**3A) 3. *Teaching business economics for sustainability – The roles of a business person privileged in classroom practice*, Pernilla Andersson (Stockholm University)**

New teaching approaches to include 'sustainable development' in the business curriculum are currently being developed with the expectation that students will become better equipped to address sustainability issues as budding business people. At the same time education for sustainable development has been argued as being particularly challenging in the context of business education due to assumptions underpinning orthodox business theories. This article presents a study of the roles of a business person privileged by teachers in the classroom when the concept of 'sustainable development' is incorporated in the subject of business economics. The empirical material, consisting of video recorded observations in five teachers' classrooms, was collected two years after the inclusion of the concept in the upper secondary school syllabus in Sweden. The results show how different rules and conditions for doing business are foregrounded in classroom practice, which have different implications for whether a responsible business person is expected to: a) adapt to self-interest (in narrow terms), b) respond to consumers' increasing interest for sustainable products, or c) be sensitive to stakeholders' diverging interests. Detailed empirical examples illuminating how different classroom practices open up for different (egoistic vs altruistic) roles are provided with the aim that they should be useful for teachers (and anyone involved in design of lessons and/or educational materials) to develop a professional vision to identify when and how in educational practice 'homo economicus' becomes a norm as well as when and how other norms might emerge.

**Session B | Learning outcomes**

**3B) 1. *Learning Gain and Confidence Gain as Metrics for Pedagogical Effectiveness*, Fabio Arico and Jake Patterson (University of East Anglia)**

This presentation details the most recent results and outputs of an HEFCE funded pedagogical research project aimed at investigating the concept of 'learning gain' as a

measure of pedagogical effectiveness. Our approach originates from the principle that students ought to develop positive self-efficacy beliefs as they progress over their academic journey. We re-enforce this concept by suggesting that student confidence should represent a learning outcome in its own right. In other words, we claim that the development of student self-efficacy should: (i) run parallel to every academic curriculum, and (ii) be subject to assessment and evaluation, along with the accumulation of knowledge, practical, and critical skills. To achieve this objective, we design and evaluate a pedagogical approach where students and staff can promote and track the simultaneous formation of learning gain and confidence gain. In the first part of the presentation we describe our teaching approach, which combines pedagogies such as self-assessment and peer-Instruction, to facilitate the creation of an active learning environment for a large-class undergraduate module in Introductory Macroeconomics. In the second part of the presentation we introduce our definitions of learning gain and confidence gain. Thus, we describe how these definitions can be employed to develop an evidence-based evaluation of our teaching approach. We argue that a comprehensive appraisal of teaching quality should evaluate learning gain in relation to measures of student self-assessment skills and self-efficacy beliefs. Therefore, we investigate the interplay of these metrics to assess pedagogical effectiveness.

**3B) 2. *Introducing CORE's The Economy – Evaluating students' exam performance*, Christian Spielmann (University of Bristol)**

CORE Economics provides novel material for teaching first year undergraduate economics. Since its launch in 2013, the CORE e-book has attracted significant interest from all sides of the economic spectrum. A question often asked, however, is how easily the material can be integrated in an existing curriculum and how well students perform in subsequent years. Some simple descriptive statistics suggest that, compared to previous cohorts, CORE students from a major UK Higher Education institution have on average performed better than non-CORE cohorts. This project aims to establish a causal link between second year performance and having had CORE economics in year 1 using regression analysis. Our aim is to perform a Difference in Difference estimation, comparing the performance of those second year students which have been exposed to the CORE course with those joint degree students who have taken first year economics at other places.

**3B) 3. *'And I must borrow every changing shape': Changing perceptions in the value of a***

**University degree, repercussions for Economics, Duncan Watson (University of East Anglia) and Steve Cook (Swansea University)**

Does acquiring a degree really have value? The standard answer, formulated in education economics, is one which is founded in basic human capital orthodoxy. This results in the continued reiteration of the positive reputation of higher education, where attractive investment outcomes are presented via the comparison of tuition fees with significant expected gain in lifetime earnings. We argue that this approach is inadequate because there is typically a substantial gap between objective and subjective perceptions of value. To investigate the importance of this gap, a two-stage approach is adopted. This initially offers an empirical investigation probing the characteristics of subjective perceptions of value. We test for deterioration over time and investigate the probable indicators that could explain such worsening. Focusing on aspects such as cultural capital and the congestion hypothesis, we then use this empirical analysis to inform the second part of our paper: investigating the repercussions for the future design of economics education. We discuss the need for more radical change in the pedagogical approaches that are typically adopted, where more flexible methods are required to shift emphasis away from the standard lecture format which still stubbornly anchors itself in the repetitive application of core theoretical concepts.

### Session C | Workshop

**3C) 1. An Adventure in Flipping: A 'Meta' Workshop, Michael Reynolds (University of Leeds)**

The use of technology in and around the classroom offers a multitude of opportunities for academics to improve the student experience; from improved interaction and engagement in sessions to further facilitation of student employability skills. However, for many this technology can be pervasive and threaten classroom cohesion. This workshop aims to ease such fears by offering two case studies where technology is embedded within the learning process. The first considers how to use technology to 'flip' the classroom and the second case study is the workshop itself, where the audience will be participants using technology to interact with each other and the presenters to break the 'fourth wall'. The 'Flipped Classroom' approach is where the 'classic' model of university learning is altered so that students view traditional lecture content as video prior to scheduled contact time and then they complete exercises in the classroom. The innovation has been hailed as a transformative experience for learners and teachers. This session will tell the story of the redesign of an economics module to a 'flipped classroom' approach. Much of the

focus will be on the experience of the redesigned delivery and how to get the best out of it, but there will also be discussion on the genesis of the idea, the planning of the redesign, and the recording of the videos. Additionally, the redesigned module integrates team learning and technology to allow interaction, we shall mirror this throughout the workshop so that the audience has a chance to use this technology.

**3C) 2. The improved art of flipping: Moving towards better teaching, learning and research potential in a macroeconomics flipped class, Brigitte Pegado and Liezl Nieuwoudt (Stellenbosch University)**

They started calling us the video class. More generally referred to as "flipped classes". To research students' access to and use of videos, we needed to extract, compile and analyse data (logs and questionnaires) from the Learning Management System. Due to the design of the teaching and learning innovation (TLI) project, unforeseen data and issues were encountered. This paper reports on the process of our research of students' access to and use of videos, identifies the data and issues encountered and suggests design modifications in setting up the TLI for better research potential. Critical analyses of the outcomes and process of discipline specific learning and teaching (also in Economics) has produced a growing literature on the scholarship thereof to draw from. Educational Design Research provides a framework for this "study in practice" research and emphasizes the importance of asking the right research questions before and after implementing a TLI. Using the flipped introductory macroeconomics class [2015 (n=211)] as case study we discuss the research process followed to report on the activity of students accessing videos [available to both the flipped class and a control group (n= 1692)]. Data problems arose due to the inability of linking logs on video usage to student information. We show the importance of the correct design of a TLI within an Educational Design Research paradigm and suggest design modifications that will help future innovations (in whatever context) to design not with only teaching and learning success as goal, but also optimal research potential.

### Parallel Session 4 (Thursday 7<sup>th</sup>, 15.45-17.15)

#### Session A | Lessons from employment and work experience

**4A) 1. *Embedding Social Capital in the Economics Curriculum*, Guglielmo Volpe and Leon Vinokur (Queen Mary University of London)**

The paper reports on the students' experience as business/financial consultants for qNomics. qNomics is a pro-bono organisation set up within the School of Economics and Finance at Queen Mary University of London. qNomics provides financial guidance and resources to technology start-ups and entrepreneurs. Clients come to qNomics for advice on a range of issues including market strategy, business planning, accounting, funding, and regulatory compliance. Students have the opportunity to counsel clients on issues and guide clients through the various challenges that they face, particularly at the early stage of their business development. Under the supervision of practitioners from professional service companies, students develop research and communication skills and have the opportunity of applying their knowledge of economics and finance to the actual needs of young businesses. Through interviews with the participating students, the paper provides an account of the students' own perceived experience by investigating students' expectations and actual experience. A particular focus is placed on the skills that students perceive having developed as well as the more general development of social capital. An understanding of whether the scheme provides a transformational experience for the students is also attempted.

**4A) 2. *Exploring Economics - Our experiences of influencing economics education in government*, Andrew Heron and Sonia Razia (Exploring Economics and Government Economic Service)**

Exploring Economics is a cross departmental government network that aims to improve policymakers' understanding of economics, and to increase the diversity of economic thinking, in government. Over the last year, we have built this network from scratch. We now have over 200 participants, and support from some of the most senior government economists. The thinking behind our network largely grew out of student movements such as 'Rethinking Economics', which aim to make economics education more pluralistic, and to make economics more democratic. After leaving university, we wanted to continue this in government. As part of this, we have been developing new modules for government economists, working with the Government Economics service, so that they can learn about a plurality of economics ideas, and hopefully apply them (where appropriate) to policy. Our proposed session would share some of our findings from our experiences. We would talk about the differences between learning/teaching in a university environment to that in the world of government and policy. We would

discuss where we think economics could change for the better, and how this change could be achieved. We think that doing this could help students see the connections between their learning and government economics.

**4A) 3. *Student Academic Performance and Professional Training Year*, Miguel Flores and Panagiotis Arsenis (University of Surrey)**

We study the relationship between students' academic performance and work experience during their undergraduate studies. The literature on Higher Education has largely focused on whether a "sandwich" placement year affects the students' final year academic performance. In contrast, this paper considers the time frame before the placement year and examines whether the likelihood of securing a placement year and prior academic performance are causally linked. Although this relationship has been overlooked by the literature, the possible effect of first-year academic performance on PTY can bring evidence of placement opportunity being a major motivation for students to improve their academic performance. Particularly, the hypothesis that the average first-year mark may be a significant determinant of this possibility is crucial for the UK HE framework. The undergraduate programmes across the UK do not count the first-year performance towards the degree grade. This allows students that enter HE to familiarise themselves with the new environment and prepare them for the more challenging second and third year. However, first-year modules are the basis upon which forthcoming courses build on and, as we will show, affect the likelihood of securing a placement. Hence, it is important to identify the relevant factors for professional development at an initial stage to enhance the student learning experience.

**Session B | [New approaches to engage students](#)**

**4B) 1. *Teaching Real Analysis to economics students*, Eleni Katirtzoglou (London School of Economics)**

Teaching a proof based course such as Real Analysis to economics students can be achieved even in a short intensive course. I will discuss how I train students, aspiring to pursue postgraduate studies, to reflect on mathematical ideas, critically study proofs and eventually write short proofs themselves. Teaching and learning are based on the Round Table model. The teaching components of the course are delivered in a variety of ways such as lectures, and short pre-recorded videos. Concepts and results are presented in a rigorous yet intuitive way and learning is based on activities and peer-instruction. The model is implemented on a termly second year undergraduate course for dual

mathematics and economics degree, as well as on short summer intensive course for economics students which is delivered partly online and partly in campus.

**4B) 2. *Know thyself - students as subjects in an ad-hoc research*, Tomasz Kopczewski (University of Warsaw)**

In education, science curiosity should be an important motivating factor for gaining knowledge and self-development. However, this type of curiosity erodes with age and it is increasingly difficult to awake it among students. Microeconomics is a particular course, which when lectured traditionally with chalk and talk could completely discourage from further exploration of theoretical models. On the other hand, microeconomics has incredible potential to create science curiosity, as its models directly relate to the observed economic behaviour of people. We need, however, the stimulus that will trigger the curiosity. Such an incentive could be a natural desire to know thyself. This paper shows the method of using the ad hoc research to create the science curiosity on the basis of self-curiosity. In this method the students before classes participate in the on-line research, with the passive role of subjects. Before this survey/experiment they should not have any knowledge on the issue. Shortly after the survey they are informed that the results of the study will be used to provide microeconomic models, and they are encouraged to try to answer the questions whether their decisions or answers were consistent with economic theory, optimal or efficient, and how those decisions could affect the welfare of the others. In this way, the teacher creates an information gap among students, a sense of deprivation - unsatisfied need for knowledge on the decisions taken. There appears the science curiosity that can be addressed during the lectures and/or explored by students themselves.

**4B) 3. *Skills-based teaching in economics: case studies using online learning and portfolio assessment*, Hassan Haghparast-Bidgoli, Jolene Skordis-Worrall, Neha Batura (University College London)**

A portfolio is a collection of texts and/or other materials, usually including a reflective commentary, submitted as evidence that learning has taken place. There are examples of portfolio-based assessment in economics education but the method is not in widespread use in this discipline. In this presentation, we will reflect on both our own and our students experience of using a portfolio method for the assessment of two courses in Health Economics at UCL. In our presentation specifically, we will share student experience of what works and what does not. The benefits and features of a portfolio

that extends learning and builds foundation skills will be described with examples from our own work. Finally, we will explore the extent to which this assessment form differentiates students, stretching the able and supporting those feeling challenged by new concepts.

**Session C | Workshop**

**4C) 1. *Using MS Excel to bridge the maths gap in principles of macroeconomics*, Paul Lovejoy, Adam Cox and Alan Leonard (University of Portsmouth)**

First year (Level 4) BSc Economics students arrive at the University of Portsmouth with mathematics skills ranging from GCSE grade 'C' to A level. Low engagement levels among students lacking a strong mathematics background are reflected in weaker Level 4 examination results. During 2016-17 a series of fortnightly workshops have been introduced alongside existing macroeconomics lectures and seminars, using Excel-based simulations designed to enhance mathematics skills through relevant applications. Workshops draw extensively on materials developed by Professor Humberto Barreto of DePauw University, Indiana. They are designed to support a conventional year-long principles of macroeconomics course, focusing on concepts that have already been addressed through lectures and seminars. Students work in small groups in a technology-enabled Business Simulation Suite. Real-world data applications are incorporated wherever possible. The conference session will introduce the context to the workshops and will give participants hands-on experience of working through a sample session. Initial findings from the 2016-17 workshops will be reviewed.

**4C) 2. *Little, big and vast steps towards open education*, Martin Poulter (Economics Network)**

In September 2007, the open education movement promised a “global revolution” in learning and teaching. A decade on, the changes in academia may seem less than Earth-shattering, but the world of online discussion and informal learning has been transformed. Meanwhile, “open” movements have become more mainstream in other fields, such as open access and open data. This session looks at the present and future of open education and the implications for universities.

***Parallel Session 5 (Friday 8<sup>th</sup>, 09.30-11.00)***

## Session A | Simulations and experiments in the classroom

### 5A) 1. *Using Simulations as a Learning Method in the Area of Public Economics*, Javier Sierra Pierna (University of Salamanca)

This paper presents a new teaching method used within the framework of the course on Public Economics in the Grade on Business Administration at the University of Salamanca (Spain). The main objective of this new teaching approach is to offer students a first-hand experience of the decision making process as regards to the decision-making process at three different levels of Public Economics management: local, national and international. For this purpose, this method is based on three different simulations adapted to the particular problems and characteristics of each decision-making sphere. Public Economics management at the local level is simulated using the SIMCITY computer game and students participate individually. The decision-making process at the national level is practised through a simulation of the National Parliament. Students are randomly assigned to the different political parties and work in groups. A simulation of the ECOFIN is designed to experience the difficulties of managing Public Economics at the international level. Here students can choose to participate individually or in pairs, and English is the working language. Simulations of national and international levels require students to conduct research on the specific topics discussed during the simulations. Results show that students participating in the simulations have better understood the mechanisms of the decision making process at the three different levels. Our findings also show that their perception about Public Economics management has changed thanks to these three activities, realising that it is indeed more difficult and complex than what they expected at the beginning of the course.

### 5A) 2. *Economic Experiments – a criteria-based evaluation in high school teaching*, Maximilian Schminanski, Jan-Martin Geiger and Andreas Liening (University of Dortmund)

Research has already documented the benefits economic experiments can have on the economic knowledge (Dickie, 2000), the motivation resp. the interest in economic issues (Rott, 2001) or the self-reported learning-success (Haus, 2009). In these studies, the students participated in different market experiments designed along the theory of the neoclassical goods market. Nevertheless, some questions concerning the design of economic experiments are to a great extent unanswered. There is a lack of investigating the relation between the variation of experimental criteria and possible effects on the learners' cognitive and affective level. To make a contribution to the exploration of

economic experiments' efficacy on educational learning settings, this paper first identifies criteria which should be taken into consideration in planning or conducting economic experiments based on Reich's theories in high school teaching (1996) and Liening's economic teaching principles (2015). Second, these criteria are implemented in economic experiments on the subject of the theorem of comparative costs within the frame of an empirical study and are examined with regard to their effect on a learning individual's cognitive level. We use a questionnaire composed of different examined items for the assessment of motivation towards economics, perceived economic self-efficacy and economic emotionality. The (current) results indicate that an experimental variation has an impact on the motivation towards economics and the perceived economic self-efficacy. The results indicate explicitly that the impact of an experiment on the learning process may differ depending on its conception and should be taken into account when measuring their effectiveness.

### 5A) 3. *'The games students play': simulating pricing decisions in oligopolistic markets*, Vincent Rich (University of Westminster)

On-line games, including simulations, have the potential to offer more effective learning experiences because they are 'interactive, engaging and immersive' (Ulicsak, 2010), and enhance students' critical thinking, judgment, and creativity. For students of economics, these games also offer the chance to make operational decisions in simulated business environments. This paper examines the pricing decisions made by student 'teams' each playing the part of a company in a semester-long web-based business simulation 'game'. The aim is to determine how far student 'teams' use price as a 'strategic variable' and whether this tends to result in price stability or price instability. The companies operate in city markets, with four other firms as direct rivals competing for market share - with this 'interdependence' making it a classic oligopolistic market. The companies offer the same four products for sale and must determine the selling price of each over 10 operating rounds (or 'years'). The possibility of some limited differentiation due to quality differences serves to dampen price competition, but not eliminate it. The simulation 'game' generates a rich set of data. It forms part of the learning activities (alongside lectures and seminars) on a second-year module taken by some 600 business students, across a range of specialisms, but most of whom have studied an introductory business economics module in their first year. There are therefore about 120 companies, each of whom is required to make four pricing decisions each round.

## Session B | Peer learning and evaluation

### **5B) 1. *Birds of a feather – social interactions of university students in a classroom*, Dorota Celińska (University of Warsaw)**

Social networks can facilitate the communication among students and help them in learning. However, there are rare studies combining observation of students' behaviour in groups with their academic performance. Academic performance can boost one's reputation among peers, giving them a significant degree of social influence. Even if the process of building reputation in a network is usually slow, compared to the spread of deviant behaviour, it gives a potentiality for various effort making strategies. For example, Sacerdote (2000) shows that an increase in average peer achievement may lead to an increase of a student's own achievements. While obtaining new knowledge and developing social capital are definitely good sides of peer effect, reputation may also have drawbacks. For example the significant differences in reputation may arise possibilities of 'moral hazard' and free-riding strategies. Students with lower academic performance may be willing to stay close to high performing ones, wishing for their help or just treating them as "additional information assets". In turn, students with high academic performance may be reluctant to keep such ties, considering them abusive. In this study we want to investigate the patterns of social interaction among students during a semester. We analyse the spontaneous social networks closely related to the final evaluation of students: the peer selection for team work and the neighbourhood selection on the 'test days'.

### **5B) 2. *Self vs. peer evaluation: Are students more accurate at evaluating the work of their peers than their own?* Jon Guest (Aston University) and Robert Riegler (Coventry University)**

One of the most important objectives of courses in higher education is to develop the independent learning skills of the students. In order to become effective self-directed learners they need to acquire good self-evaluation skills. Unfortunately, numerous studies have found evidence that undergraduate students are rather poor at judging the quality of their own work (Guest and Riegler 2017; Nowell and Alston 2007; Grimes, 2002). The data indicates that this divergence between the student and the tutors' perception of the academic work is not random. Most studies find that on average students systematically over-estimate their own performance. Does this evidence indicate that large numbers of students find it difficult to effectively internalise the standards on their course? This might be the case. However, an alternative explanation is

that students find it particularly difficult to objectively evaluate the quality of their own work because of the emotional investment involved. They may find it easier to judge the appropriate standard when looking at the work of others. To test this hypothesis the paper compares the ability of students to self and peer evaluate an assessed economics essay that has been completed out of class. The data comes from a group of 2<sup>nd</sup> year undergraduate students.

### **5B) 3. *Herding in the classroom - an experiment*, Parama Chaudhury (University College London)**

My project looks at how students are influenced by their peers' responses to in-class questions. In particular, I study whether students' knowledge about the distribution of answers provided by their classmates to a multiple-choice question affects their subsequent answer. I carried out an experiment in an upper-level undergraduate economics field module where students were asked to respond to at least 2-3 multiple-choice questions in each lecture session. Answers were submitted using a web-based audience response system. Students were shown the distribution of answers from the entire class of about 20 students, and then asked the same question again. I recorded whether or not students changed their answers, whether the answers were correct in the first instance and eventually, and various demographic characteristics of the students, and whom they were sitting with. Any movement towards the modal answer is labelled as herding. My analysis looks at what determines students' proclivity to herd, including individual characteristics, the characteristics of their immediate peers and the type of question. Any systematic patterns in the herding behaviour can be used to influence the organization of peer learning groups - if students are more likely to learn from peers with particular characteristics, lecturers may want to design "think-pair-share" or other kind of group learning activities with these characteristics in mind.

## Session C | Workshop

### **5C) 1. *Publishing in Economics Education, with the Editors of the International Review of Economics Education*, Ross Guest (Griffith University), William Bosshardt (Florida Atlantic University), David McCausland (Aberdeen University), Edmund Cannon and Alvin Birdi (Economics Network and University of Bristol)**

We will provide a workshop discussion on publishing in economics education with particular reference to the International Review of Economics Education. The workshop will include a discussion of current themes in economics education, the journal's

relationship with the Economics Network and specifics of the qualities of work that IREE looks for in article submissions and book reviews. There will be some time for Q and A.

## Parallel Session 6 (Friday 8<sup>th</sup>, 11.30-13.00)

### Session A | Enhancing engagement and performance

#### **6A) 1. Can multiple small feedback activities improve students' performance and opinion of feedback? Evidence from compulsory final year module, Antonio Rodriguez Gil (University of Leeds)**

This paper studies the performance of final year Economics students and their opinion on feedback after introducing three small activities (up-to 500 words) for which students can receive written feedback at different points of the semester. These activities involve writing up-to two current affairs essays using course materials, plus one essay answering the questions for one of the seminars. The availability of several feedback points allows to offer a system of feedback that resembles "continuous evaluation" available at lower levels of education. While the word limit of 500 words, and the deadline, at any point of the semester but never all at once, are designed to ensure a manageable work load for staff. After completing the activity, students receive a form designed according to the so-called "seven principles of good feedback" popularised in the educational literature by REF. Our findings show that our intervention increases students' opinion of feedback markedly, according to the module evaluation survey students' satisfaction doubles. Further, we also find that our intervention enhances students' performance. The intervention takes place into a compulsory final year module, Advanced Macroeconomics, which makes our findings relevant for inference for the NSS.

#### **6A) 2. Enhancing students' engagement through inclusive team work, Liliana Harding (University of East Anglia)**

The paper is reflecting on the potential to raise students' engagement through ongoing teamwork and class interaction of diverse study groups. We are building thereby on the feedback received from two student cohorts taking a module on the European economy before and after Brexit. The student teams or study groups have been encouraged to research the effects of economic integration or disintegration on individual countries, thus linking theoretical material to real economic developments. The country teams

produce reports accessed by peers online, via the university portal, and in advance of related class discussions. Designated study groups facilitate seminar discussions based on their own country reports, with questions prepared by peers in advance of the class. To evaluate the impact of teamwork and peer learning, we survey all students involved in the module across two academic years. We monitor the novelty they perceive in terms of the task, and explore any peer learning along with the methods of communication used by smaller or larger teams. Social networking applications such as WhatsApp or Facebook are found to be by far the most conducive for collaboration towards the completion of these reports. New students' interaction is cited as most valuable in diverse groups including international students. Finally, preparation of questions to peer reports in advance of class discussions has been highlighted as an asset towards communication skills and critical thinking.

#### **6A) 3. Open versus structured research environment in undergraduate Economics: A case study from the University of Southampton, Emanuela Lotti (University of Southampton)**

Undergraduate research provides opportunities to learn in depth about a particular topic. Nowadays, many undergraduate programmes in Economics make an extensive effort in offering the possibility to conduct research. In some programmes, the undergraduate dissertation is a core component, while in others it is an option chosen or offered to a selected group of students. Which kind of support is required to undertake an independent research project? In some cases, qualitative comments suggest that a dissertation may be a very demanding task to undertake at undergraduate level. In 2015/16, the Department of Economics at the University of Southampton introduced some important changes in the organization and assessment of the undergraduate dissertation. The changes have been implemented to facilitate an effective way to develop a research project in a short time frame. First, we introduced specific research topics and guidance on how to access the relevant data. Second, we anticipated the preparation of the research project by allowing an earlier on supervisee-supervisor allocation. Third, we changed and increased one of the summative components. All measures, aimed at improving the student experience, allowed for an increase in the structure of the undergraduate research project. In this paper, we investigate the impact of those changes on finalists' performance. In particular, we compare an open topic versus a structured dissertation and we test the hypothesis that, at undergraduate level, a more structured approach to research improves students' performance. Preliminary results confirm the hypothesis.

## Session B | Technology as a learning tool

### **6B) 1. Using polling to elicit students' uncertainty, Andrew Mearman (University of Leeds)**

This paper explores how polling within a lecture can be used to assess students' reactions to different types of argument and evidence, in this case to the debate on whether minimum wages increase unemployment. The exercise was run with first year students in two UK universities using different polling tools but asking largely the same questions. The responses show that from an initial position of believing that minimum wages do increase unemployment, the students shifted to one of uncertainty, saying 'maybe' or 'don't know'.

### **6B) 2. Online assessment, adaptive feedback and the importance of visual learning for students, Mario Pezzino (University of Manchester)**

The objective of the paper is to point out the importance of two recent developments in online practice and assessment that could allow instructors to move away from standard and repetitive MCQs, significantly improving the learning experience of students. The first development is the possibility to create questions that adapt to students' performance; for example, questions that, if answered incorrectly, provide additional questions and hints to induce the student to reach the correct answer using alternative paths. The second innovation is the use of interactive visual material, such as clickable images and interactive diagrams. To make our point, we introduce the advantages, with a few caveats, of the use of the platform MapleTa.

### **6B) 3. Introducing economics to millennials using short YouTube movie clips, Jose Carrasco-Gallego (University of Portsmouth)**

The objective of this paper is to show a way to improve the understanding of foundational economic concepts to millennials. Students' answers to an anonymous survey show that the objectives of this method have been reached: students achieve a better understanding of the concepts; they realize that microeconomic models can be useful in their daily lives; they undoubtedly consider that thanks to the YouTube clips, Economics models can be applied to other situations apart from the problem sets; they improve their learning and retain concepts better; and they even think of analyzing some personal experiences through the prism of Economics. Therefore, this is an effective method. The low cost of this proposal also makes it efficient. This paper

also provides links to YouTube clips and examples that instructors can use in their own presentations and problem sets.

## Parallel Session 7 (Friday 8<sup>th</sup>, 14.00-15.30)

### Session A | Encouraging study and widening participation

#### **7A) 1. Widening Participation: academic and careers success. A case study, Guglielmo Volpe (Queen Mary University of London)**

UK research on the academic and career achievements of students from a disadvantaged background suggests that "Young people from less advantaged backgrounds are less likely to enter a professional job on leaving university" (Macmillan et al., 2013) and that "students who attended one of the 20% of secondary schools with the highest proportions of free school meals (FSM) eligible pupils are, on average, 5.4 percentage points more likely to drop out, 11.0 percentage points less likely to complete their degree and 21.8 percentage points less likely to graduate with a good degree than pupils who attended one of the 20% of secondary schools with the lowest proportions of FSM-eligible pupils." (Crawford, 2014). This paper adds to this existing body of research by investigating the educational and career attainments of students from a widening participation background who graduated with an economics degree from Queen Mary University in London. The evidence from four cohort of students (about 300 students in total) suggests that 1) widening participation is not an obstacle to educational attainment which, instead, can be better explained by previous school performance (A-level scores); 2) there is some evidence that students from a WP background have a lower probability of securing a graduate position. Furthermore, the quality of the degree classification and ethnicity seem to have some role in explaining the likelihood to secure a graduate position. The research is still ongoing and data from the latest cohort of graduates will add some further helpful evidence and will shed some further light on the relationship between disadvantaged background and academic and professional achievements.

#### **7A) 2. Utilising TRIBE (online-teaching and learning website) to bridge the gap between teaching Economics at schools, FE & HE, Karen Kufuor (University of Westminster)**

This paper examines the use of online technologies as a means of improving student

engagement and improving student outcomes in the teaching of economics to level 3 BTEC students. The paper explores the impact of WBS-TRIBE [www.scoop.it/t/WBS-TRIBE](http://www.scoop.it/t/WBS-TRIBE) as a teaching & learning tool in the teaching of economics to BTEC level III Business students at Newham Sixth Form College (New Vic). TRIBE is an online economic and business news curation service, curated by Westminster Business School academics, with regular contributions from further and higher education students. The curated content is accessible via multiple access points (laptops, tablets and mobile phones). New Vic students and their teacher used TRIBE to facilitate learning and completion of Unit 38 assessment on the impact of the economic environment and government policy on business. The paper found that students were more engaged with their assessment and built good habits by keeping abreast with economic and business news. In this way the collaboration between the two institutions provided an excellent bridge to studying at University. It also provided an opportunity for students to get an insight into studying and researching at University. This more direct Outreach activity enabled the BTEC students to get a greater insight into the application of economics and the relevance of economic policy to business, than would have been possible using standard methods. It also proved to raise overall aspirations of the students and made them more likely to consider Westminster Business School for their degree.

**7A) 3. *The impact of targeted workshops on engagement and performance for under-performing students*, Peter Hughes and Antonio Rodriguez Gil (University of Leeds)**

Academic under-performance is often associated with disengagement on the part of under-performing students. In large university cohorts, if students start to dis-engage from their programme of study, it is often difficult for educators to re-establish a productive engagement with these students. In order to start this process of re-engagement, targeted workshops for second year and final year students were run. Students who were identified as under-performing were invited to attend workshops at the beginning of the academic year and at the beginning of the second semester. These workshops asked students to discuss their levels of engagement, reasons for limited engagement, student perceptions of time commitments for private study and specific goals that these students had on entering their programme and their current goals. We investigate the impact of these workshop interventions to see if student attendance improved and academic performance improved. We also

investigate differences between second year and final year students for both their opinions and the effectiveness of the workshops for both cohorts.

**Session B | Student learning**

**7B) 1. *Make Lectures Match How We Learn: The Nonlinear Teaching Approach*, Katerina Raoukka (University of Bristol) and Peng Zhou (Cardiff University)**

This paper proposes a nonlinear teaching approach based on learning theories in cognitive psychology, with a special focus on undergraduate economics courses. The fundamental rationale is to match the feature of teaching with the nature of learning. A comprehensive literature based on which the nonlinear teaching approach is developed has been reviewed and compared. The approach is implemented to an undergraduate economics module, which is evaluated both qualitatively and quantitatively. Formal econometric models with both binary and continuous treatment effects are developed and estimated to quantify the evaluation. Evidence shows that the proposed non-linear teaching approach significantly improves the effectiveness and efficiency of teaching and learning process, but does not promote the student attendance.

**7B) 2. *Escaping the economist's straightjacket: overcoming the free-rider mentality which prevents climate change from being effectively addressed*, Gherardo Girardi (St Mary University of London) and Gian Lorenzo Preite (Impact Hub)**

Economists' ability to propose radical solutions to the problem of climate change is severely limited by one of the assumptions they normally make about human nature, namely that it is fundamentally selfish and that this defining characteristic cannot be changed. An important consequence of this characteristic is known as free-riding, which occurs when people do not bother to take eco-friendly actions as these are costly to them, preferring to wait for others to take such actions and enjoy the resultant benefits. The problem is that, if all behave in this way, social paralysis may easily occur and climate change is likely to remain unaddressed, or to be addressed only superficially. Using a simplified version of George (2001)'s model of first and second order preferences, this paper considers ways of motivating people at a deeper (second order) level to take actions (at the first order level) that are eco-friendly. These include reducing market pressure/advertising, promoting contact with nature and relying more on spirituality and mindfulness.

**7B) 3. *Learner paths*, Nathalie Lenoir (ENAC) and Christophe Bontemps (Toulouse School of Economics and ENAC)**

In economics and business, MOOCs are developing fast and this evolution raises many questions. The most publicised facts concern the dropout rate: only a small proportion of students finish courses. All courses experience the same phenomenon, which probably depends on factors like the duration and length of the course at least as much as on its content, but there may be more systemic factors. In order to delve into the question of course efficiency, we record all that individual learners do in a recent course hosted by FutureLearn: “manage your prices, an introduction to revenue management and pricing strategy.” We have a wealth of quantitative information on learners’ behaviour, including performance measurement, time spent on resources, steps completed, messages posted, etc. Qualitative information, like comments made by learners, connexions between them, is also rich in content. We focus here on the available information on learner paths. In what respect do they enable us to assess the course efficiency? We design indicators that can be computed with available data, for the first and second session of the course and analyse different types of learner paths. Are social learners (those who participate in discussions) more likely to complete the course? More generally, what can we discover from the individual learning paths? Do students need more than one session? What would we like to have in order to model the course efficiency better? This paper is an attempt towards a general reflection on the use of data for answering these questions.

**Session C | Workshop**

**7C) 1. *An online simulation about horizontal differentiation*, Nicolas Gruyer, Coline Theillac and Patrick Hubert (Economics Games)**

This workshop will demonstrate a new online simulation about horizontal differentiation. Four teams participate to a 3D location and pricing Hotelling game (with quadratic transportation costs). In the complete game, they first simultaneously choose their location on a map before competing in price. In the last part of the game, players also decide whether or not to participate in the funding of a subway station, that would increase demand at the center of the map (hence increasing incentives to locate near the center). This pedagogic sequence is structured in a very progressive way. Players first play a tutorial to get into the game, in which they only have to make price decisions for a number of imposed locations (level design). Players are invited to change their decisions in order to highlight how they impact the outcomes

(trial and error cycles). Our favored approach is to run the simulation before any lecture about differentiation. After the game has been played, debriefing allows to introduce tools and notions that would have helped students make their decisions, and are then more concrete. This is also a good opportunity to broaden the discussion to the use of models and to emulate IO research process (building a simple model --> confrontation with reality - discussion about the validity of the model --> building a more elaborate model --> etc). The game will be in free access on [economics-games.com](http://economics-games.com) (it is still in beta test).

**Session 8 (Friday 8<sup>th</sup>, 15.30-16.30)**

**Session A | Panel**

**8A) 1. *Is our assessment up to the job?* Alvin Birdi (Economics Network and University of Bristol), Cloda Jenkins (University College London), Andrew Heron (Government Economic Service), Jon Guest (Aston University) and Guglielmo Volpe (Queen Mary University of London)**

This panel will discuss whether current assessment methods for undergraduate economics students are fit for purpose. In particular, it will question whether our assessment is inclusive to a diverse student body and if it develops adequate skills and knowledge among our undergraduate to prepare them for the working world. We hope to also introduce innovative assessment ideas and advance the conversation around what remains to be done to bring undergraduate assessment into the 21<sup>st</sup> century.