

ARICO, Fabio, DAWSON, Peter, ARICO, Fabio and WATSON, Duncan (University of East Anglia, UK)

Peer-Instruction Unveiled: Measuring Self-Assessment Skills and Learning Gains in a Large Flipped Learning Environment (Paper – Session 4B)

This paper evaluates the impact of a teaching methodology aimed at enhancing student self-assessment skills and learning in a large-group peer-instructed environment. Aided by intense use of audience-response learning technologies, our methodology also offers the opportunity to collect evidence and evaluate the effectiveness of peer-instructed learning. In our research, we exploit a dataset collected over the teaching of a First Year undergraduate module in Introductory Economics to assess the learning-gains generated through student collaboration during formative assessment sessions. After having attended 'traditional' lectures, Introductory Economics students participate in workshops where they are exposed to a number of formative assessment questions. Through the aid of student response systems, students interact with the session facilitator according to the following standardised algorithm. Students: (i) provide a first response to each question, (ii) evaluate their performance in each answer given, (iii) compare and discuss their answers with their peers, and (iv) provide a second and final response to each question asked. We compute the difference between the proportion of correct first and second responses collected from students to construct a measure of the learning-gains generated by peer-instruction. Our findings highlight that: (i) students are generally able to self-assess correctly, (ii) subjective and objective measures of student confidence are aligned, and (iii) peer-instruction generates positive learning-gains, which are consistently higher when the initial performance of students is lower. This evidence supports the use of peer-instruction methods as an effective strategy to enhance student learning and success.

BECKER, Ralf and FOSTIER, Maggy (University of Manchester, UK)

Assessing the Effectiveness of Peer Assisted Study Schemes (Paper – Session 4C)

The evaluation of educational interventions is notoriously difficult. Teachers and lecturers often introduce new methods or aspects to their educational offerings on the basis of their own beliefs of what would benefit the learning process of students. The subsequent analysis of whether the implemented innovation was successful is usually problematic due to a number of reasons. The most problematic being the issue of selection bias. Factors, often unobservable, that determine whether a student participates at all, or engages fully, with the new educational element may also be somewhat, or even strongly, related to the educational outcome. This is problematic as the educational outcomes of a course (usually some form of grades) is typically used to evaluate the effectiveness of the educational innovation.

The innovation considered in this paper is that of the Peer Assisted Study Scheme. In this scheme higher year students (leaders) guide in weekly sessions small groups of lower year students (typically two higher year students for a maximum of 15 lower year students) through the learning and revision process for a course unit (or degree year) that the older students have successfully mastered .



BOSSHARDT, William and CHIANG, Eric (Florida Atlantic University, US)

Does Format Matter? Evaluating the Effect of Online vs. Face-to-Face Principles Courses on Longer-Term Outcomes (Paper – Session 1B)

The proliferation of online courses in institutions of higher learning has increased as a result of technologies that facilitate their implementation and the cost efficiencies they generate. It has become increasingly common for economic principles courses to be offered in some form online, such as distance education or more dynamic formats such as lecture capture.

In many institutions, students have a choice between face-to-face and lecture capture formats. Both formats should ideally deliver the same course content and lead to consistent student outcomes. However, the literature has presented empirical findings that favour one format over another, though generally with no significant differences.

This paper analyses the format by which students take their microeconomic principles course at a large public university with a diverse student population. We aim to determine whether taking a principles course in one format may affect student performance in subsequent economics courses, the likelihood of staying in school, and the likelihood of selecting economics as a major or minor.

To our knowledge, this is the first empirical study estimating the longer-term effects of online courses on student outcomes. Our model extends existing analyses that compare only the learning outcomes of the present course. Our model is based on a large sample of 474 students who took microeconomic principles in the Fall of 2012. Two years later, we obtain detailed transcript data from the same sample of students to examine their performance in subsequent courses and other important decisions such as the choice of major or minor. Our results provide valuable guidance to institutions of higher learning who are considering expanding their online course offerings.



CANNON, Edmund (University of Bristol, UK) and **CIPRIANI, Giam Pietro** (University of Verona, Italy)

Determinants of Student Evaluations (Paper – Session 7B)

Student evaluations of teaching (SET) have become increasingly important components in monitoring and promoting teaching staff and in influencing teaching styles and content. Unfortunately, only certain stylised facts are known about such evaluations because they are nearly always administered anonymously, making it difficult to look at student-specific effects on evaluation choices. In this study we use a unique data set based on electronic SETs, which have been matched to student characteristics before anonymisation. We are able to see the effects of gender and student background on different questions on SETs as well as matching SETs to exam marks at both the beginning and end of university study. One of our more surprising conclusions is that student characteristics are more highly correlated with supplementary and logistical information (e.g. on credit points) than on teaching effectiveness per se. Given the presence of halo effects, overall teaching evaluations are driven partly by selection effects rather than teaching effectiveness.



CHIANG, Eric (Florida Atlantic University, US) and **VAZQUEZ, Jose** (University of Illinois, US)

Making Formative Assessments REALLY Formative: Evaluating the Efficacy of Narrated Video Feedback (Paper – Session 5A)

There is a large body of literature on the critical role of formative assessments to improve student learning of economic concepts. Students learn better when they have an opportunity to practice, and more importantly, to evaluate their instructor's feedback of their work. Therefore, a critical part of this process relies on the assumption that student do in fact review their instructor's feedback. However, when it comes to feedback offered in the form of a written explanation, there is evidence showing that most students ignore the feedback, and instead continue to use trial and error to complete their practice.

This paper tests the efficacy of a strategy to solve this problem: narrated feedback. Narrated feedback are very short videos of the instructor modelling answers to technical problems. Theory on cognitive science, as well as our own previous research, suggests that narrated lectures are superior to text when introducing basic economics concepts to students. We test the efficacy of this alternative method by conducting a field experiment in a large enrolment (950+ students) microeconomic principles course.



CORTINHAS, Carlos (University of Exeter, UK)

Does Formative Feedback Help or Hinder Students? An Empirical Investigation (Paper – Session 2B)

The link between formative assessment and student performance is not entirely clear in the existing literature with some past studies showing contradicting results. This paper will focus on the data of a large scale experiment to determine whether formative (non-compulsory homework) helps or hinders students. The preliminary results seems to suggest that completing formative assessment tasks in a Statistics module does not contribute to better performance and that it might be contributing to a larger gap between the top and bottom students.



DAVIES, Peter and ERCOLANI, Marco (University of Birmingham, UK)

Economics and Business Studies: Hard and Soft Choices for Schools and Students? (Paper – Session 5B)

We present results from a unique study of more than 3,000 school students' subject preferences and subsequent choice of subjects to study at 'advanced level' between the ages of 16 and 18. We find school and student level effects on subject choices. After controlling for students' expected grades in mathematics and English at age 16, we find that students who achieved lower grades in English or mathematics than they expected were more likely to study business studies in the sixth form whilst students who achieved a higher grade in mathematics than expected were more likely to study economics. These results suggest that students and/or schools substantially adjust beliefs about expected future performance on the basis of examination results, reflecting an instability in subject preferences.

The following data were collected: (i) Beliefs about graduate salaries by subject area, strength of preferences towards different subjects, motivation towards choice of subject; and (ii) actual choice of subjects to study in the final two years of schooling. Background data were collected directly from students and matched with a range of data available from the National Pupil Database.



DAWSON, Peter and ARICO, Fabio (University of East Anglia, UK)

Skills in Mathematics and Statistics in Economics and Tackling Transition (Poster)

Mathematics and statistics are essential to the university curricula of many disciplines, including economics. This presentation summarises a series of reports commissioned by the Higher Education Academy STEM project entitled, "Mathematical Transitions: Report on the Statistical Needs of Students undertaking Undergraduate Studies in Various Disciplines". The presentation, delivered by the author of the Economics report, will discuss the way in which mathematical and statistical skills form part of the discipline landscape, the signalling higher education provides about the need for these skills, sector requirements within the discipline, the use of diagnostic testing and the support provided for students to improve and develop their mathematical and statistical skills. In addition to Economics, the presentation will also outline the key findings from other disciplines, including Business and Management, Geography, Psychology, Sociology and Chemistry. Overall, the work demonstrates that there is a "mathematical problem", with many students lacking the skills and knowledge to cope with the mathematical content of many of the programmes within these disciplines. Whilst the challenges associated with teaching groups with diverse mathematical and statistical backgrounds is being addressed, more work remains to be done in both the university and pre-university sectors.



DICKIE, Valerie (Heriot-Watt University, UK)

Student Transition and Technology (Paper – Session 3A)

For some school-leavers, the initial journey into higher education does not meet their expectations, and the experience of living and studying away from home for the first time can be stressful and isolating. Although education is a social activity, this issue of student transition is frequently addressed through traditional means of communication and teaching, rather than the more appropriate use of social media and technology.

This paper discusses the background and reports the findings of utilising learning and teaching technology, alongside social networking, to create a sense of community across large first-year undergraduate classes. The evidence presented reinforces the view that social media and interactive technology have untapped potential, capable of making a significant contribution to the transition process of pupils from high school to university.

At present, such technology is substantially underutilised as an aid to connecting large first-year classes of undergraduate students, typically anxious to acquire both information and an understanding of their new environment. The results of this experiment demonstrate how educators can utilise technology to best advantage, meeting the needs of students and improving the overall first-year experience without losing the traditional student-teacher relationship.



GARRATT, Dean and HEASELL, Stephen (Nottingham Trent University, UK)

Teaching the Use and Expression of Economic Analysis As If It Might Make a Difference (Workshop – Session 3C)

We host this interactive workshop to explore and discuss ways by which hard-pressed HE tutors of economics can equip students more effectively to use sound economic analysis for various purposes which make a distinctive difference in civil society, including graduate employment.

We observe that incentives facing grade-hungry students and their tutors often produce curricula whose activities and assessments focus predominantly on specifying a limited range of analytical models. Insofar as those activities and assessments require application of economic analysis to live issues beyond the community of academic economists, they seem sometimes to do so largely for the limited purpose of illustrating features of some such model. We sense collusive rejection by students and tutors of learning to express analytical uncertainty and contextual complexity with a constructive critique of a reductionist model. Hence, the application and articulation of economic ideas for a purpose beyond a limited academic perspective often seems secondary. Rather, they seek the line of least resistance to an upper second or beyond.

Such a narrow focus persists despite declared module, course and institutional learning outcomes which increasingly recognise aspects of a broader context, including employability and global citizenship. Nonetheless, various indicators continue to suggest a mismatch between the knowledge and skills of graduate economists and those sought by employers.

Is tacit collusion widespread, does it contribute to a mismatch and what are the cost effective ways to align incentives of students and tutors sufficiently for them to demonstrate the contribution of their HE economics to civil society?



GIRARDI, Gherardo (London Metropolitan Univeristy, UK) **and de ARRIBA, Raúl** (University of Valencia, Spain)
Teaching and Learning Economics Using Modern Art (Paper – Session 4C)

The aim of this study is to investigate the potential of contemporary art for developing creativity in the teaching and learning of economics. The idea is to enable students to express their views about the economy, and to address contemporary issues relating to the economy, using contemporary art as a learning resource. The study highlights the need to develop creativity in teaching and learning economics, as the mere accumulation of economic data and familiarity with established economic theories may well be insufficient to interpret current economic phenomena and to offer appropriate solutions for the problems which characterize our economic system. This in turn reflects a need to introduce changes in teaching and learning economics, both in terms of methods and content. We present the results of an experiment with students reading political economy at the University of Valencia, Spain. Preliminary findings from the analysis of focus group data indicate that the experiment was successful in fostering students' creative thinking. The project's innovative nature lies in the fact that the use of contemporary art as an educational tool is a practice which is hardly utilized in the social sciences and in economics in particular.



GORGONI, Sara and MERCER, Helen (University of Greenwich, UK)

Business Economics as Real World Economics: A Proposal for an Educational Reform (Paper – Session 6B)

The recent financial crisis and recession has led many economists, non-economists and students in Economics to question their understanding of the current world and the extent to which the discipline provides the necessary tools to interpret the world we live in. Employers and students alike have recognised that the standard curriculum is not equipping graduates with the skills, tools and theories that enable them to address and solve real world problems.

In the course of a constructive debate about how to reform the economics curriculum there is agreement that economics teaching should have a more pluralistic approach to the teaching of economics and should teach 'a real world economics' that will produce more 'work-ready' and 'world-ready' graduates.

This paper looks at one proposal for how this strategy is to be put into practice. We present some innovations from a BA (Hons) in Business Economics which has recently been revalidated. The core economic courses at each level have been re-designed with the purpose of providing students with an historical and pluralistic perspective on the discipline, to introduce them to a broad range of approaches and tools, and to ensure that they leave the degree able to debate current economic issues and to apply their skills to interpreting complex details concerning commodities, markets, firms and government policy. We hope that the model we propose here will contribute to the debate on curriculum reform and its successful implementation.

GUEST, Jon (University of Warwick) and **RIEGLER, Robert** (Coventry University, UK)

Do The Self-Evaluation Skills of Economics Undergraduates Improve as They Progress Through Their Degree?

(Paper – Session 4B)

This paper attempts to (1) measure the students' ability to accurately self-evaluate the quality of their own work, (2) see if it improves over time and (3) identify what factors determine the level of improvement.

Two key limitations with the data from previous studies were addressed: firstly, the problem of students not taking the exercise seriously and secondly, students' concerns that their self-evaluation may influence the mark given by the tutor. In an attempt to overcome these problems, a mark incentive was provided for accurate self-evaluations and measures were taken to try and separate the data collection from the submission of the coursework.

The data was collected from one cohort of undergraduate students who were studying on an economics degree programme at a UK university. The self-evaluation exercise was introduced on two out-of-class essay assessments – one in the first year and one in the second year.

Statistical analysis revealed that, on average, the second year students were significantly more accurate at self-evaluating the quality of their work than when they were in the first year. However there was considerable variation in this improvement. The study also attempted to identify any factors that might help to explain this variation.

It was found that the students who demonstrated the greatest improvement were firstly, those who achieved higher marks in the second year assignment and secondly, those who were the least accurate in the first year assignment.

This raised the question of whether the mark in the second year assignment acted as an accurate indicator of the students' ability. Unlike previous studies different measures were employed in an attempt to capture for ability. Furthermore the paper controlled for student characteristics such as gender and nationality.

No significant relationship was found between different measures of ability and the accuracy of the students' self-evaluation estimates.



GUEST, Ross (Griffith University, Australia), **BOSSHARDT, William** (Florida Atlantic University, US), **MCCAUSLAND, David** (University of Aberdeen), **BIRDI, Alvin and CANNON, Edmund** (University of Bristol)

Publishing in Economics Education, with the Editors of the International Review of Economics Education
(Workshop – Session 3B)

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.



HAWKES, Denise (University College London, UK) and **HOMAPOUR, Elmina** (Queen Mary University of London, UK)
What Is The Right Curriculum? Evidence from the Quantitative Techniques in Economics Module on a Pre Masters Programme (Poster)

The Pre Masters Programme at Queen Mary, University of London started 10 years ago. Initially it was a spin-off of the international foundation, sharing some lectures with those on the foundation degree. As the numbers have grown and the economics and finance stream has become a separate group due to student numbers, it has become necessary to develop the QT course to better serve the degrees the students hope to do on completion. This paper documents these curriculum developments both in terms of student experience and attainment. We find that pleasing the students is tough when the required level of quantitative skills is taught but that the long term benefit for this investment is worth the fuss.



HAWKES, Denise (University College London, UK) and **COOPER, Jessica** (Queen Mary University of London, UK)
Redesigning Project Support for Pre Masters Students in Economics (Poster)

Part of the pre masters programme in economics and finance at Queen Mary, University of London is an individual research project. This project makes up a significant part of the English module and has historically been designed by the English teachers on the programme. Recent developments in the mathematics course to become a more applied econometrics course, has led to the team questioning the way we undertake the project and whether there is scope for an econometric piece of work for this. This poster will outline the proposed changes to the project and the challenges it poses to the English and economics tutors on the programme.

HEDGES, Philip (University of Westminster, UK)

Why Assessment Format Matters (Paper – Session 5A)

In this session the process of, and results from, a shift in assessment method on a large postgraduate module for non-specialists will be reviewed and analysed. The reasons for the shift away from a written essay format to a multiple choice in-class test format were multifarious and included i) giving the student cohort the opportunity to achieve similar levels of success despite their diverse cultural and employment backgrounds; ii) creating a more focused approach to achieving specific module learning outcomes and coverage of the syllabus; and iii) increasing the speed of feedback to students. Preliminary results suggest that specific groups of students (international, full-time) performed well under the in-class test assessment with fewer students failing compared with the essay assessment format. Qualitatively, students were much more content with the assessment on the module based on module evaluation surveys, and comments suggest that these non-specialists had been able to develop Economic knowledge, understanding and skills and apply it in their specialist area. The results from the unchanged end-of-module examination method however suggest an unintended outcome from the feedback of in-class test scores to students in the shape of some displacement of student learning effort away from the examination when compared with previous cohorts from the essay/exam regime. The experience from the change has suggested some possible modifications to the in-class test format in terms of including open-ended non-multiple choice questions, reducing the time available for the test, the use of “negative” marking or changing the weighting of the in-class test.



HÖEFFLER, Jan (University of Göttingen, Germany)

ReplicationWiki – Improving Transparency in Economic Research as a By-Product of Studying (Workshop – Session 1C)

In empirical economics, a twofold lack of incentives leads to chronic problems with replicability: For authors of empirical studies providing replicable material is not awarded in the same way as publishing new irreproducible studies is. Neither is authoring replication studies.

We set incentives for replicability and replication.

First, we gave replication seminars at several faculties internationally. Integrating replication in the education of young scholars raises the awareness for the importance of replicability among the next generation of researchers and ensures that a big number of scientists get incentives to write replication studies: credit points and the prospect of publications at least of working papers already during their time as students.

Second, our wiki (<http://replication.uni-goettingen.de>) documents the results of our replications and of those found in the literature. It includes a database of more than 2000 empirical studies, especially with regards to the availability of material for replication. This helps to identify studies to be used as practical examples in courses focusing on empirical methods or on particular topics.

Everyone can participate; even undergraduates can make their contribution: Everyone can find errors in Excel files, and everyone can confirm that some researchers document their research so well that one can follow each step and with one click reproduce all quantitative results of an empirical study.

We provide information about existing projects that facilitate the sharing of material for empirical econometric research and we invite for discussion to develop standards for how to make research replicable and how to write replication studies.



HOMAPOUR, Elmina, MAKEDONIS, Yioryos (Queen Mary University of London, UK) and **HAWKES, Denise** (University College London, UK)

The Role of Foundation Degrees in Predicting Success in Economics Degrees: Evidence from the IFP and PMP Programmes at QMUL (Paper – Session 5B)

The growth of foundation degrees and pre masters courses in UK Higher Education Institutions has been huge over the past 10 years. Such programmes focused on entry to economics degree courses, at both undergraduate and Masters level, are very popular and draw big student numbers. This paper will use information from those who have completed the IFP and PMP programme at QMUL and consider whether their success at degree level was in line with expectations of the tutors at the foundation stage. It will consider both the student's completion rate and final grades as well as drawing on evidence from the references written by tutors. The paper will also explore how changes in the content of maths and economics courses at the foundation stage help or hinder the students as they move forward to degree level study. We find that largely students perform as expected and that curriculum at the foundation stage needs not to be afraid to scare students off of economics but acknowledge that they need to be prepared for how the degree will be.

HOUSTON, John and ACHARRYA, Madhusudan (Glasgow Caledonian University, UK)

Fighting the Ebola Virus: An Example of Qualitative Risk Modelling in a Resource-Constrained Environment (Paper – Session 6A)

This paper describes our approach to teaching resource-constrained optimisation in a qualitative risk situation to undergraduate- and postgraduate students in Risk Management and International Business and International Economics and Development. The general scenario is the initial scoring of risk applied to a community of relevant entities, according to significant risk-attracting attributes, combined to give a total risk *score*, which is then mapped to a specific qualitative risk *class*. A number of risk-reducing interventions or mitigations are then considered that are known to reduce risk scores and *may* be able to move the entity to a lower risk class. These mitigations are not costless, and the budget available to the decision-maker is, perforce, limited. This requires them to make choices as to which entities will receive mitigations (if any) from the range available to them. The decision-maker wishes to deploy their budget with a view to maximising the total number of *risk class* reductions within the community of entities. The particular scenario used here for demonstrating the approach is that of the Ebola epidemic currently affecting several nations in Western Africa, using a combination of ‘real’ and ‘realistic’ data.

Students are asked to imagine that they have been commissioned by the United Nations (UN) to conduct a qualitative risk analysis of the battle against the spread of Ebola. The key strategy being employed for fighting the outbreak and spread of the virus is the early identification, isolation and care of those afflicted by it. The ‘entities’ in this case, are the regions of five West African countries: Guinea, Sierra Leone, Liberia, Mali and the Ivory Coast. The UN has collected key information about the regions which it believes contributes, significantly, to the risk score, and hence the risk category. The students are given an imaginary budget and mitigations’ costs (and subset of regions) and tasked to construct a model. This paper will accompany a live demonstration of the model, that uses Excel in conjunction with the @Risk Optimisation programme, and illustrate how the results from an optimisation run can be reported, effectively. The principal learning aims of the exercise will also be considered.



JENKINS, Cloda, CHAUDHURY, Parama, SPIELMANN, Christian and WITTE, Frank (University College London, UK)
Generation Research: helping students to become well-trained economists for the challenges of the 21st century
(Workshop – Session 6C)

At UCL's Centre for Teaching and Learning Economics (CTaLE) we use a range of active teaching and learning strategies in economics. In this workshop we will present examples of what we do to help students develop a wide set of skills that enable them to explore economics questions independently and collaboratively and to disseminate their findings clearly through a range of media. You will hear about research projects in environmental economics and competition economics courses, learning in teams in small and large classroom settings and our Explore Econ undergraduate conference and Skills Lab designed to complement the curriculum. We look forward to discussing where we have got to and getting ideas about how to enhance our approaches.



JULEFF, Linda, LING, Sam and STONE, Becky (Southampton Solent University, UK)

Student Expectations of Assessment and Feedback (Paper – Session 7B)

Student expectations of assessment and feedback are key issues for universities operating within a changing higher education environment. In order to improve the student experience in relation to assessment and feedback it is first of all necessary to understand what students expect from their courses and from the people who provide them. This paper presents an analysis of student expectations of assessment and feedback based on a case study of students at Southampton Solent University. The study, which was conducted across multiple courses over a two year period, reveals a consistency of expectations between students regarding what is important to them in this area. Specifically, the paper identifies the way in which the students define good assessment and feedback in terms of how they expect them to be presented in a way which helps them to learn. The importance of clarity of communication and the use of a variety of methods are highlighted as key parts of what students identify as good assessment and feedback practice.



KOPCZEWSKI, Tomasz, SOBOLEWSKI, Maciej and MIERNIK, Ireneusz (University of Warsaw, Poland)

Monte Carlo Simulation and Visualisation as Advanced Research and Teaching Tools for Microeconomics

(Paper – Session 6A)

Advanced microeconomic issues, presented both in the classroom with students and in research, focus on the mathematical formalism. The desired results should have clearly defined analytical form. To achieve this, usually a large number of simplifying assumptions is made, which render the result to be unrealistic. Additionally, this result is very general and is presented in the form of symbolic equations. In contrast to the introductory and intermediate microeconomics courses, advanced microeconomics occasionally uses graphical presentations.

This article presents the advantages of combining Monte Carlo (MC) simulation with visualization and computer animation. This is the case of monopoly pricing strategies: pure bundling, pure components and mixed bundling. The analytical solution of this problem is based on the restrictive assumptions regarding the initial demand function and the cost function. Application of Monte Carlo simulation is based on the generating random reservation prices from given by the experimenter distribution as an approximation of unknown demand function. Using the MC simulations one can analyse any demand functions and the visualizations allow for quick assessment of the feasibility of the results. This paper compares the formal approach and the one based on simulations and visualization. It proves for how much the introduction of new tools can improve the teaching process and encourage students to confront the results from formal models with real economic processes obtained with simulation models. It also presents the technical aspects of the creation and presentation of computer simulations on the web pages, which may be useful in the teaching process.



LAHME, Cornelius, GEIGER, Jan-Martin and LIENING, Andreas (TU Dortmund, Germany)

Which Factors Affect the Interest and Willingness of Students to Participate in Economic Education Programmes?

(Paper – 1A)

In many countries appropriate Economic Education Programmes (EEP) can be found just in a few professions and higher education degree programmes. In the curricula of general schools they fail to be taken into consideration. Under this circumstance suffers the early support of the behaviour as a responsible citizen, employee or potential entrepreneur, for instance.

This fact should be taken as an opportunity to examine EEP for students. The present paper focuses on how to develop students' attention and willingness to participate in educational programmes with economic related themes. The knowledge of potential influencing factors would be an important part of teacher's training in order to sensitize students' awareness to economic topics.

The article starts with theoretical considerations about learning (Bandura, 1977). This is followed by modelling the willingness to participate in EEP as a dependent variable. Ajzen (1991) shows empirically relationships between human behaviour, individual cognitive setting, the expectations of social reference groups, and potential obstacles. It becomes clear, that people are more likely to show a certain behaviour if they believe to meet the expectation of certain reference persons. We could demonstrate in a study this relationship for the interest in economics and the willingness of students to participate in EEP.

Finally, we discuss further steps in the research project as well as first practical implications of the empirical findings for the training of teachers and the design of EEP.



MARSDEN, Ann, WITKOWSKI, Jacek, MARCO-SERRANO, Francisco and PALUCHOWSKI, Pawel (GSM London, UK)
Does Attendance in Class Make a Difference to Student Grades? An Investigation of a Cohort of BSc Economics Students (Paper – Session 1A)

The project investigates the relationship between class attendance and grades for a cohort of students studying a BSc Economics in a two year accelerated degree and a traditional three year degree format with a UK HE institution focussed on widening access to students. The project asks whether student engagement measured by attendance in class has an impact on student grades. Since students in the UK predominantly complete the traditional three year economics degrees the research in this paper presents a unique study and allows comparisons across the two and three year degrees. A theoretical model is used based on the education production function proposed by Bowles (1970) and used by many researchers in the intervening years. For example Lee et al (2010) use an education production function in their study of the effectiveness of online tools in influencing student performance. The research builds on the identification of relationships using structural equation modelling and instrumental variables methods. ANOVA and cluster analysis are first used for exploratory purposes. We find that, after controlling for demographic characteristics and entry qualifications, there is significant relationship between student marks and attendance. Additionally where a module is perceived to be 'difficult' attendance overall is poorer and marks lower. Finally we do not find any significant difference in the relationship between grades and attendance across the two and three year degree formats.



McMANUS, Richard (Canterbury Christ Church University, UK)

Assessment Timing: Student Preferences and Its Impact on Performance (Paper – Session 5A)

Students on a first year undergraduate economics module were given the choice of when to sit their first assessment to determine preferences over assessment timing, and the impact of timing on performance. Clear preferences of having this option were shown (only 2% of students stated to be indifferent) with those more comfortable and engaged in the module electing to take the earlier sitting of the assessment. Those who took the early test performed better on average compared to those who took it later, however after controlling for attendance there is no statistical link. There was, however, evidence that later assessment caused lower attendance and evidence of a legacy effect of this timing where the out performance of the early cohort grew over later tests, which all students took at the same time.



MEARMAN, Andrew (University of Leeds, UK)

Three-Headed Economists, CORE and the QAA (Paper – Session 6B)

This paper considers recent responses to the crises in economics curricula, specifically the CORE developed by Wendy Carlin et al, and the QAA Benchmark Statement in Economics. The paper examines these responses in terms of the educational goals adopted by economists. The conflict between goals is embodied in the concept of the three-headed economist: the teacher, who is simultaneously an economist with substantive views, the educator whose job it is to teach, and the socio-political animal who holds normative positions. One can categorise different curriculum reforms, including the CORE, the QAA and pluralisms through this lens. The CORE and the QAA can be seen as responses being dominated by the needs of the economist and socio-political economist, as opposed to the teacher. In some cases, so can pluralism. The achievement of a balanced set of educational goals entails the consideration of one's own – and the general, discipline-wide – understanding of how the three heads interact. Further, a critique of the QAA is offered, drawing comparison with the Brazilian framework, which embeds pluralism.



MEARMAN, Andrew (University of Leeds, UK), **ALLEN, David**, **HINKS, Tim**, **NGUYEN, Ling** and **WEBBER, Don** (University of the West of England, UK)

Online Materials: Bane or Benefit? (Paper – Session 1B)

It is now the norm for lecturers to append lecture slides to an online server for students to access in order to support their studies. Two distinct literatures argue that slides are 1) complementary to attendance for more able students and 2) a substitute for attendance for less able students. This study applies isoquant analysis, which students can readily learn from and apply their knowledge. It sought to identify whether (the inputs of) attendance and engagement with slides via an online server could be used effectively in order to enhance end of module exam grades (the output). Data were collected in a compulsory level 2 Microeconomics module. Application of Cobb-Douglas regression techniques reveals the presence of an isoquant for the entire sample, but it is more difficult to decipher the position of isoquants for different achievement levels. Application of the two-step cluster algorithm reveals two distinct groups: able, attending, engaged students; and less able, often absent and unengaged students. The first group's behaviour corresponds to an isoquant that is convex to the origin, suggesting that attendance and online engagement are substitutes. The second group has an isoquant that is concave to the attendance axis, suggesting that online access to lectures slides is a 'bad'. If lecturers are to enhance engagement and student performance, these results suggest that providing access to slides using an online server is not going to help and may even deteriorate some students' academic performance.



MIDDLEDITCH, Paul and MOINDROT, Will (University of Manchester, UK)

Teaching with Twitter: An Extension to the Learning Environment (Workshop – Session 2C)

The talk will present early evidence from a research project interested with the pedagogical benefits of using the social media platform, twitter, as an extension to the learning environment. The technology has been introduced on three different core courses in Macroeconomics at the University of Manchester since 2013/14. We will discuss how the students coped with the 140 character limit for course communication and how new methods of use presented themselves from the students' own innovations. What was the student perception of the success of twitter as a form of engagement? The talk concludes with open comments from the students and recommendations for those considering adopting social media as an in and out of classroom form of engagement.



OZANNE, Adam (University of Manchester, UK)

Using Blackboard, Microsoft OneNote and a Tablet PC to Deliver Large-Cohort Maths Teaching (Paper – Session 2A)

This session demonstrates how a tablet is used to deliver lectures on a first year Introductory Maths course to 200-300 economics and social science students. Lecture notes contain gaps – unfinished mathematical problems, diagrams etc. – which are completed in lectures using the tablet’s touch screen and pen. Students can listen and think about the lecture, while having to put pen regularly to paper helps concentration. This technique combines the clarity of PowerPoint with the interaction and spontaneity of “chalk and talk”, while pdf copies of annotated lecture notes can be placed on Blackboard for students who miss lectures.

The session will also demonstrate how a tablet is used to provide students with feedback on weekly assignments. Samples of student work have been photocopied, anonymized and scanned, marked on the tablet, saved as pdf documents and put on Blackboard. This helps students learn what is expected in terms of accuracy and clarity as well as the standards required for a 1st, 2.1, etc. The same technique is used to provide essay feedback on two postgraduate courses; annotated essays are put on Blackboard and made available to all students so they can learn not only from the feedback on their own essays but from the feedback on all the essays submitted by their class.

Finally, the session will demonstrate how Microsoft OneNote and Blackboard can be used as to provide a “hub” around which a range of learning activities (lecture notes, PASS, online quizzes, past exam papers, classroom clicker sessions) can be organized.



PAPARAS, Dimitrios (Harper Adams University, UK)

Applying a Classroom Response System to Increase Student Engagement and Understanding in Economics

(Poster)

During the last years student response systems (clickers) have become very popular in classroom instruction. Many authors have investigated how students feel about clickers; however, there is limited research on the impacts of clickers on student learning. Additionally, there is a need for examination of how teachers perceive this technology, since there is lack of research on the tutor's side. One of the most important challenges facing lecturers of Economics is increasing student engagement and performance. Engagement of students in Economics modules is very important because it will help them to achieve an understanding of how economists use economic theory to look at the world, and how the students will be able to apply these theories to their daily life.

The aim of this paper is to investigate the impact of clickers on student learning outcomes and student perceptions of learning in economics classes. Student's perception is based on an online questionnaire in 3 undergraduate modules. Performance is compared between students that used the technology and students who did not, based on assignment and exam results. Finally, Lecturers' perception is based on an online survey. Overall, the study provides evidence of the effectiveness of this technology on student's engagement and learning outcomes. We discuss some of the advantages and failures of using clickers, as well as, providing implications to improve active teaching and learning. Finally, we concluded that there is a need of a more systematic research.

POMORINA, Inna (Bath Spa University, UK)

Different, Different but the Same (Paper – Session 3A)

Bath Spa University department of Business and Management took part in the EN collaborative research project that explored how students' expectations, attitudes and behaviour may have changed due to the rise in tuition fees. That has created a good opportunity to compare the results between economics and business students.



PROUD, Steven and BIRDI, Alvin (University of Bristol, UK)

Lecture Capture (Paper – Session 4B)

Universities are increasingly making use of lecture capture technology, allowing students to watch the lectures at home. However, whilst previous research has examined the impact of lecture capture on exam outcomes, very little research has attempted to identify the impact it has on how students work.

We examine a natural experiment, where lecture capture technology was introduced in a small subset of subjects affecting some, but not all, students. We use time use surveys to assess the impact on students effort towards subjects providing lecture capture, compared with subjects without lecture capture, using a difference in difference methodology. We investigate the robustness of our results using wider electronically based surveys and interviews. Initial findings suggest that students spend more time working on subjects with lecture capture, without any significant impact on other subjects.



REYNOLDS, Mike (University of Leeds, UK)

The Blackboard Wiki for Learning: Conclusions from the Classroom (Paper – Session 4A)

Academics are only too aware of the problems created by students using the popular Wikipedia website as a reference source. However, Wikis are an increasingly useful resource to facilitate collaborative work as they allow a number of separate users to create, share and modify content. Wikis are extremely useful in education as they allow learners to apply and modify ideas as they see appropriate, whilst an instructor retains an oversight of the whole process. Such abilities are even more useful within a team-based learning approach as Wikis allow for remote collaboration where each individual's contribution can be monitored.

This paper will detail the design of a module using the Blackboard Wiki system. The Wiki was used to facilitate the sharing of a variety of information such as: (i) the hosting of lecture material, (ii) the creation of a sandbox for research, (iii) the linking of useful (educationally robust) web resources, and (iv) allowing students to share ideas. During the module other useful features of the Wiki were uncovered and these will also be explained. Finally, recommendations for embedding Wikis within a module will be made as well as detail on the lessons learned during the running of the module.



RIGBY, Dan (University of Manchester, UK), **BURTON, Michael** (University of Western Australia, Australia), **BALCOMBE, Kevin** (University of Reading, UK), **BATEMAN, Ian** (University of East Anglia, UK) and **MULATU, Abay** (London Metropolitan Business School, UK)

Contract Cheating and the Market in Essays (Paper – Session 5C)

We conduct the first empirical economic investigation of the decision to cheat by university students. We investigate student demand for essays, using hypothetical discrete choice experiments in conjunction with consequential Holt–Laury gambles to derive subjects' risk preferences. Students' stated willingness to participate in the essay market, and their valuation of purchased essays, vary with the characteristics of student and institutional environment. Risk preferring students, those working in a non-native language, and those believing they will attain a lower grade are willing to pay more. Purchase likelihoods and essay valuations decline as the probability of detection and associated penalty increase.



SENDER, Till, MITTELSTÄDT, Ewald and LIENING, Andreas (TU Dortmund, Germany)

Technology Oriented Learning Diagnostics in Economic Education - Theory and Practice (Paper – Session 1A)

Questions concerning learning diagnostics increasingly enter subject-didactic research. Subject-didactic diagnostics do not only strive for the measuring of performance outcomes (Assessment View) but also for a process-related and content-related learning diagnosis (Treatment View) which is of particular importance with regard to success in learning. Also from the point of view of economic didactics the question is raised how economic learning processes can be adequately accompanied. While diagnostic tools which were developed with the theoretic economic education tests and which take on an assessment-oriented view exist, from a process-oriented perspective it is being discussed how diagnostic conclusions can be inferred from the embedding of portfolios, experiments, case study work, or short essays into the learning process. Precisely such a content and process-oriented approach involves special challenges. The diagnostic acts are to be integrated into a multi-layered teaching/learning process and are not least due to time consuming processes of documentation, evaluation as well as reflection exposed to possible diagnosis mistakes. Therefore, there is a high demand for meaningful and at the same time time-saving tools for learning diagnosis. This need is the starting point for the present article, which is concerned with the subject-didactic debate regarding adequate learning diagnostics and adds a technology-oriented direction of thrust to it. For this purpose the potential of technology-oriented tools for subject-specific content and process-oriented diagnostics is discussed through data mining and is being tested in an empirical research design.



SMITH, Peter (University of Southampton, UK)

The Impact of A-level Reform on Economics in HE (Paper – Session 5B)

Although A-level Economics is not used as a requirement for entry to University economics programmes, the impact of the recent reforms to A-level Economics will affect the knowledge and understanding of entrants, and increase the diversity of the intake, widening the gap between those with A-level Economics and those without. The reforms entail some significant changes to the subject content of A-level Economics, as well as moving away from the modular structure that has characterised A-level until now. In addition, the introduction of quantitative skills as part of the assessment may help to prepare entrants for economics in HE, although the way in which these skills have been defined is broader than we might expect. The new specifications will be taught from September 2015, so this is an apposite time to explore the changes, and to highlight the approaches adopted by the main Examination Boards.



SODER, Michael and RAMMEL, Christian (Vienna University of Economics and Business, Austria)

Economy and Environment: The Board and Role Playing Game (Poster)

In the last years, simulations, board and role playing games are increasingly discussed as tool to teach systemic relationships. This is especially true for complex interactions and relations between economic activity and its ecological effects. Therefore, we developed a workshop setting where students learn to address different economic and environmental problems on different levels in the production and consumption process. A reduced form of an economic market system where students are playing companies is building the core of our game. Students have to extract resources, produce final products, sell them to their customers, invest in new and better technology and finally, as a group, they have to deliberately deal with the consequences of produced externalities. While the first part of the game is represented by a simple board game, which simulates a stock of resources, the absorption capacity of the planet and a simple market mechanism. The second part emphasis a solution finding process among the students, where they have to develop coping strategies for produced environmental changes. The main aim of our workshop concept is to make systemic and complex interactions easier to understand and encourage students to develop solutions for complex problems of their own. We expect that this mixture of a board- and role playing game can support students to develop a more holistic view on economic and environmental problems and also enrich the work in class.



ST JEAN-KUFUOR, Karen (University of Westminster, UK)

TRIBE Online Teaching Resource in Business and Economics (Paper – Session 1B)

TRIBE <http://www.scoop.it/t/wbs-tribe>

Teaching Resource in Business and Economics (TRIBE) is an online resource for the teaching and learning of economics and business at schools, colleges and universities. It provides timely curriculum-linked media, sourced by academics at Westminster Business School and is accessible to students through laptops, mobile phones, tablets etc. The resource includes discussion questions to accompany articles and videos, prompting deeper understanding and independent learning. The use of technology, especially news articles and videos (live or pre-recorded) has been shown to increase student engagement through the use of active learning techniques such as group discussions, debates and role play. The use of technology also enhances learning by encouraging independent research. This resource in sourcing relevant information in a timely fashion, demonstrates the application of economics in the real world, boosting student engagement by showing the students the relevance of what they are learning.



VOLPE, Guglielmo (Queen Mary University of London, UK)

Loss Aversion as Incentive to Study (Paper – Session 7A)

Can loss aversion be used to provide incentives to students to learn? In this paper we investigate whether regularly informing students about the loss of marks from submitting/completing a poor piece of coursework provides enough incentives to increase learning effort.

The year one statistical methods in economics module requires students to take short weekly in-class tests. Students are informed of both the marks they are awarded for their weekly test but also the marks they lose and the maximum mark they can achieve in the module by the end of the semester. The aim is to investigate how sensitive students are to the information that they are losing a percentage of marks for poor performance and whether this provides incentives to work harder.



WALSTAD, William (University of Nebraska-Lincoln, US) **and WAGNER, Jamie** (University of Nebraska at Omaha, US)
An Analysis of Positive Learning in Economics Courses (Paper – Session 2B)

This study analyses pretest and posttest data from a multiple-choice test in economics to identify four different types of learning. The focus is on positive learning, which means supplying an incorrect answer to an item on the pretest and correct answer on the posttest. Some students also give a correct answer on the pretest and the posttest, displaying retained learning. A posttest score is a mix of these two types of learning. Other students can get an item correct on the pretest and wrong on the posttest, indicating negative learning. The pretest score is a combination of negative learning and retained learning. Finally, students may respond incorrectly to an item on both the pretest and posttest, thus showing zero learning. The four measures offer new insights about student learning as demonstrated with regression analysis using national U.S. data from the Test of Understanding of College Economics (TUCE).



WANNAN, Linda (La Trobe University, Australia)

Math for Business and Economics Foundation Students – an EBL Approach (Paper – Session 2A)

Business Numeracy was piloted as a first year credit subject in 2014 and made mainstream in 2015, to meet a growing math-skill need seen in a second-tier Australian university for foundation level Business and Economics students. The approach was 'EBL' (experience-based learning), integrated with the other core subjects (Accounting & Finance, Management & Marketing, Business Economics), engaging and motivating with both workshops and some e-learning. The curriculum, pedagogy and logistics of 'inviting' students who would benefit the most will be discussed, as will the estimated contribution to success in other subjects of those that enrolled in Business Numeracy compared to those invited who did not enrol.



WATSON, Duncan, PARKER, Louise, COOK, Steve, ARICO, Fabio and DAWSON, Peter (University of East Anglia, UK)
“What Do We Want? Pluralism. When Will We Get It? Yesterday”: A Critical Review of Applied Economics Provision in the UK (Paper – Session 6B)

‘Slaves of defunct economists’, a phrase often quoted from Keynes, vividly conveys the economist as the foremost protagonist in policy design. This view is reflected in higher education programme benchmarking, where ‘applied economics’ modules are typically designed to acquaint students with core policy inference skills. The constructive practices this inspires should deliver instruction methods that are attentive to the facilitation of a student capacity to think critically and independently. This paper asks whether UK practices are efficacious in this endeavour. To meet this objective it reviews current ‘applied economics’ provision in the higher education sector in the UK. There are two levels to the methodology adopted. First, through the application of text analytics, it considers the variation in module design and explores how this may impact on the perceived scope of economic analysis. Second, by applying linguistics analysis from researchers such as Lakeoff, it gauges whether the evolution in economic language hinders how applied economics can support a pluralist teaching perspective. The paper concludes by assessing any subsequent repercussions for module design. It ultimately answers the question: Can we account for why, despite the collective application of applied economics teaching, there has been such strident student-led calls for economic curriculum reform?



WHEAT, David and CROOK, Michelle (University of Bergen, Norway)

Teaching Monetary Policy with Contrasting Methods (Paper – Session 4A)

This paper compares the authors' contrasting yet integrative methods of teaching monetary policy. One of us teaches undergraduates in the United States, while the other teaches European students at the master's level. One engages her students in role-playing the FOMC in the U.S. Federal Reserve System, and the other enables students to use computer simulation methods to explore monetary policy-making with an interactive macroeconomic model. Our experience and perspective are also different: one teaches part-time while serving as a bank financial officer, and the other is a full-time professor with consulting experience in banking. Moreover, we have a unique way of comparing monetary policies and uniting diverse students 5000 miles apart: we transmit online lectures to each other's classrooms. Despite our contrasting methods, we emphasize the same themes: theory and practice of banking and finance, monetary policy fundamentals, and global financial interdependence.

In the American classroom, the undergraduate students analyse public and private sector data and interpret key economic indicators in the context of monetary policy issues. They learn about the practice of central banking by reading FOMC policy minutes and listening to FOMC members' speeches. For the past eight years, students have engaged in a unique competitive role-playing experience: the "College Fed Challenge." In front of regional central bankers, they orally present an assessment of the current economy and provide a monetary policy recommendation for the FOMC to achieve its dual mandate of price stability and full employment. The teaching methods proved successful when the 2013 team was a regional finalist among Virginia colleges and universities competing for a trip to Washington, DC and a meeting with the Fed's national Board of Governors.

In the European classroom, the graduate students extend their understanding of macroeconomics and monetary policy-making with computer simulation techniques, based on system dynamics methodology demonstrated at previous DEE conferences. Working in "country" teams, students adapt a basic model to various countries' monetary policy issues and institutions, explore alternative policy options, and make oral presentations of their models and policy recommendations. Student feedback indicates that model-based policy analysis is particularly useful for revealing monetary policy transmission channels. In addition, the comparative nature of the project broadens the students' perspective on the challenges facing central bankers across the globe.



WHITTARD, Damian (University of the West of England, UK)

The One-Minute Paper: A Qualitative Analysis (Paper – Session 7A)

The paper captures the perceptions of both a new academic and his students on the use of the One Minute Paper (OMP). Much of the originality of the paper derives from the multi-layered qualitative approach which provides a deeper insight into the direct and indirect mechanism through which the OMP is perceived to work. This paper argues, more than the prevailing literature suggests, that in order to increase the benefits of using the OMP then considerable investment in time is required. The results show that the academic's cost in terms of time is greatest when asking 'lecturer effectiveness' type questions, but the benefits derived are potentially longer term in nature than the standard 'lecture content' based question. Students value the use of the OMP, principally because it demonstrates respect for them; this helps to create an atmosphere of trust which can encourage engagement and an active approach to student learning. The paper concludes with a discussion on how practical implementation techniques can be used to maximise the benefits and limit the costs.
