

Research led teaching

A conference for Russell Group institutions hosted at LSE

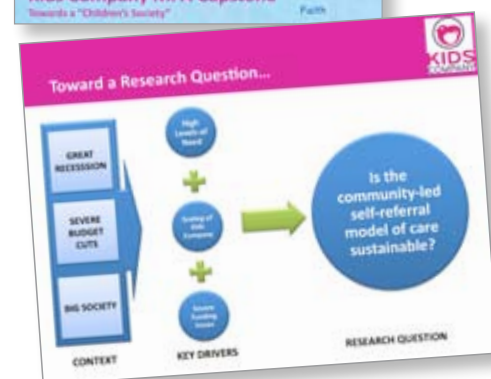
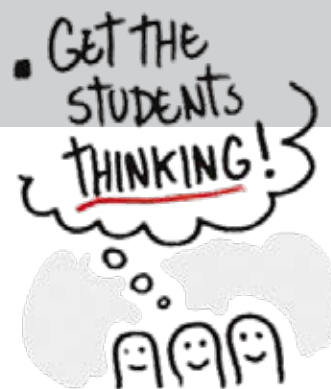
Much has been written about research led teaching over recent years, and reports abound. The purpose of this half-day conference, hosted at LSE's New Academic Building in December 2010, was to provide Russell Group partners with a forum to explore how research led teaching is implemented in practice across the disciplines, raise issues of collective interest and explore how this aspect of what makes the Russell Group's approach to higher education distinctive might be articulated.

Participants were invited from all Russell Group institutions and in total 32 people attended from 10 institutions (Birmingham, Edinburgh, Imperial, Liverpool, LSE, Newcastle, Nottingham, Queen's, Sheffield, Warwick). There was also a 'visual scribe', David Vignolli of the Ludic Group, whose illustrations of the presentations are reproduced here.

Two background papers were provided for participants: *Reinventing Undergraduate Education: A Blueprint for America's Research Universities*, by the Boyer Commission on Educating Undergraduates in the Research University, and *Developing undergraduate research and inquiry*, by Mick Healey and Alan Jenkins.

Participants also received a flyer about a student journal being launched this month by LSE's Economics Department and, during the presentation on LSE100, two brochures about that course. Please email the LSE Teaching and Learning Centre (tlc@lse.ac.uk) if you would like hard copies of any of these.

The format for the conference was kept simple: it took the form of a series of case studies of research led teaching in action in the sciences, humanities and social sciences, based on experiences at Imperial College and LSE. Questions were invited after each presentation and at the end of the afternoon.



Slides illustrating Gerard Mullaly's MPA Capstone project



Slides from Tom Welton's presentation



The conference was opened by **Janet Hartley** (Pro-Director, Teaching and Learning, LSE) who welcomed everyone and summarised the purpose and aims of the event.

Julia Buckingham (Pro-Rector, Education and Academic Services, Imperial) then chaired the opening session, at which examples of research led teaching in the sciences were presented.

After giving an overview of the evolution of synthetic biology, **Richard Kitney** (Professor of BioMedical Systems Engineering and Director of Graduate School, Imperial) spoke about the 'research pipeline' operating in his department, that enables a flow of interest and enthusiasm between the undergraduate and postgraduate populations. For undergraduates, this interest in research is triggered largely by two things:

- a final year course, taken by 15 to 30 students from Bioengineering, Biology and Chemistry, and
- the iGEM competition, which involves around 14 weeks of intensive project work followed by a trip to MIT and at which Imperial has fielded successful teams for the last few years.

Around 80% of undergraduates doing one or both of these stay on to do an MRes, and around 70% of them continue to PhD level.

Asked about how easy it would be to make what sounded like quite an elite model more generic, Professor Kitney talked about the basic ingredients of interest and enthusiasm which, with the right approach, can be generated anywhere. Imperial does outreach work with schools and encourages undergraduate students to see themselves as members of an exciting 'club', alongside research students and faculty, of 'new biology' pioneers.

Tom Welton (Professor of Sustainable Chemistry and Head of Chemistry Department, Imperial) started by saying that if he'd been asked in his second (undergraduate) year whether he wanted to do a PhD he'd definitely have said no: he was able to complete work largely with reference to three books and lab work was 'safe' and uninspiring. What he did in his final year, and has now built into his third year undergraduate programme, is to get students, in small groups, to find an interesting problem and undertake a research project to find an answer to it. The research project develops a wide range of skills at each stage of the process – articulating ideas, constructing experiments, changing hypotheses, giving presentations, for example – and the net result is that students take ownership of a research question and start to feel like one of the graduate or even faculty community. (This is helped too by most of Imperial's science courses now being BSc/ MSc integrated, so there's a relatively seamless move towards more research-led learning.)

The teacher role throughout is one of supervision and mentoring (students are supported also with a PhD mentor) as well as assessment – this last being one of the most challenging aspects because of the collaborative nature of the project work, but addressed through a rigorous approach to (internal) shared marking, where any discrepancy above 5% prompts discussion, and above 10% remarking and an external-examination system applied to all projects.

In response to a question about resource issues, Professor Welton explained that



students choose their subject from a list of research interests that faculty put forward; not all get their first choice, but the department tries to match interests as closely as possible. He was also asked about how well the collaborative aspect worked for the students. While acknowledging that some students are obviously more suited to it than others, he said that they all learn and benefit from it.

The second session profiled a case study of research led teaching in the humanities. **Dominic Lieven** (Professor of Russian History and Head of International History Department, LSE) began by saying he'd been asked to talk as if the audience was a third year undergraduate/MA class, so was assuming some pre-existing, if only general, knowledge about his subject, the 1812-1814 war between France and Russia. He said that in his lectures his primary aim was not to convey information. The spoken word (and therefore lecturing) is not well-equipped for that, but it is good for getting ideas to take root and for sparking interest and enthusiasm, so that listeners can go away and gather information – do research – afterwards.

Among the many interest-sparking ideas put forward was that the war was won by Russia mainly because they out-thought the French – a blowing apart of the Russian brawn vs Western brain myth.

The key is to get students to go back beyond the historiography to original sources and to examine/triangulate them.



And to ignore academic fashions ...

Asked about how easy it is to engage students in accessing primary sources if they can't read or speak other languages, Professor Lieven said that the key was to get the imagination going – blow their usual assumptions away – so that they're open to new ideas and approaches. They can then usually be guided to sources they can access. He also spoke about the benefits of informal conversation with and among students, especially if there's an international mix, with different perspectives and assumptions around the table.

Clare Hemmings (Head of Gender Institute, LSE) introduced the third session, a panel of staff and students from various LSE departments who presented case studies of research led teaching in the social sciences.

Economics

Anders Jensen (MRes student) spoke of how the comfortable and non-threatening environment of the weekly undergraduate research workshops in the department

had encouraged him to write papers that went on to win major international competitions. **Shamil Jobanputra** (third year undergraduate) endorsed this view of the workshops, and especially a longer Summer Research Workshop he had attended at the end of his first year, saying that it had not only helped him understand key econometric concepts and get a grounding in source location/summarising and data analysis, but also enabled him to meet others similarly enthusiastic to do research. **Michael Best** (PhD student teaching an undergraduate development economics course) talked about the piloting of an 'extension programme' which aims to get placements (currently taken up largely by US students) for LSE students.

Government

Edward Page (Webb Professor of Public Policy) talked about a third year undergraduate Empirical Research in Government programme, run with a maximum of 15 students doing a 2-hour class each week (1 hour on theory and 1 hour on a research project), with the aim of writing a multi-authored publication. These have traditionally been commissioned by external organisations like the Law Society (asking what motivates lawyers to work in local government) or the NCVO (researching what support do local authorities give to local groups). **Anna Carter** (graduated 2010, currently working for a small research organisation) spoke of how her involvement in this programme had been useful in job interviews, where she'd been asked particularly about collaborative/team working, her experience of the start-to-finish (project design to communication of findings) nature of the project and her experience of ethical questions in research.

MPA

Joachim Wehner (MPA Capstone Supervisor) explained that the two year MPA incorporated a year of training and upskilling, followed by a year of specialisation and application, a core element of which is the Capstone programme, where small groups of students (3-4 per group) undertake projects for external clients such as OECD, HM Treasury, Accenture, ActionAid. The projects last 5-6 months and are assessed by a combination of client (up to 20% for presentation), supervisor (up to 10% each for scoping/development and group working) and external (up to 60% for written project report). **Gerard Mullaly** (MPA student) presented his Capstone project. Working with Kids Company, the high-profile organisation for vulnerable children run by Camila Batmanghelidjh, the

project team had researched and analysed data to answer a fundamental question: Is the community-led self-referral model of organisation sustainable in an economic crisis?

Gender Institute

Emma Spruce (MSc student) talked about the process by which research is integrated into a programme that is not obviously about research. The process involves small groups (4 students each) leading a seminar, for which the group chooses the topic, readings and methods of communication. Assessment is done through observation of the seminar (by an external examiner) and a marked essay.

Professor Page took a question about how students' individual contributions could be fairly reflected in marks for collaborative projects. He said that the supervisor obviously played a key role in the policing of any 'free riding' and that two instruments were operated in the Empirical Research in Government programme: one that provided the opportunity to adjust an individual's mark up or down by a maximum of 10% to reflect a greater or lesser contribution, and a more extreme sanction of being dropped from the course and having to retake it the following year.

Emma Spruce added that she knew this was a problem for some students – that they could easily feel dragged down by a 'weak' performer in a group – but her own view was that the advantages to be gained from being able to say, at interviews for instance, that you've worked collaboratively on a project, and what you've learned from that process, outweighed the disadvantage of potentially losing a few percentage marks on a project.

Joachim Wehner and Professor Page then responded to a question about how they found and kept finding external clients for their programmes.

The final presentation of the event showcased a very recent example of research led teaching in the social sciences.

Jonathan Leape (Director of LSE100, LSE) outlined the thinking behind LSE100, a compulsory course for all first year undergraduates from this term. It aims to

- deepen and broaden students' understanding of social scientific thinking, focusing on the core elements of evidence, explanation and theory, and
- strengthen the critical skills – in research, thinking, writing, presentation – that underpin the study and application of social sciences



through a series of six three-week modules delivered over two terms via lectures and small task-based classes. 'Big' questions are addressed – How should we manage climate change? Who should own ideas? Does culture matter? – by leading researchers, and the emphasis throughout is on research methods rather than content, with students expected to evaluate, interpret and analyse evidence, assess causality claims, access and manage information, construct critical and persuasive arguments orally and in writing.

In this way, the course can be seen as an example of research led teaching on a large scale – 1,250 students will take the course this year – and, importantly, of research led teaching at an early stage in the student's education.

Responding to a question about how long it had taken to set up such an impressive-sounding course, Dr Leape said that planning had started in 2008, with one year of preparation followed by a one year pilot. Several factors were key to its successful launch: support from the Director of LSE down, appointment of a team of dedicated people with a common aim and lots of energy, strong focus on effective management and team-building for the large teaching staff (including obtaining Investor in People status) and good employer support. Another question was asked about how universally enthusiastic student reception to the course was. Dr Leape said that, since so far it had been run only on a voluntary pilot basis, it was difficult to say, but that the extensive feedback received – from focus groups, surveys and exit interviews with those who dropped out – was very positive overall. Feedback on workload indicated that students were normally spending between one and two hours per week outside of classes. The comprehensive evaluation strategy will be carried forward into the compulsory course and the data will be analysed over the coming months and years.



The Conclusions: Where do we go from here? session was chaired by **Janet Hartley**. By way of summarising the conference, she said that whilst several sessions seemed to suggest the importance of 'charismatic' teachers and 'favoured' students to progress research led teaching, most had been reassuring in showing that 'mass application' was possible (LSE100). Students were living proof (award-winning work and jobs secured) of its benefits. She then invited questions and comments from participants.

- One participant said that the extent to which employers value research led teaching might be a useful selling point for the Russell Group.
- Another asked if the motivation of US competition might be harnessed to come up with UK equivalents – a possible opportunity for the Russell Group to take this forward.
- A final question was raised about whether it was possible to say that research led teaching in principle makes the Russell Group special. Professor Hartley responded, saying that it was possible, but only if it was articulated intelligently and accurately – say what it is, how it's done, how cross-disciplinary it can be, and what results it achieves.

