Brunel UNIVERSITY LONDON

Third International Seminar on Research on Questioning

Theme: **‘Critical inquiry and academic growth in Higher Education’**

Mike Watts

Academic growth and SoTL: the impact of research

What do we mean by impact?

Outcomes
Outputs
Deliverables

Research assessment
Journal impact factor

Value
Translation
Transfer

Dissemination
Engagement
Communication
Buy-in
Uptake
Outreach

Valorisation

Embedding
Sustainability
Sustained change

Project logic
Evidence-based change
Evidence-based improvement
Deep change

Scalability

Learner benefit

Engaging … making an impact

‘Impact is often what motivates academics, whether they're researching medicine to improve patient care or conducting research in the archives that can transform understanding of our country's history.’

(David Willets, UK Minister for Universities and Science, 2010)

‘Impact is a story being written and implemented, and there is much to be done to develop sensible procedures for its recognition. The word is ugly, and the concept uses its elbows in places unused to such behaviour: so the intrusion is resented by some. But open enquiry requires us to respond to such questions.’

Rick Rylance, Chief Executive of AHRC, August 2010

- “an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia” (UK Research Excellence Framework definition)
- “…impact occurs when research, in any of its multiple forms, makes a difference to subsequent actions that people take or refrain from taking” (Levin 2004)
- impact is determined when there is a “clear demonstration of learner benefit” (Alkema 2012)
- **“impact is about people not just publications”** (Stilgoe 2011)

RCUK research : Impact

Impact Summary
Should cover potential economic and societal impact and seek to answer two questions:

- Who might benefit from this research?
- How might they benefit from this research?

Pathways to Impact
Should detail the activities which will help develop potential economic and societal impact, answering the question:

- What will be done to ensure that potential beneficiaries have the opportunity to benefit from this research?

Activities outlined in Pathways to Impact should be:
appropriate and specific

Academic Beneficiaries
Should cover potential academic impact and pathways to realising it (e.g. effects of possible research outcomes on other academic disciplines)

Interrogating impact: challenges

'We need ... a way to talk about impact that avoids the dualism between theory and practice'
(Lyn Staeheli and Don Mitchell, 2005).

- Are some impacts better than others?
- Are *measurable* impacts better?
- Is a *broader* impact better?
- *Who* does impact work really serve? The funding bodies?
- What causes (unpredictable) impacts?
- If impacts can be unpredictable and co-produced, then who takes the credit/responsibility?

Types of research impact

'the demonstrable contribution that excellent research makes to society and the economy' (RCUK)

- **Instrumental**: influencing the development of policy, practice or service provision, shaping 'the ways things work', changing behaviour
- **Conceptual**: reframing debates, changing thinking, contributing to culture/attitude changes – in ways that help improve policy or practice
- **Capacity building**: contributing to technical and personal skill development.

Pathways to Impact

Academic Impacts

- Worldwide academic advancement
- Innovative methodologies, equipment, techniques, technologies and cross-disciplinary approaches
- Contributing towards the health of academic disciplines
- Enhancing the knowledge economy
- Training highly skilled researchers
- Improving teaching and learning

Economic and Societal Impacts

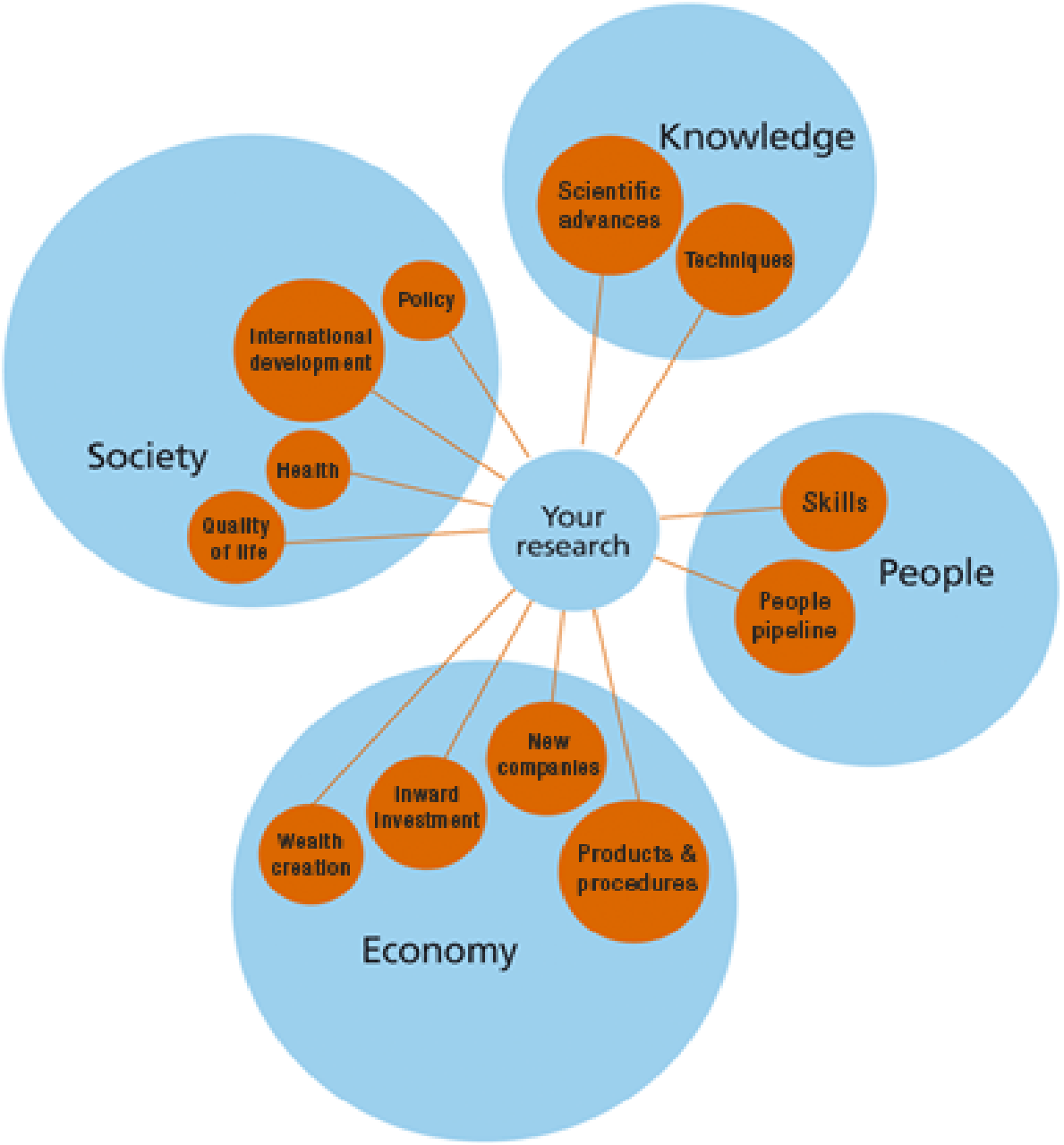
- Improving health and well-being
- Wealth creation, economic prosperity and regeneration
- Enhancing the research capacity, knowledge and skills of public, private and third sector organisations
- Changing organisational culture and practices
- Enhancing the effectiveness and sustainability of organisations including public services and businesses
- Attracting R&D investment
- Improving social welfare, social cohesion and/or national security
- Commercialisation and exploitation
- Enhancing cultural enrichment and quality of life
- Environmental sustainability, protection and impact
- Evidence based policy-making and influencing public policies
- Increasing public engagement with research and related societal issues

RESEARCH COUNCILS UK

Why Measure impact of research into teaching and learning?

- Moral purpose
- Addressing a value for money agenda - part of the funding landscape (PBRF, ERA, etc):
- Identifying ways to gain additional leverage from work already done
- Improving funding body processes
- Understanding the benefits that result from learning and teaching research
- Surfacing stories from project teams that could otherwise go unheard

Research Impacts



The Aveiro research, 2000-2015

(i) Project POCTI/36473/CED/2000 – *A study of student generated questions in undergraduate sciences*.
(ii) Project PPCDT/CED/59336/2004 - *A study of university teaching, learning and assessment using students-generated questions*
And
(iii) Project PTDC/CPECED/117516/2010 - *A study of academic development and growth*

How have we created education research impact?

- Establishing relationships and networks with users
- Involving users actively right from the beginning
- Identifying stakeholder 'champions'
- Planning carefully: user-engagement and knowledge exchange strategies (eg workshops, meetings, short videos, texts, emails)
- Creating accessible, easy-to-use formats (eg straight-forward materials)
- Building reputations with research users through out the research activity
- Working with intermediaries and 'knowledge brokers' who can help influence communities and translate research into application

How has our impact been produced?

Research process: naturalistic and co-production of knowledge with colleagues and students

Circulation: dissemination and communication, papers, seminar, conferences

Reading and interpretation: making and contesting meanings, academic journals, monographs and books

What has our educational research impact look like?

- New instruments, new methods, new questions
- Tangible improvements in practice
- Forming networks and relationships with groups and communities
- Creating partnerships with other universities
- Increasing capacity for critical problem-solving
- Showing limitations of existing frames of thinking, solutions, evidence base
- Enabling people who can use research
- And (much, much) more …..

Academic growth and scholarship of teaching and learning (SoTL)

Can be defined broadly by two categories:

(i) augmentation of curriculum provision, and

(ii) enrichment of educative practice

*The **Microtalk** strategy*: twelve-minute classroom presentations (each by different researchers from the Department of Biology) followed by five minutes for discussion with students, eg ‘Bacteria and antibiotic resistance’

Impact? 1

Collaboration with research colleagues in further developing this strategy:

> *"A positive impact was that we began to record these MicroTalks. We would not have done this without this collaboration. The fact that all teachers have to talk to an outsider [educational researcher] who asks them questions is a very significant aspect for reflection about what we are doing."*

Impact? 2

Curriculum augmentation, an opportunity for students to understand several microbiology topics, relating it to the curricular unit contents:

> *First, is to bring authentic research to the classrooms, which is related to my own research group... Second, is to show some diversity of topics in microbiology in a concrete way. Third, it shows that research is an activity that people can do. Can be a profession, does it not? Because students have the opportunity to see real researchers and could question them, could discuss.*

Impact? 3

Enrichment:

> *I noticed that in smaller groups of students there was an interest, because they asked several questions about whether they [Microtalks] could happen more often ... which shows that there was interest and motivation ... they [students] felt that there was an area of work that was more interesting for them.*

Moreover, it was enjoyable for him as the teacher:

> *As a teacher, these strategies are extremely pleasant since I'm going to the lectures always taking in something new. I'm not going just to transmit knowledge for students to memorise and then they go to the exam ... no ... this is a deliberate strategy having a specific purpose, where all the intermediate steps are planned in order to maximise the final result [the students learning outcomes]. Therefore, this is what I most value in these strategies being develop during this curricular unit as a result of this collaboration.*

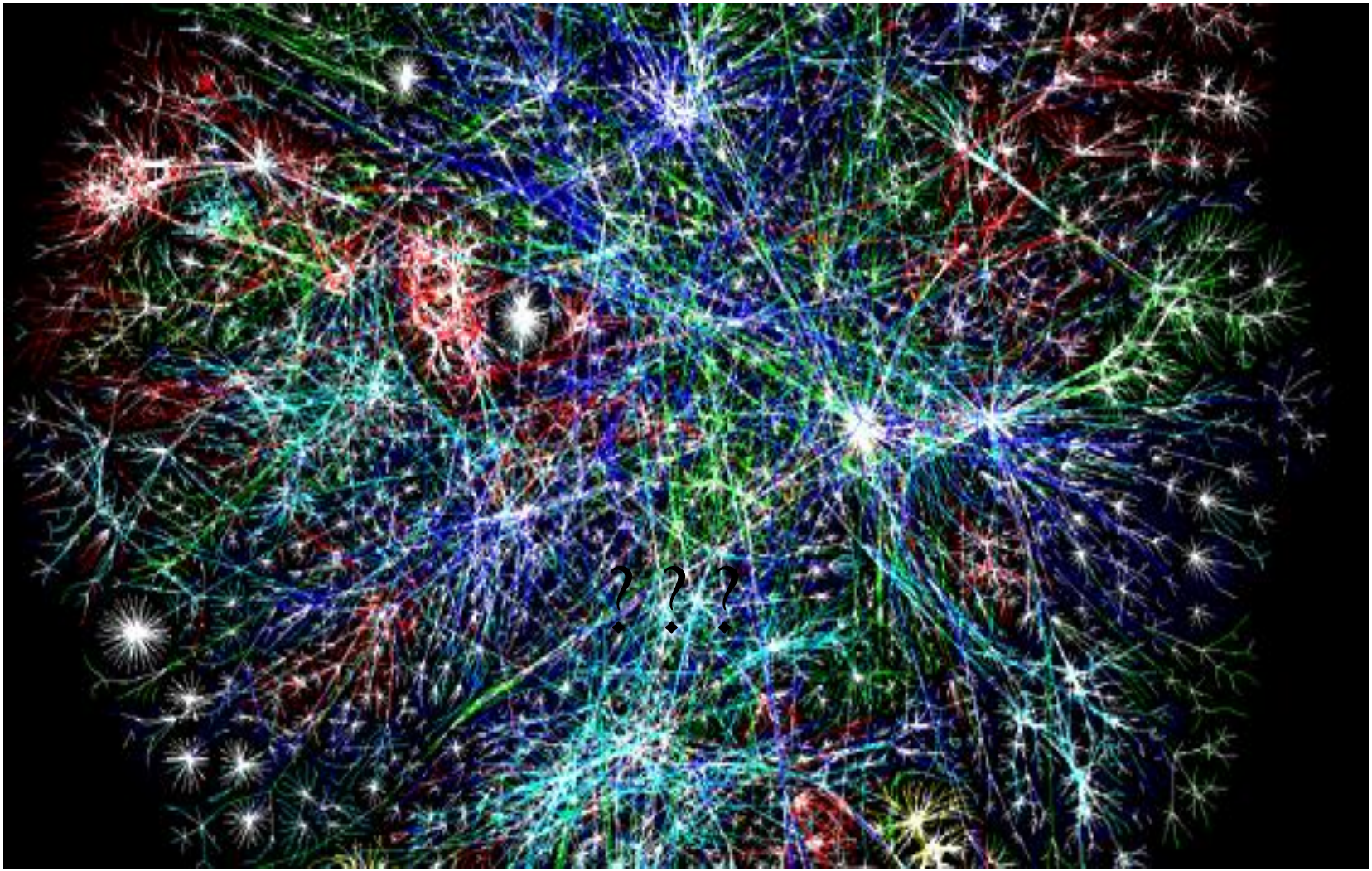
Building a higher quality evidence base for the future

- Weaknesses in quality of research in education and reporting of it – 'descriptive validity'
- Features of high quality research:
  - clear questions (that address a need)
  - methods selected that are 'fit for purpose'
  - methods executed properly e.g. reliability
  - multidisciplinary research needed for complex questions

Numbers? Oh, okay… so

Over the period 2000-15

- Has involved numerous university departments, teaching groups
- 6 individual university teachers + researchers
- 5 pre- (and now post-) doc researchers
- Other PhD students, Masters students
- Some 3000 undergraduates
- 2 previous international invited seminars
- 23 presentations at international conferences
- 34 high-level journal articles; 5 book chapters, one monograph and one book pending



creating webs of influence