

Linking discipline based research and teaching to benefit student learning

Mick Healey

Higher Education Consultant and Researcher

**“... universities should treat learning as not yet wholly solved problems and hence always in research mode”
(Humboldt 1810, translated 1970, quoted by Elton 2005, 110)**

Brief biography

- HE Consultant and Researcher; Emeritus Professor University of Gloucestershire (UoG), UK; Visiting Professor University College London, UK; The Humboldt Distinguished Scholar in Research-Based Learning McMaster University, Canada; Adjunct Professor Macquarie University, Australia; International Teaching Fellow, University College Cork, Ireland; Visiting Fellow University of Queensland, Australia
- **National Teaching Fellow; Principal Fellow HE Academy; SEDA@20 Legacy Award for Disciplinary Development; International Society for Scholarship of Teaching and Learning (ISSoTL) Distinguished Service Award**
- Economic geographer and previously Director Centre for Active Learning UoG
- **Advisor to Canadian Federal Government 'Roundtable on Research, Teaching and Learning in post-Secondary Education' (2006)**
- Advisor to Australian Learning and Teaching Council / Office of Learning and Teaching Projects / Fellowships on the 'Teaching-research nexus' (2006-08), 'Undergraduate research' (2009-10); 'Teaching research' (2011-13); and 'Capstone curriculum across disciplines' (2013-15); Students as Partners (2015-17)
- **Advisor to League of European Research Universities (2009)**
- Advisor to EU Bologna and HE Reform Experts on research-based education (2012)
- **Research interests: linking research and teaching; scholarship of teaching; active learning; developing an inclusive curriculum; students as change agents and as partners**

Institutional strategies to link teaching and research

Alan Jenkins and Mick Healey



Linking teaching and research in disciplines and departments

Alan Jenkins
Mick Healey
Roger Zetter

April 2007





Developing undergraduate research and inquiry

Mick Healey
Alan Jenkins

June 2009

Developing and enhancing undergraduate final-year projects and dissertations



A National Teaching Fellowship Scheme project publication

Mick Healey, Laura Lannin, Arran Stibbe and James Derounian
July 2013



Developing research-based curricula in college-based higher education



Mick Healey, Alan Jenkins and John Lea

March 2014



Engagement through partnership: students as partners in learning and teaching in higher education



Mick Healey, Abbi Flint and Kathy Harrington

July 2014



Linking research and teaching

One minute each way

In pairs you each have **ONE** minute to tell your partner about one way in which you have experience or a policy of developing a linkage between research and teaching

The job of your partner is to listen enthusiastically but **NOT** interrupt.

Linking research and teaching

Part I

1. Nature of the nexus between research and teaching
2. Institutional approaches to linking research and teaching
3. Conclusions

Part 2

1. Viewpoints on the linkage
2. Institutional strategies for linking research and teaching
3. Action planning
4. Conclusion

Terminology

- *Student as scholar* – Miami, US
- **Research intensive education** – Amsterdam, Netherlands
- *Research based learning* – Tilburg, Netherlands
- **Research enriched learning and teaching** - Sydney
- *Student as producer* – Lincoln, UK
- **Teaching Research Nexus** – McGill, Canada
- *Inquiry-based learning* – McMaster, Canada
- **Active learning** – Gloucestershire, UK
- Undergraduate research and inquiry – Many in US

Our argument: a 'research active curriculum'

“All undergraduate students in all higher education institutions should experience learning through, and about, research and inquiry. ... We argue, as does much recent US experience, that such curricular experience should and can be mainstreamed for all or many students through a *research-active curriculum*. We argue that this can be achieved through structured interventions at course team, departmental, institutional and national levels” (Healey and Jenkins, 2009, 3).

STUDENTS ARE PARTICIPANTS

Research-tutored

Research-based

**Engaging in
research
discussions**

**Undertaking
research and
inquiry**

**Learning
about current
research in the
discipline**

**Developing
research and
inquiry skills and
techniques**

Research-led

Research-oriented

**EMPHASIS ON
RESEARCH
CONTENT**

**EMPHASIS
ON
RESEARCH
PROCESSES
AND
PROBLEMS**

STUDENTS FREQUENTLY ARE AN AUDIENCE

Curriculum design and the research-teaching nexus

(based on Healey, 2005, 70)

Linking research and teaching

In pairs discuss the ways in which this model may help conversations about linking research and teaching to benefit student learning in your institution.

Be ready in 4 mins to make a comment or ask a question about the model

Students' perceptions of research

A comparison of over 500 final year students' perceptions of research in three universities Alberta, Canada ;Royal Holloway, UK and Gloucestershire, UK

- **Students agreed that staff being involved in research activities is beneficial**
- **Students do not perceive the development of their research skills**
- **Communication is one of the issues that we need to address – language used can exclude**

Students' perceptions of research:

- About three-quarters of the items followed our hypothesis (particularly about the *awareness* of research)
- Those where the hypothesis did not hold up were mainly in the *experiences* with doing research, where there were no significant differences
- Regardless of institution, there is the perception amongst students that learning in an inquiry or research-based mode is beneficial

Students' awareness of research

	U of A History Faculty	U of A Student Data
Research seminars	46%	75%
Books, articles or other research output	46%	68%
Notice boards advertising research opportunities	23%	59%
Existence of Research Centre or Institute	18%	72%
Areas with national or international reputations	18%	60%
Faculty are writing for publication	73%	79%
Faculty are supervising research students	46%	81%
Faculty are undertaking funded research	36%	77%
Faculty are supervising UG research assistants	18%	60%

Students' experiences with research

	U of A History Faculty	U of A Student Data
Staff discuss research	96%	85%
Reading research paper by staff	86%	60%
Undertaking independent project as part of course	77%	43%
Development of research techniques	59%	27%
Attending research seminar	32%	27%
Contributing to research project outside of class	14%	17%
Attending research conference	27%	19%

Strategies for linking research and teaching

In groups of 2-3 identify ONE possible strategy or practice that you would like to implement in your institution to link Research & Teaching to benefit student learning

Linking research and teaching: Conclusions

- Nature of the linkage between teaching and research is complex and contested
- Barnett (2003: 157) suggests that there are many pressures that are pulling research and teaching apart:
 - “The twentieth century saw the university change from a site in which teaching and research stood in a reasonably comfortable relationship with each other to one in which they became mutually antagonistic”

Linking research and teaching: Conclusions

If an undergraduate research and inquiry strategy is to become common place in higher education generally then the nature of higher education itself will need to be reconceptualised so that staff and students work together in what Brew (2003, 12) calls “academic communities of practice”. This she argues:

“means sharing power and it means being open to challenge” (p.16)

There is a need to do more thinking ‘outside the box’.

Linking discipline based research and teaching to benefit student learning

Part 2

Mick Healey

“We are all researchers now ... Teaching and research are becoming ever more intimately related ... In a ‘knowledge society’ **all students – certainly all graduates – have to be researchers. Not only are they engaged in the production of knowledge; they must also be educated to cope with the risks and uncertainties** generated by the advance of science.”

(Scott 2002, 13)

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Linking research and teaching: Line-up

It is essential that undergraduate students are aware of the research which goes on in their departments

Strongly agree ----- Strongly disagree

Linking research and teaching: Line-up

I believe that my teaching and my
research are strongly linked

Strongly agree ----- Strongly disagree

Linking research and teaching: different views

- Topic on linking research and teaching has generated much debate, some of it fairly emotive and polarised (See quotes, p1)
- Many people hold the view that a key characteristic of universities is where research and teaching are brought together
- Some claim that the best researchers are usually the best teachers (e.g. Cooke, 1998)
- Others dispute this claim (e.g. Jenkins, 2000); many refer to examples of excellent researchers who are poor teachers and vice versa

Linking research and teaching: different conceptions of research

Research is oriented towards: ↓	Research aims to: ↓	The researcher is present to, or the focus of, awareness	The researcher is absent from, or incidental to, awareness
External products	Produce an outcome	Trading view	Domino view
Internal processes	Understand	Journey view	Layer view

FIG. 1. Relationships between conceptions of research.

Linking research and teaching: different conceptions of teaching

Information transfer / teacher focused
approach

Conceptual change / student focused
approach

Prosser and Trigwell (1999)

Linking research and teaching: Conceptual compatibilities

Trading view of research and information
transmission approach to teaching

Journey view of research and conceptual
change approach to teaching

Trowler and Wareham (2007)

Developing the research-teaching nexus

The impact of research on teaching

“Overall we have consistently found that there is a zero relationship between teaching and research at the individual academic level and at the department level.”

Hattie and Marsh (2004, 7)

Developing the research-teaching nexus

The impact of teaching on research

“Students who both taught and conducted research demonstrate significantly greater improvement in their abilities to generate testable hypotheses and design valid experiments.”

Feldon (2011)

Benchmarking embedding of research-based learning in institutions

In pairs look at either:

- UCL Connected Curriculum benchmarking tool (p22) **OR**
- The Research Skills Development Framework (p23)

How might these approaches be adapted to your context?

5 minutes

Strategies for linking research and teaching

In groups of 2-3 identify ONE possible strategy or practice that you would like to implement in your institution to link R&T to benefit student learning

8 mins

Moving forward

How can we move forward this agenda?

Where next?

Who does what, by when?