How does research benefit the student experience? Synthesis of the Interactive Keynote, Teaching and Learning Conference 2011

This document draws together discussions in the interactive keynote of the Teaching and Learning Conference 2011. It includes:

- an outline of activities in the interactive keynote, and of types of research-informed teaching
- a synthesis of 10 small group discussions, including examples of research-informed teaching in practice
- additional points and questions raised in the interactive keynote.

The document is offered as a record of discussions in the interactive keynote and as a prompt for further internal discussions. It, and copies of the handouts and slides used in the interactive keynote, are available online: http://www.ncl.ac.uk/quilt/resources/excellence/teachingandlearningconference2011.htm

1. Outline of the interactive keynote

Fifty members of academic and professional support services staff took part in the interactive keynote. The session began with a presentation by Suzanne Cholerton (PVC Learning and Teaching). Suzanne’s presentation drew attention to the importance of research-informed teaching as part of the Newcastle Offer, and how this Offer is a skeleton for the student experience.

Participants sat in groups of 5-6 and were invited to discuss the question ‘How does research benefit the student experience?’ Groups were given examples of potential projects that link research and teaching, with reference to the work of Healey and Jenkins (2009). The handouts used in this activity are available on the QuILT website. Groups were invited to complete the following table to show what research-informed teaching looks like for them.

<table>
<thead>
<tr>
<th>Type of approach</th>
<th>Aim</th>
<th>What this looks like for you</th>
</tr>
</thead>
<tbody>
<tr>
<td>research-oriented</td>
<td>Trialling an innovative approach to help students learn research skills</td>
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</tr>
<tr>
<td>research-based</td>
<td>Offering opportunities for students to undertake their own research</td>
<td></td>
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<tr>
<td>research-tutored</td>
<td>Supporting undergraduate students’ contributions to discipline-wide research issues</td>
<td></td>
</tr>
<tr>
<td>research-led</td>
<td>Integrating the teaching of research-based knowledge into the curriculum</td>
<td></td>
</tr>
<tr>
<td>using pedagogical research to improve teaching practice</td>
<td>Applying the planning and evaluation models used in research practice to your teaching practice</td>
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</tbody>
</table>

The following questions were given as a framework for discussions:

- How do you link research and teaching?
- What are the benefits for you?
- What are the benefits for your students?
• Identify areas and priorities for action:
  o as individuals
  o at programme/subject/Academic Unit level
  o at Faculty or University level

Each group’s tables and lists were then shared. Participants were invited to read the sheets, before sharing their group’s key points in a plenary session.

2. Synthesis of group discussions

2.1 Research-oriented: trialling an innovative approach to help students learn research skills

• Oral presentations of groups of Stage 1 Engineering students on research into a selected manufacturing process
• Online (or otherwise) self-assessment of research skills training needs
• Group work (6 students) led by PhD students research
• Incorporate research skills training in module
• Research based knowledge should be introduced early in the curriculum
• Mini trial in Dental Hygiene.
• Collecting data which can be collated together and used for own analysis
• Anatomy: introducing students to anatomical variation and including them in gathering data
• UG research presentations/conferences
• 3rd year research presentations to 2nd year students
• Lectures by active researchers – ideas for careers development
• Developing an understanding of how to form a ‘research question’
• Research skills modules
• Lab Assistants Scheme (Biomed Sci)
• Researching with a view to presenting e.g. via radio: different medium; different audience; including technical skills
• Undergrad research seminars, journals
• Postgrad students can lead or mediate seminars
• Postgrad students could facilitate societies or journal planning and editing
• More use of primary resources – research use of: special collections; specialist equipment; local resources i.e. for field work
• Game based teaching/research to increase take up/enthusiasm.
• Articulating the relevance of research skills: the importance of staff and students developing an enquiring, critical approach to everything they do; and the relevance of research to their subsequent career and ongoing personal development.

2.2 Research-based: offering opportunities for students to undertake their own research

• Major individual projects to be based on research group themes
• Student internships linked to research
• Involvement by students in existing research projects
• Anatomy: introducing students to anatomical variation and including them in gathering data
• Dissertations/projects – independent vacation based projects (extra-curricular)
• Dissertations
• Forming own research questions (early 1<sup>st</sup> stage)
• Opportunities for students to participate in projects shaped by staff research interests.
• (Hons) Project for analytical skill development and development of life skills (confidence/motivation)
• Vacation Studentships (lab-based)
• Dissertation projects
• CASAP projects
• More use of primary resources – research use of: special collections; specialist equipment; local resources i.e. for field work

2.3 <strong>Research-tutored: supporting undergraduate students’ contributions to discipline-wide research issues</strong>

• Major individual projects to be based on research group themes
• Stage 1 Biology students critically analysing research journal papers (to learn ‘publication’ style methods)
• Student posters displayed on corridors
• Student internships linked to research
• Involvement by students in existing research projects
• Signposting/publicising training opportunities early on
• Sharing research news with students
• UG research presentations/conferences
• 3<sup>rd</sup> year research presentations to 2<sup>nd</sup> year students
• Opportunities for students to participate in projects shaped by staff research interests.
• Student input as valid – research awards for students?
• NWE placements
• Seminars (student involvement and contribution)
• Impact assessments – what impact the student’s research has on society

2.4 <strong>Research-led: Integrating the teaching of research-based knowledge into the curriculum</strong>

• Research active staff introducing the findings of their and others’) current research into lecturers at the earliest stage possible (fuel cell project in Stage 1)
• Research based knowledge should be introduced early in the curriculum
• Sharing research news with students
• Using data to give ‘colour’ and ‘authenticity’, showing that knowledge is dynamic and changing
• Research-based knowledge is important in shaping the curricular offer (e.g. themes and topics taught)
• Opportunities for students to participate in projects shaped by staff research interests.
• Basing decisions on the evidence base
• BioSci +
2.5 Using pedagogical research to improve teaching practice: applying the planning and evaluation models used in research practice to your teaching practice

- Innovation in teaching methods improving effectiveness of delivery: teaching initiative groups; teaching cafés
- Action research to inform teaching practice and learning (through student feedback)
- Using discipline–specific and more general up-to-date teaching techniques (undertake teacher development – ITLHE/CASAP)
- Comparing modules across a degree programme
- In school Away Days – review literature for an area of pedagogy (e.g. assessment and feedback)
- Student feedback – making sure developments meet demand, for example using audio feedback and ReCap
- Dissemination of pedagogic research
- Seminars (audience- and topic-driven)
- Raising staff awareness of participating in and/or leading QuILT and SDU sessions
- Alternative assessments to aid learning
- Pedagogical research review (e.g. by Teaching Initiative Groups)
- School, Faculty, and University support for educational research

3. Articulating the benefits of research-informed teaching

Group 9’s discussion focussed on the advantages and disadvantages of research for both staff and students:
Group 10’s discussion focussed on the benefits for students:

<table>
<thead>
<tr>
<th>Scholarly</th>
<th>Experiential (Lifestyle)</th>
<th>Employability</th>
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<tbody>
<tr>
<td>Engages students in the University community</td>
<td>Work ethic</td>
<td>Key skills</td>
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<tr>
<td>Critical thinking</td>
<td></td>
<td>New knowledge</td>
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<tr>
<td>Analytical ability</td>
<td></td>
<td>Innovation</td>
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<tr>
<td>Planning and organisational skills</td>
<td>Improves time management</td>
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<tr>
<td>Communication skills</td>
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<td>Encourages access to an international community of scholars</td>
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<td></td>
<td>Encourages budgeting</td>
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4. Further questions and points raised

- More space in the timetable is needed to facilitate research-based opportunities for students to undertake their own research
- When is the right time to help students become aware of the dimensions of research?
- New questions from students help keep you ‘on your toes’
- Embedding research into teaching means that teaching doesn’t detract from research and vice versa
- Research-informed teaching provides students with indications of employment options
- Research-informed teaching highlights the importance of the visibility of lecturers and their research and staff
- We should ask ‘How can universities make a research perspective relevant to prospective students?’
- Educational research needs to be supported at individual, Academic Unit, and Faculty/University levels.

5. Plenary of priorities for action at individual, Academic Unit, and Faculty/University levels

- Encouraging critical thinking as a key measure of research: research is about students understanding what a research argument is, and the need to base arguments on evidence
- Increasing the involvement in pedagogic research environments (for staff and students)
- Make sure resources for incorporating research into the student experience are available and understood
- Building up a varied array of opportunities for UG students to be involved in research in an active way. Articulating where those opportunities are at every level, esp. to pre-arrival students
- Research activities at all UG level, particularly Stage 1 (not just Stage 3 projects), and a cumulative approach to integrating these into the curriculum
- Impact statements for research programmes at all levels
- ‘Show and tell’, more effectively, and beyond the usual suspects at Faculty level
- Cross-School research seminars and reading groups. Special Interest Groups across the University. Public listing of research equipment in every school. Inter-disciplinary courses, especially at PG level
Can we find out if prospective students value research? Do they value it whilst they’re deciding where to study, or only when they get here?

- University-wide and subject-specific pedagogical discussion groups
- Repackaging Newslink-type information for a student audience
- Taking pro-active action at Faculty and University level to get all staff involved in research-teaching link activities; getting a wider staff group interested, not just the ‘usual suspects’.
- Addressing resource issues associated with implementing these ideas
- Trying to break down the ‘hierarchy’ that only more advanced Stage students can become involved in undertaking research.

- Individuals: More research- and career-relevant pointers/tasters to be injected into lectures and other learning activities, as early as possible.
- Schools: a research ‘fair’ involving all staff in the School, advertising themselves and their research interests, and availability for Modules/supervision
- Making research scholarships more visible – making sure staff know what vacation scholarships are, and are able to promote them to students
- Linking students to research groups in schools: not just one-on-one, but group support mechanisms with PhD students and others. This might happen by osmosis but may also need a boost
- Encouraging research stars to be highly involved in teaching, not able to buy themselves out of teaching commitments
- Emphasising the practical, real-world applications of the research that’s going on, to emphasise the value of research
- Signposting within curricula to show students where particular modules will contribute to their research skills and longer-term skills development
- Online, opt-in tutorials for research skills development, and more informal face-to-face opportunities
- Individual: engage with some level of research, whether discipline-based or pedagogical research
- School: continuum between those who are pure researchers through to pure teachers – HoS should be looking for a spread of staff along this continuum, and to play to people’s strength. The balance of time within people’s roles should reflect this strategic continuum
- Faculty: try to sell the benefits of feeding research back into your teaching from a staff perspective – need to show what it means for you as a researcher, not only for your students. How getting students involved in research can benefit your research

Reference