Knowledge Production Within the Innovation System: A UK case study

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The challenge

- External pressures have meant “..universities [world-wide] have become compelled to look for structures and processes better suited to frequent adaptation” (James, 2000 p.43)
- Teaching is the site of much of the change and adaptation (James, 2000)
- Sustainable change is challenging in part because measuring teaching quality is complex and difficult (OECD, 2009)
- How to develop the operational knowledge that guides institutional and individual styles of teaching and learning
Setting the scene for the innovation – the Coventry case study

- Large multi-disciplinary technological faculty facing a number of challenges and opportunities

  Recruitment (very strong)
  Student satisfaction (fair and developing)
  Engagement (can be improved)
  Employability (good in most areas)
  Regional development (strong collaboration)
  Retention (can be improved particularly UG year one)
Vision 2007 - 2011

- New faculty learning (building) facilities (£60 million pounds)
- Developing a faculty pedagogical approach and curricula to match
- Enhancing the whole student experience
Overview – Faculty vision

Communities of learners

Engaged in Employer and Profession focussed

Activity Led Education
Activity Led Learning (ALL) – adaptive concept of learning

Activity as the starting point for engagement in learning. The learning process itself requires a self-directed process in which the individual learner, or team of learners, seek and apply knowledge, skilful practices, resources (personal and physical) relevant to the activity being undertaken.

Activity Led Learning in Action
What is ALL: examples of activities

- Case study
- Portfolio
- Project
- Problem
- Enquiry
- Real-life issue

Learning environment

Activity (stimulus)
Ariel view of new building

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Courtyard view of new building

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Classroom – example

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Adaptive concept of learning for quality teaching

The recent OECD report highlights the implications for institutional actors of an engagement in quality teaching. It emphasizes that:

“a quality culture at institutional level can be better achieved through diverse initiatives, the consolidation of bottom-up initiatives, small sized experiments at course or programme level, replication of success stories, the evaluation of quality teaching as a vehicle of discussion, and the participation of technical and administrative staff to provide mediation between academia and students.”

(OECD, 2009, p.8)
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Developing new operational knowledge

Centrally collected evaluation data

Locally collected evaluation data
Generating new knowledge – aligned to concept of learning

- Building the knowledge together
  - ALL pilots coordinated through staff LTA advisory group
  - Building emergent CoP (Wenger, 1999) of ALL researcher practitioners

- Student-facing systems and processes that are fit for purpose
  - SEE-U initiative, student advocacy

- Communities of practice, learners
Developing new operational knowledge

Centrally collected evaluation data

Locally collected evaluation data
Change management

- Continuous improvement
- Change management through the lens of complexity theory
- Change agents working ‘in’ the system
  - ALL pilots moving into curriculum redesign
  - SEE-U advocacy
  - Working together to evaluate practice
  - Influencing curriculum (re)design, systems and processes
- the evaluation of quality teaching as a vehicle of discussion – LTA sub-group
Developing new operational knowledge

- Centrally collected evaluation data
- Locally collected evaluation data

New operational knowledge
Top-down and bottom-up working in practice at Coventry

• Teaching quality indicators (top-down) trialled bottom up for ALL not sufficient for ALL evaluation

• Need indicators better aligned to the concept of learning

• ALL can be characterised as pedagogy for engagement – what are the indicators of engaged learning? (e.g. Jones et al, 1995)
A shift in emphasis…

<table>
<thead>
<tr>
<th>Standard survey question</th>
<th>ALL survey</th>
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<tbody>
<tr>
<td>Availability of staff for informal discussion.</td>
<td>I can question my tutors and debate concepts and ideas.</td>
</tr>
<tr>
<td>How you are being taught. Class size appropriate to the activity.</td>
<td>I work in small groups with persons from different backgrounds and experiences.</td>
</tr>
<tr>
<td>Knowing what is expected of you as a student.</td>
<td>I try out new things. I teach others in informal contexts</td>
</tr>
<tr>
<td>Range of topics covered in your syllabus.</td>
<td>The activities on my course relate to real world problems. My studies use and develop my different capabilities and strengths.</td>
</tr>
</tbody>
</table>
Relates to what students think?
Snapshot of best learning experience (May 09):

<table>
<thead>
<tr>
<th>Best learning experience at university [so far]</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building computer in lab (1\textsuperscript{st} year)</td>
<td>Meeting people of different backgrounds</td>
</tr>
<tr>
<td>Designing and manufacturing a remote controlled car (1\textsuperscript{st} Year)</td>
<td>Practical, allows theory to be applied</td>
</tr>
<tr>
<td>Designing and testing of an aircraft wing made out of balsa wood as a team (1\textsuperscript{st} year)</td>
<td>Constant development of ideas and practical work involved</td>
</tr>
<tr>
<td>Working with a group of students to solve a problem that at first seemed huge, using many different skills (2\textsuperscript{nd} year)</td>
<td>Because it gave a real feel for industry work and used many skills as well as giving great satisfaction</td>
</tr>
</tbody>
</table>
Better feedback

For those who act on the information to create new operational knowledge in the innovation system:

• how to facilitate ALL
• how to design curricula for ALL
Evaluation that relates to vision

- **Communities of learners**
  - e.g. I feel part of a learning community where I can learn from others

- **Employer and profession focussed**
  - e.g. the activities on my course relate to real world problems

- **Activity led education**
  - e.g. I am presented with a range of activities that allow me to develop my capabilities in a variety of ways
Future plans

- To generate FEC benchmarking data based on ALL relevant teaching quality indicators that will allow students to provide meaningful (aligned) feedback that staff (and students) can act upon
- Self evaluation against aligned performance indicators (PIs)
Activity Led Learning – summary aims and outcomes

- **Aim**
  - To improve engagement and also hence retention
  - To develop employability through skills development

- **Based on**
  - Long experience in Coventry
  - The experience of many leading international educators

- **An adaptive concept of learning**
  - Developed for Coventry in Coventry
  - Designed to connect with our new building and wider community

- **Outcome**
  - Communities of learning that involve students and staff, and connect with external communities
  - Need aligned evaluation approaches to help us achieve this
References/further reading

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