Innovative Enterprise Education in the UK

Some perspectives from
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White Rose Centre for Enterprise
Innovative Enterprise Education in the UK

- The science enterprise challenge
- The culture challenge
- The influences and results (WR as a case study)
- The trajectory challenges
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- The science enterprise challenge
About UKSEC

- A membership organisation:
  - 80+ enterprise centres across the UK

- UKSEC contributes to the UK’s competitiveness
  - by creating enterprising organisations and
  - people that add value
Activities

- **UKSEC**
  - Unlock entrepreneurial **capability**
  - Train **next generation** of graduate entrepreneurs
  - Enhance students' **employability**
  - Promotes **value** of entrepreneurial skills and enterprise culture

- **Achievements to date (since 2000)**
  - **160,000+** students
  - **1000+** academics
  - **70** student enterprise societies
  - **180** business plan competitions generated **8700+** new ideas
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- The culture challenge
Culture change

- Be determined and patient
- It is not a trivial task
- Keep focused and keep the mission clear
- Not just academics and students
- The cultural web

Supporting the innovation culture in Britain’s universities:

SECs are catalysts of cultural change in UK universities to make them more relevant to business and to enhance the Universities’ contribution to growth in the economy, employment and productivity. SECs are encouraging strategic changes in structures and processes that will help their universities to change more rapidly. They are seeking to embed the spirit of enterprise; a mindset that strives for 'can do solutions' rather than 'can't do excuses'.

OST/DTI statement
The University - 1990s?

- **Stories**
  - Prizes (Nobel and other)
  - Alumni heroes
  - The good old days
  - Senior staff aberrations
  - New signings (esp research professors)

- **Symbols**
  - Crest
  - Latin Motto
  - Gown and Mortar Board
  - Red Brick
  - Smartened entrance areas

- **Rituals and Routines**
  - Degree ceremonies
  - Flying the flag
  - The lecture
  - Celebration of innovation

- **Paradigm**
  - Scholarship
  - Here for a long time
  - A higher mission
  - Research excellence

- **Power**
  - Senior Team
  - Sub-Committees
  - Lobbying
  - Political

- **Controls**
  - Financial regulations
  - Central budgets
  - TQA
  - RAE

- **Organisation**
  - Byzantine
  - Hierarchical
  - Mechanistic
  - Master/Servant

*From Industry and Higher Education, Vol 17, Mo 3 pp219-222.*
And is this the University - 2010?

**Stories**
- Campus millionaires
- Alumni enterprise heroes
- The latest plans
- New spin out successes

**Symbols**
- A brand for the new millennium
- A strap line for enterprise
- 21st Century new buildings
- Forecourt Porsches

**Rituals and Routines**
- Degree ceremonies
- Enterprise fests
- Flying the flags and banners
- Celebration of innovation

**Paradigm**
- Student learning
- Making today a delight
- A distinctive role in society
- Research includes its application

**Power**
- Top Leadership
- Open and transparent
- Shared
- Decentralised

**Controls**
- Customer delight
- Quality measures
  - (Teaching, Research and Enterprise)
- Decentralised budgets

**Organisation**
- Flexible
- Flat
- Responsive
- Organic
- Empowered

**And is this the University - 2010?**
Teaching Implications

- Classrooms need to become
  - More “chaotic”/less structured
  - Less artificial/more real world
- Timetables need to be more flexible
- Assessment methods need to be more varied
- Faculty need to become
  - Managers/facilitators of learning
  - More “vulnerable”/less omniscient
- Cohorts need to become learning communities

*Slide, courtesy David Kirby, Professor of Enterprise, University of Surrey*
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- The influences?
The characteristics of enterprise?

- Innovative, flexible, dynamic, risk-taking, creative and growth orientated.
  (Stevenson/Gumbert)

- Initiative taking, imaginative, flexible, creative, willing to think conceptually, capacity to see change as an opportunity.
  (Bygrave)
The *heart* of entrepreneurship

- Be confident of ability to seize opportunities
- Expect surprises
- Expect to adjust to change and capitalise on it
- Expect to make things happen

Enterprise and MIT...
...some conclusions

- **Research led, technology based**
  √ Entrepreneurship is in the culture of MIT - 100's formed

- **Self-reinforcing cycle**
  √ Ideas - research - concepts - prototypes - Implementation → companies > ideas

- **Student / faculty interaction**
  √ Students provide much of the energy - the University provides support.

*Slide courtesy of Professor Michael Scott-Morton*
Allan Gibb

- 'FEEL'
- a learning approach that gave students an immersion in an enterprise process.
- some suggestions for successful enterprise learning.
  - organise knowledge around solving problems not around functional paradigms
  - practice learning from different sets of people
  - transfer the learning into reality of life
Does this connect with Boyer?

The Boyer Commission
on Educating Undergraduates
in the Research University

REINVENTING
UNDERGRADUATE
EDUCATION:
A Blueprint for
America's Research
Universities
Publication Date: 1998

Slide courtesy of naples.cc.sunysb.edu
A leading role

- 125 RUs (3%) conferring a third first degrees and over half of all s&e higher degrees ('91-'96)
- “Their graduates fill the legislatures and board rooms of the country, write the books we read, treat our ailments, litigate our issues, develop our new technologies and provide our entertainment
- “…they have furnished the cultural, intellectual, economic and political leadership of the nation”
“Many students graduate having accumulated whatever number of course is required, but still lacking a coherent body of knowledge or any inkling as to how one sort of information might relate to others. And all too often they graduate without knowing how to think logically, write clearly or speak coherently. The University has given them too little that will be of real value beyond a credential that will help them get their first jobs. And with larger and larger number of their peers holding the same paper in their hands even that credential has lost much of its potency”
Boyer proposes a change to undergraduate education...

- Make research-based learning the standard
- Construct an inquiry-based first year
- Build on the first year foundation
- Remove barriers to interdisciplinary education
- Link communication skills and course work
- Use information technology creatively
- Culminate with a capstone experience
- Educate graduate students as apprentice teachers
- Change faculty reward systems
- Cultivate a sense of community
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- The results (WR as a case study)
Do we need a definition?

- Enterprise is…
  - making things happen
  - having ideas
  - and doing something about them
  - taking advantage of opportunities
  - to bring about change

• So, how should it be taught?
The White Rose approach

• supporting the development of modules **embedded** into discipline courses
• providing a supportive and stimulating extra-curricula enterprise activity
• Encouraging and supporting spinout and start-up.
Embedded modules?

- it is by the combination of three knowledge, skills and experience that effective learning takes place
- the challenge is to make the learning ‘real’ for the student
- to weave an enterprise strand through the full course of study.
- to make the enterprise learning part of the course programme – embed the learning in the discipline
- to provide an integrated approach to student learning and development
- adding value to the core degree programme
- preparing graduates for the work environment within the context of their own discipline
FROM is about moving the learning to connect with the discipline.
OK......

- So, specifically, what have we done in degree programmes?
MEC 414. Technology Strategy & Business Planning

Students get enterprising!

The ‘Child Resistant Packaging’ Project
Class 2005

Supported and sponsored by:

- MPC³
- FD
- Yorkshire Association of Business Angels
- Mycorrhizal Systems Ltd
- Recom International
- Wake Smith
- Barclays

www.childsaferpackaginggroup.com
Enterprise modules enable students to

- Be creative and innovative
- Focus on their strengths, be positive, be confident
- Learn in a challenging environment
- Be passionate; get excited
- Experience ‘failure’ – most valuable lessons learnt from failure
- Persevere
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- The trajectory challenges
Trajectory 1

The enterprising university?

- Organisations that are creative, resourceful, opportunistic and daring might be termed 'enterprising'.
- Might an enterprising approach enable a university to
  ✓ respond more effectively to change
  ✓ secure the funding it needs to grow
  ✓ produce really distinctive graduates
  ✓ influence its local economy?
- Might an enterprising approach provide a university with a special identity and a distinctive niche in an increasingly competitive higher education market place?

For background reading, see Burton R Clark, ‘The Entrepreneurial University’
The enterprising? university

- A Google search for 'enterprising university' provide 1,800,000 hits
- Universities in USA and UK
- Now six things you know about Belgium - Ghent is an enterprising university
- Moscow State University for heaven’s sake!!!

- Is 'enterprising' now so common and necessary an attribute that it is not a distinctive feature?
- Or has the base line for distinctiveness just got higher?
- Or is it an assimilated ‘add-on’ that doesn’t deflect us?
Trajectory 2  The Involved University?

- **HEIF** (higher education innovation fund)
  
  ✓ ...a key role for HEIs alongside their traditional roles of learning and research is the adaptation of the knowledge, expertise and ideas which they generate to contribute directly to the needs of industry and wider society. .....
  
  *(UK Govt white paper)*

- A key role?....Substantial government support?...
This creates a mindset of funding for three strong legs.
But what is the actual Funding?
Conclusion?

- There are not three substantive streams of government funding (sturdily underpinning universities like the three legs of a stool)
- This is the wrong mindset
- Is there a better approach?
- Not growth via a new sector, but…
But expansion of the hemispheres
Government offers additional funding, but there are consequences

- Research more focused on its application

- Teaching more focused on ‘how to get’ and ‘how to use’ rather than just the knowledge
**Trajectory 3  The Balanced University?**

Is the thrust for enterprise teaching part of the increased emphasis on effective and relevant teaching?

Do the pressures for relevant teaching and relevant research affect organisational structures?

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<thead>
<tr>
<th>Teaching</th>
<th>Research</th>
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<tbody>
<tr>
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<td>Adjunct Professor</td>
<td>Research Assistant</td>
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Thank You