Enhancing Quality in an Age of Uncertainty:

implications for practitioners.

Ray Land, University of Strathclyde, Glasgow.

15th Danish Network for Educational Development in Higher Education Conference, Fredericia May 28 2009

Quality in Higher Education

‘Despite an increasing uniformity of approach to quality monitoring, there is little analysis of the rationale behind the methods because there is little exploration of what `quality' is in a higher education context.’

Lee Harvey (1988)

‘Despite good intentions, quality monitoring has become over-bureaucratic and the potential for significant change has been hampered by a focus on accountability rather than improvement.’

Lee Harvey (1988)

‘Furthermore, the accountability focus, despite its onerous and somewhat oppressive burden, is a safe process for higher education because it does not consider the nature of learning or what is learned.

By focusing on accountability, the ***transformative*** potential of quality monitoring is not fulfilled.’

Lee Harvey (1988)

An Assessment of Past and Current Approaches to Quality in Higher Education
Journal article by Lee Harvey; Australian Journal of Education, Vol. 42, 1998

Quality in Higher Education

- Different to different stakeholders
- Graduation / retention rates
- Skills of students
- Student engagement
- Dialogue with stakeholders
- Product made to high quality
- Service delivered with high quality
- Right price/ time/ product
- Student–centredness
- Student satisfaction
- How well learning is facilitated
- Position in national and international ‘league tables’

NSS or NSSE?

LEAP

High Impact Activities *(Kuh 2008)*

- First-Year Seminars and Experiences
- Common Intellectual Experiences
- Learning Communities
- Writing-Intensive Courses
- Collaborative Assignments and Projects
- "Science as Science Is Done"; Undergraduate Research
- Diversity/Global Learning
- Service Learning, Community-Based Learning
- Internships
- Capstone Courses and Projects

AAC&U Association of American Colleges and Universities

- **Engagement**
- **Transformation**

Quality Enhancement

- This has been defined within the Scottish sector as:

"*taking deliberate steps to bring about improvement in the effectiveness of the learning experiences of students*".

It endorses the view that quality is not a management function but a professional, and often personal responsibility.

- This obliges organisations, as well as individual practitioners, continually to reflect, change and learn as they cope with new situations and expectations. This approach must also embrace risk, but through risk management (not minimisation) and through innovation.

The Scottish Funding Council / QAA Approach

- Enhancement-led approach to Quality Assurance
  - Internal Self-Assessment and Review
  - External Institutional Review (ELIR)
  - Public Information Set on Quality
  - Quality Enhancement Engagements
  - Student Engagement in Quality Processes

The QE approach uses the following framework of simple questions:

- *where are we now?*
- *where do we want to be in the future?*
- *how are we going to get there?*
- *how will we know when we get there?*

Indicators of Enhancement

- *Alignment of activities*
- *Student engagement in learning*
- *Student engagement in processes*
- *Quality cultures (student-centredness)*
- *Reference points*
- *Structures for managing quality*
- *Quality processes*
- *Enhancement themes*
- *Staff development and reward*
- *Graduate attributes and lifelong learning*

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- ***Graduate attributes*** *and lifelong learning*

A way of engaging students

- Research-Teaching Linkages: Enhancing Graduate Attributes

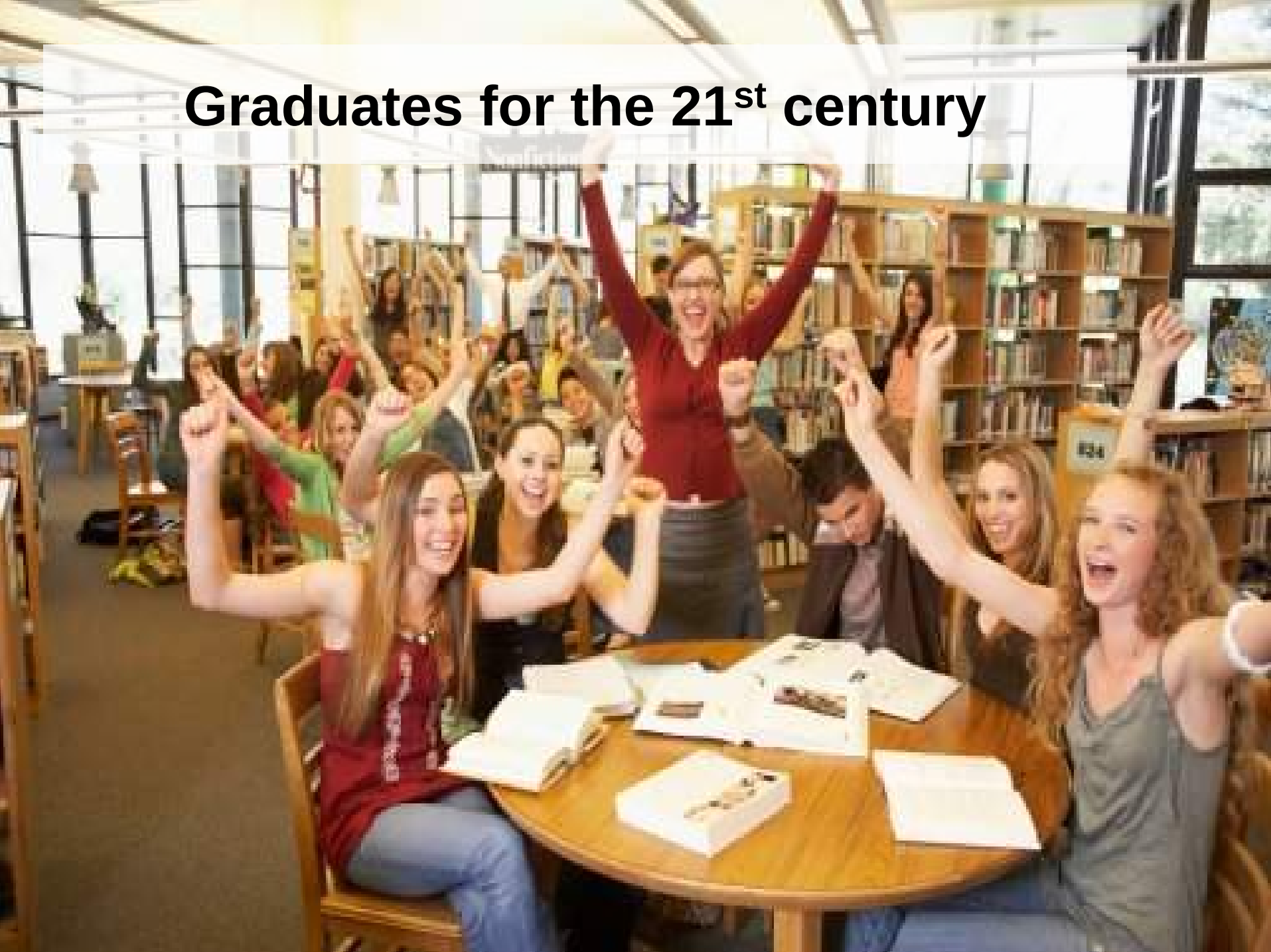
- Graduates for the 21st Century

A way of engaging faculty

- Threshold Concepts and Troublesome Knowledge

  A Transformative Approach to Learning

Graduates for the 21st century



Threshold Concepts & Troublesome knowledge

Linking research and teaching

"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)

Supercomplexity (Barnett) **Risk** (Beck) **Speed** (Virilio)

Plutarch’s fire

‘the mind is not a vessel to be filled, but a fire to be lit’.

(Plutarch c46 -127AD).

Plutarch's Fire

'Never has the educational philosophy behind this belief been more important: the changing world to be faced by today's students will demand unprecedented skills of intellectual flexibility, analysis and enquiry.

Teaching students to be enquiring or research-based in their approach is not just a throwback to quaint notions of enlightenment or liberal education but central to the hard-nosed skills required of the future graduate workforce.'

(Hammond 2007:1)

Research could be a strong condition that is aimed at bringing about supercomplexity in the minds of students.

(Barnett 1992 p.623)

Intellectual uncertainty

‘Intellectual uncertainty is not necessarily or simply a negative experience, a dead-end sense of not knowing, or of indeterminacy. It is just as well an experience of something open, generative, exhilarating, (the trembling of what remains undecidable). I wish to suggest that ‘intellectual uncertainty’ is ..a crucial dimension of any teaching worthy of the name.’

(Royle 2003 : 52)

Venturing into strange places

The student is perforce required to venture into new places, strange places, anxiety-provoking places . This is part of the point of higher education. If there was no anxiety, it is difficult to believe that we could be in the presence of a higher education.

(Barnett 2007: 147)

The research-teaching ‘nexus’

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.

Ronald Barnett (2003 p.157)

love and marriage? (Cahn & van Heusen)

strangers in the night?

(Kampfaert, Singleton & Snyder)

exchanging glances?

Consider:

To be an effective teacher one needs to be centrally involved in discipline based research

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Strongly Agree?

Strongly Disagree?

Consider:

Undergraduate Research – where students learn as researchers - is for:

All students?

Selected Students?

What is distinctive about 'higher' learning?

"It is furthermore a peculiarity of the universities that they treat higher learning always in terms of ***not yet completely solved problems, remaining at all times in a research mode …***

Schools, in contrast, treat only closed and settled bodies of knowledge. The relationship between teacher and learner is therefore completely different in higher learning from what it is in schools. .."

Wilhelm von Humboldt 1810

What is distinctive about 'higher' learning?

"...At the higher level, the teacher is not there for the sake of the student, both have their justification in the service of scholarship."

Wilhelm von Humboldt 1810

Idealistic (Humboldtian) approach. (Simons & Elen 2007)

- Research a kind of general education.
- Academic enquiry, morality (edification) and citizenship are linked.
- University different from schools (social needs) as well as from research institutions (govt needs, commercial interests)
- Education at the university solely guided by academic enquiry (one submits to the tribunal of reason, the spirit of truth, the force of the better argument.)
- Not influenced by pedagogic expertise or didactics, or managerial or moral or economic imperatives.
- State and society cannot ask for immediate returns.

Idealistic (Humboldtian) approach (cont'd)

- Managerial concerns of educational principles can never be fundamental.
- Researcher teaches students from beginning as a co-researcher.
- Idealistic approach criticises learning theory : sees it as implying that the researcher needs additional competences.
- Criticises tendency to make universities resemble schools. Ongoing 'pedagogisation' or 'scholarisation' of universities. (Kopetz 2002 p107)
- Research and Education are not different activities that need a nexus or linkages.

Commission of European Communities, 2002 p.40

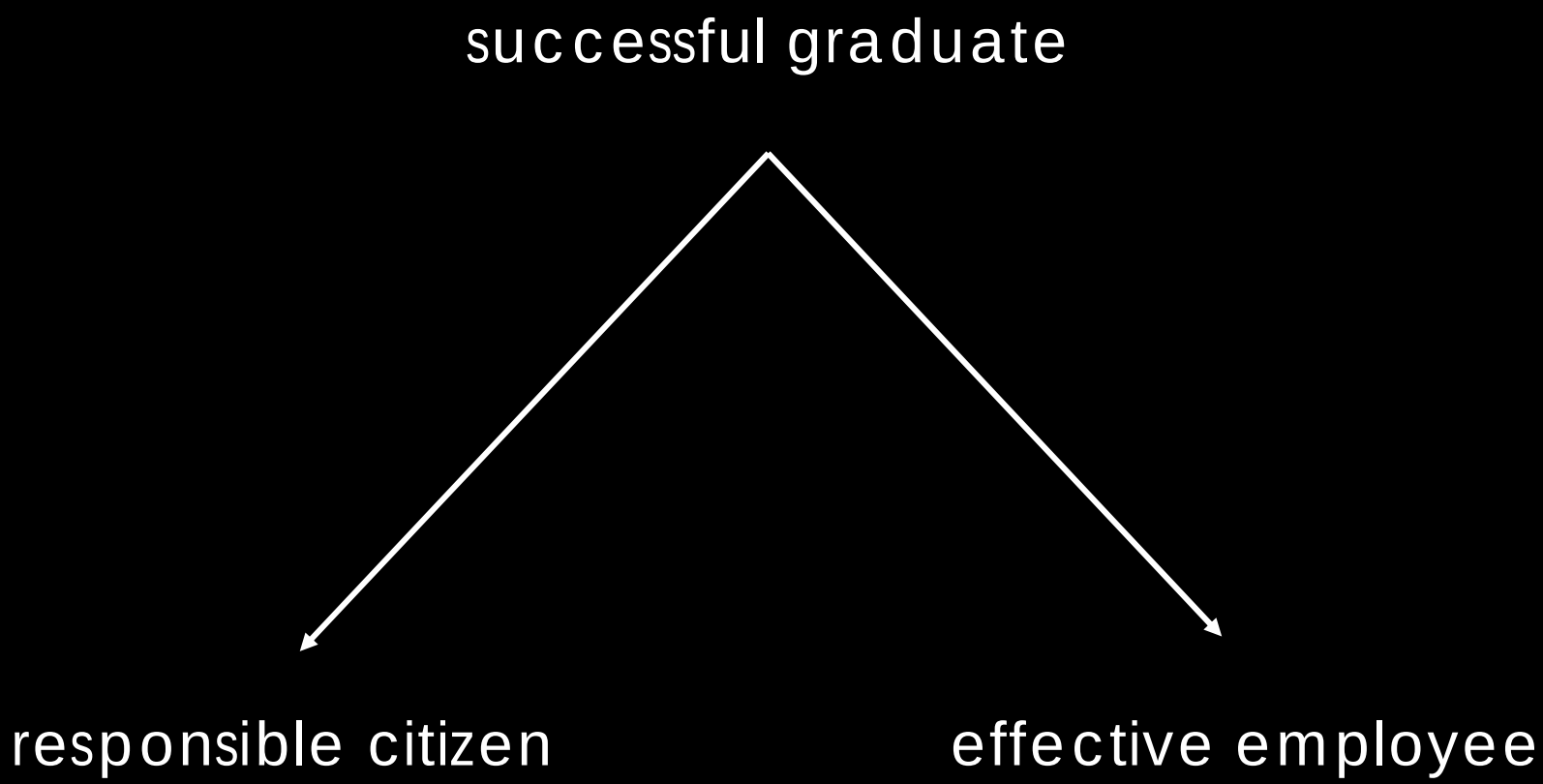
When taking a close look at the type of core competencies that appear central to employability (critical thinking, analysing, arguing, independent working, learning to learn, problem-solving, decision-making, planning, co-ordinating and managing, co-operative working, etc. it appears quite clearly that the old Humboldtian emphasis on the virtues of research-teaching cross-fertilisation remain surprisingly relevant in the current context.

It is very striking that the list of 'employability' competencies overlaps quite largely with the competencies involved in the exercise of the modern research activity.

- Nature of the linkage between teaching and research is complex and contested
- Institutions have started from different strategic positions and have different objectives.
- Adopting a broader definition of research than is currently common is a way forward which should benefit the learning of students in institutions with a range of different missions

Variability in defining research

- ‘RAE’ returnable research
- practice-led research
- consultancy-based research
- research of local economic significance,
- contributions to the work of associated research institutes or other universities
- various types of practice-based and applied research including
  - performances
  - creative works
  - industrial or professional secondments
- ‘research-minded’ activity (IBL/PBL)


successful graduate
responsible citizen
effective employee

Higher order graduate attributes

- critical understanding
- disciplinary currency
- provisionality (knowledge, situations)
- contingency (knowledge, situations)
- problem formulation
- problem analysis and resolution
- evaluation
- evidence-based solutions
- argumentation
- deriving meaning from complexity
- modes of enquiry

- informed judgement
- advanced techniques
- independence
- learner responsibility
- creativity
- critical values
  - ethical
  - social
  - cultural
  - environmental
- wider professional conduct
  - contextual ‘savviness’
  - political astuteness

And at Master's level

- constructing conceptual frameworks
- critical evaluation of current research and advanced scholarship
- originality in the application of knowledge
- reconciling complex issues
- forming sound judgments
- coping with incomplete data

the ‘underlying game’

- Epistemic fluency -- how these attributes cluster and intermesh.

- *‘…a system of ideas or way of understanding that allows us to establish knowledge. ..the importance of students understanding the structure of the disciplines they are studying. ‘Ways of knowing’ is another phrase in the same spirit. As used here, epistemes are manners of justifying, explaining, solving problems, conducting enquiries, and designing and validating various kinds of products or outcomes.’* *(Perkins 2006 p.42)*

threshold –like characteristics of higher order attributes

- not immediately ‘in view’
- require an ontological shift – or a shift in belief
- require ‘unlearning’ – hence challenging
- open up new conceptual terrain

CIHE international / intercultural GAs

Knowledge

- world geography, conditions, issues and events
- complexity and interdependence of world events & issues
- understanding of historical forces that have shaped the current world system
- knowledge of a foreign language, intercultural communication concepts, international business etiquette

Attitudes

- openness to learning & positive orientation to new opportunities, ideas and ways of thinking.
- tolerance for ambiguity and unfamiliarity.
- sensitivity & respect for cultural differences.
- empathy or the ability to take multiple perspectives.
- self-awareness and self esteem about one's own identity & culture.

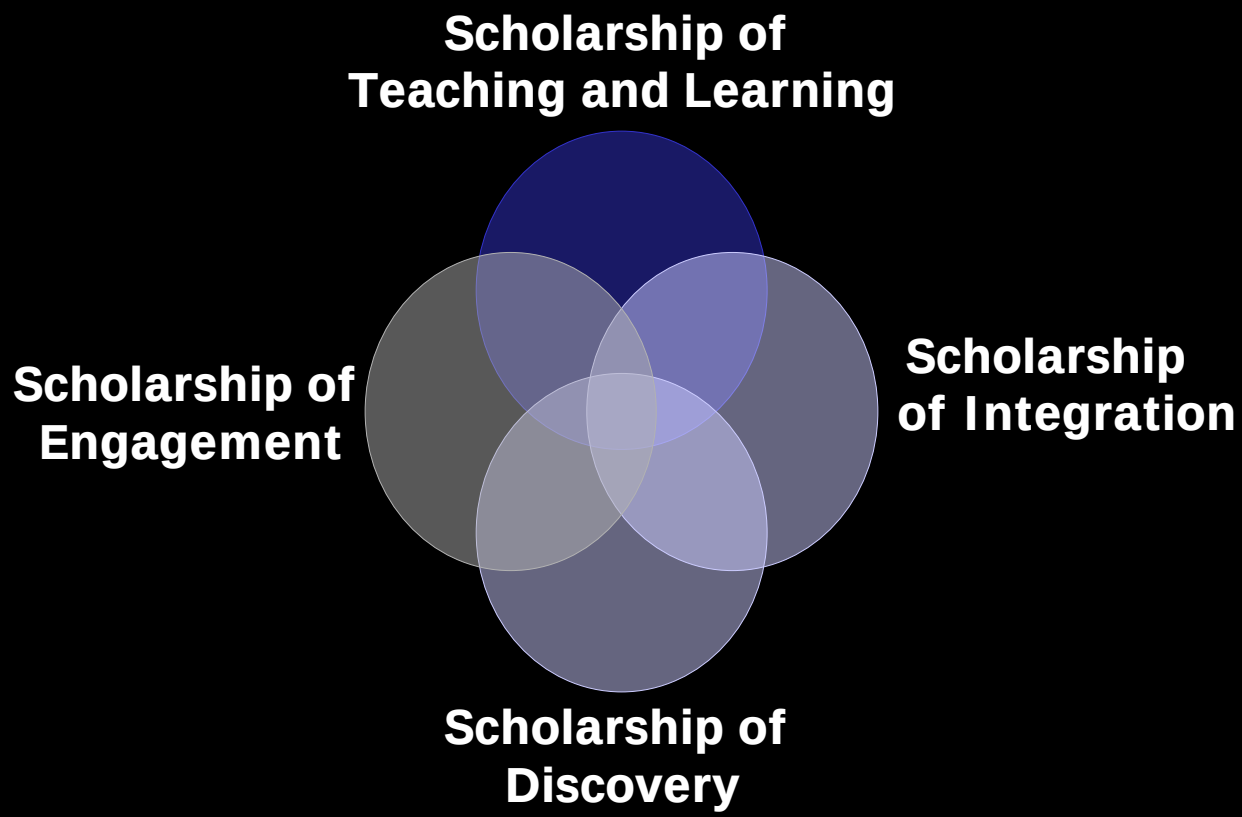
Skills

- research skills to learn about the world
- critical and comparative thinking skills
- ability to think creatively and integrate knowledge
- ability to use another language effectively and interact with people from other cultures
- coping and resiliency skills in unfamiliar and challenging situations

potential research linkages

- Learning about the research of others
- Learning in research mode – enquiry based
- Learning to do research – research methods
- Pedagogic research – enquiring and reflecting about learning

Boyer's model of 'scholarship' (Boyer, 1990)

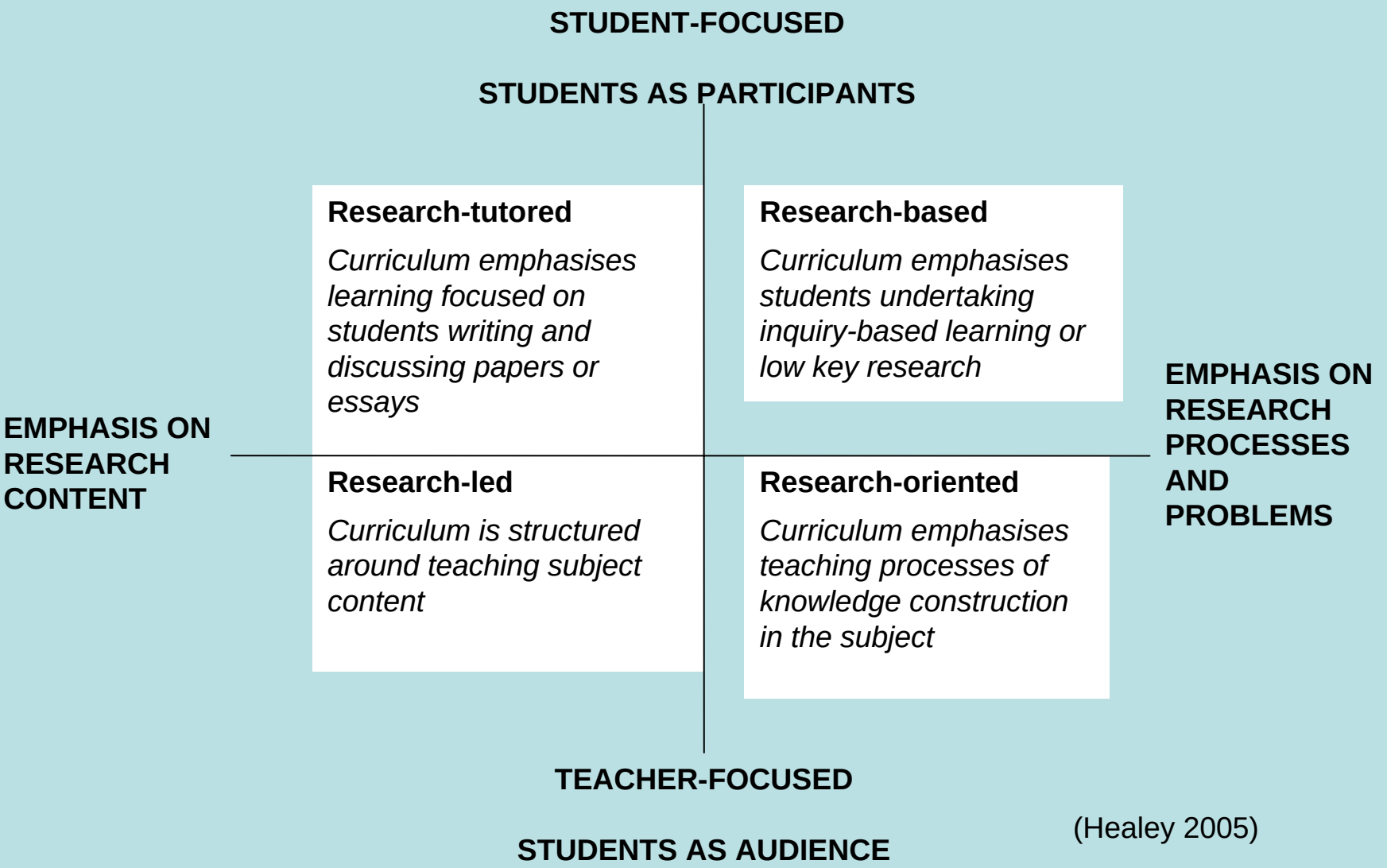


Linking research and teaching: different conceptions of research

- **Trading** view (community of practice)
- **Domino** view (techniques)
- **Layer** view (discovery)
- **Journey** view (ontology)

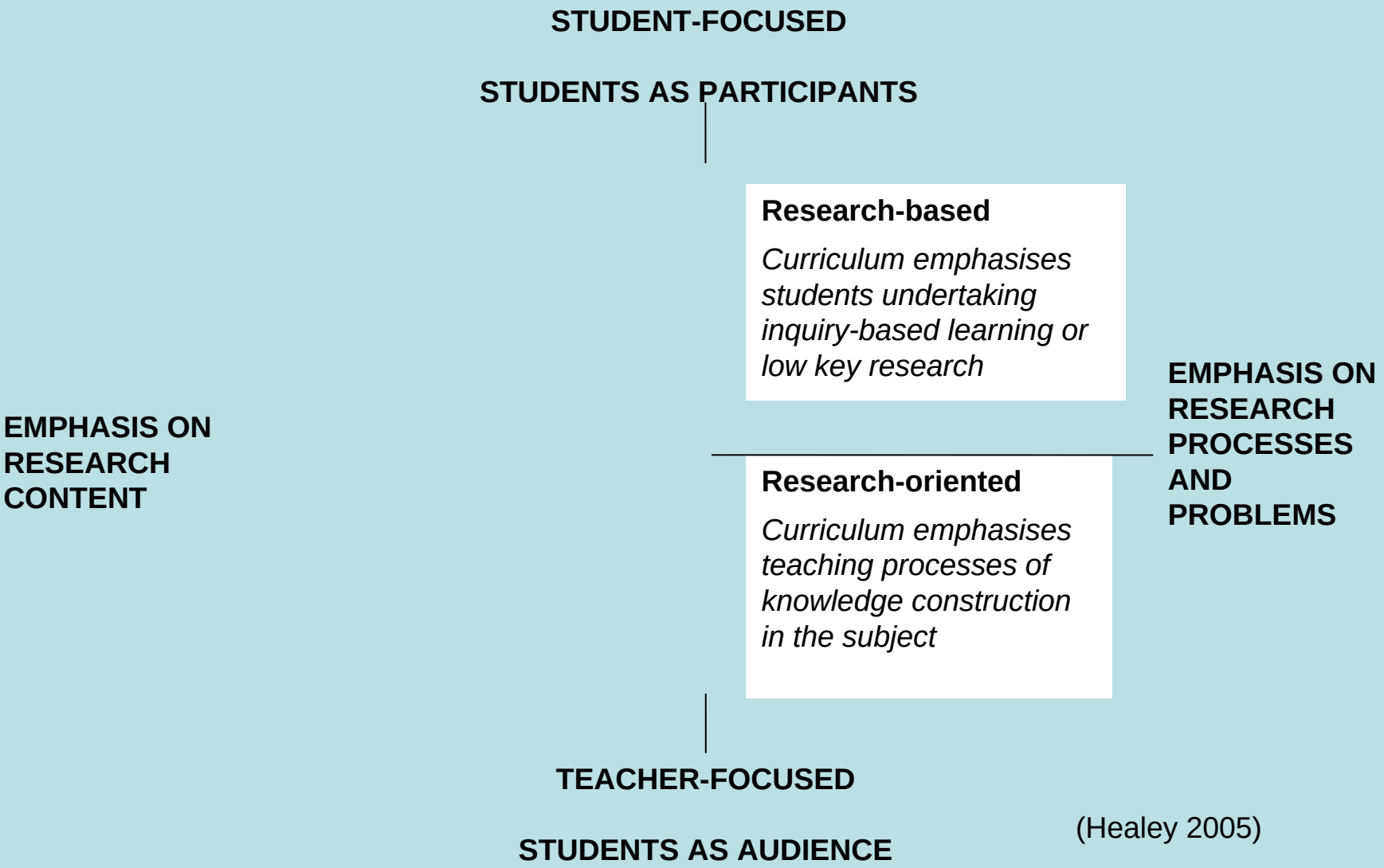
Source: Brew (2003 p.6)

Curriculum design and the research-teaching nexus



(Healey 2005)

Curriculum design and the research-teaching nexus



(Healey 2005)

Curriculum design and the research-teaching nexus

STUDENT-FOCUSED

STUDENTS AS PARTICIPANTS

Research-based

Curriculum emphasises students undertaking inquiry-based learning or low key research

EMPHASIS ON RESEARCH CONTENT

EMPHASIS ON RESEARCH PROCESSES AND PROBLEMS

TEACHER-FOCUSED

STUDENTS AS AUDIENCE

(Healey 2005)

Two clusters (Simons & Elen 2007 p.620)

- **Interpretive conception of knowledge**
- **Constructivist conception of education**
- **Learning = knowledge construction**
- **Education and research both involve learning as an essential process**
- **Researcher = expert learner**
- **Research = an exemplary learning process and is therefore useful for teaching.**

- **Classic rationalist conception of knowledge**
- **Research seen as application of technical rationality to lay bare, or solve problems.**
- **Transmissive (didactic) view of education**

Illustrations of practice

- Induction week Materials Science – ‘a product in ten years time’
- 2nd yr Literary Studies – ‘Tony Morrison’s *Jazz*’
- 1st yr Mech Eng – ‘dissection of a car’
- 1st yr Basic Psychology – ‘online peer groups’
- 2nd yr Chemistry ‘forensic investigation of a (fictitious) death’
- ‘Exhibitions’ as a research-teaching linkage in a School of Art

synergies with 1st year experience

- emphasis on success
- engagement (not just retention)
- empowerment
- ‘personalisation’
- strong influence of peers
- students as co-creators of their own learning experience
- desire to be challenged
- overcoming isolation and boredom factors
- promoting research skills for later professional roles
- higher status of final year teaching
- making large classes feel small

Academic transformation – degrees of readiness

- Institutional readiness
- Curriculum readiness
- Staff readiness
- Student readiness
- Employer readiness

1 Framing Tool (35 questions)

- Does the institution currently have any strategic plan that links research with teaching?
- Does the institution employ any current framework or model for the development of graduate attributes? Which attributes are identified?
- Do Research-Teaching Linkages feature in key policies? (Are specific resources applied to these?)
- Does the institution have any programme to promote undergraduate research?
- Do institutional excellence in teaching and learning awards emphasise R-T Linkages?

- Have there been any recent ‘strategic shifts’ in the institutional ‘game plan’, e.g. organisational systems, committee structures, revised policies, that might prioritise R-T Linkages or graduate attributes?
- Are there any institution-wide policies on Inquiry Based Learning?
- Have there been any specific events or awareness-raising initiatives to draw attention to R-T Linkages?
- Are there any specific scholarly awards that recognise the promotion of R-T Linkages?
- What are the patterns of reward or recognition for engaging in R-T Linkages ?

2 – Audit tool

Seven dimensions of audit

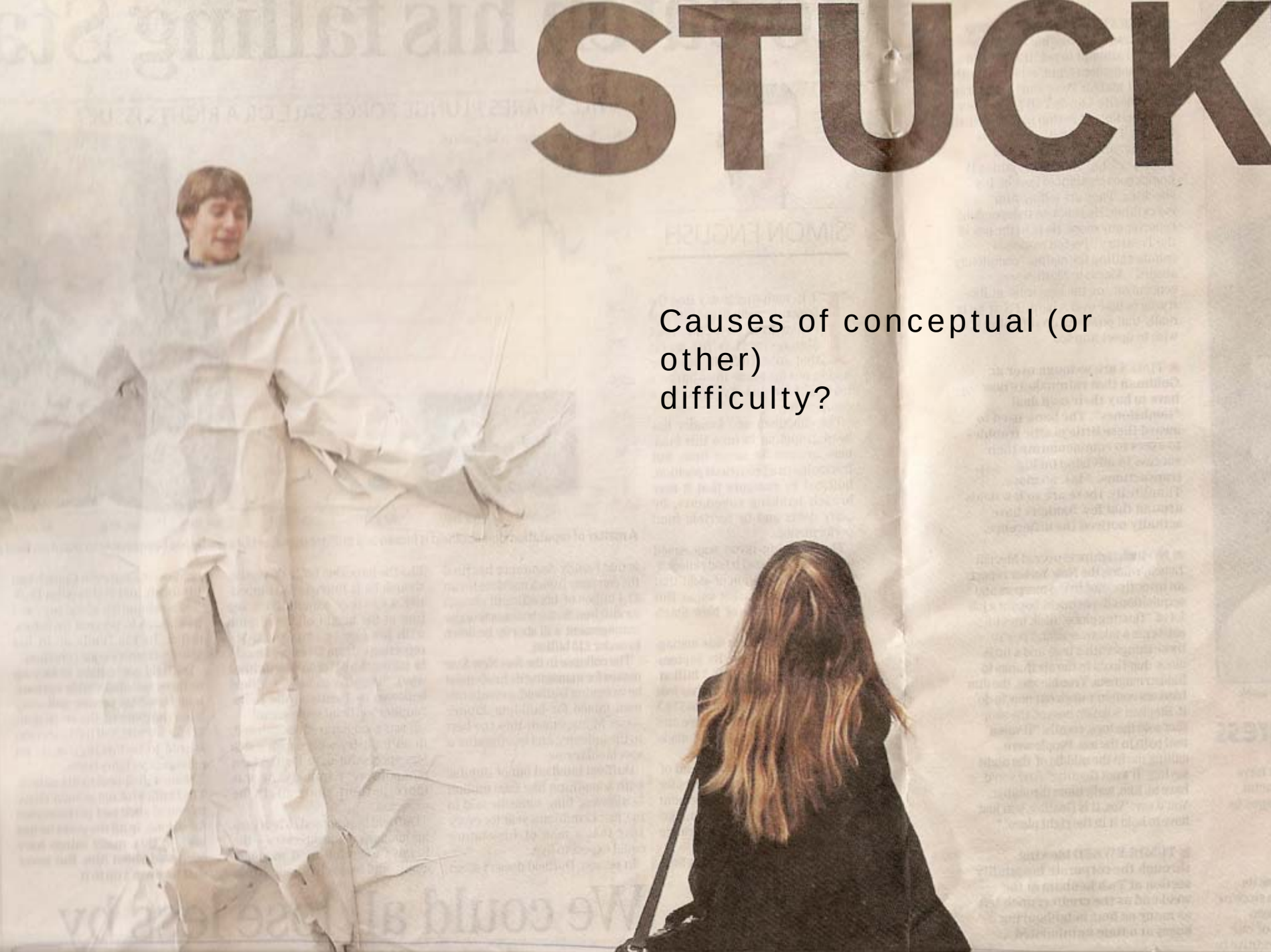
1. Procedural / Structural
2. Contractual / Reward Mechanisms
3. New Policies / Strategies
4. Engagement
5. Organisational direction
6. Graduate Attributes
7. Disciplinary cultures

Threshold Concepts and Troublesome Knowledge

A Transformative Approach to Learning

Troublesome knowledge

STUCK

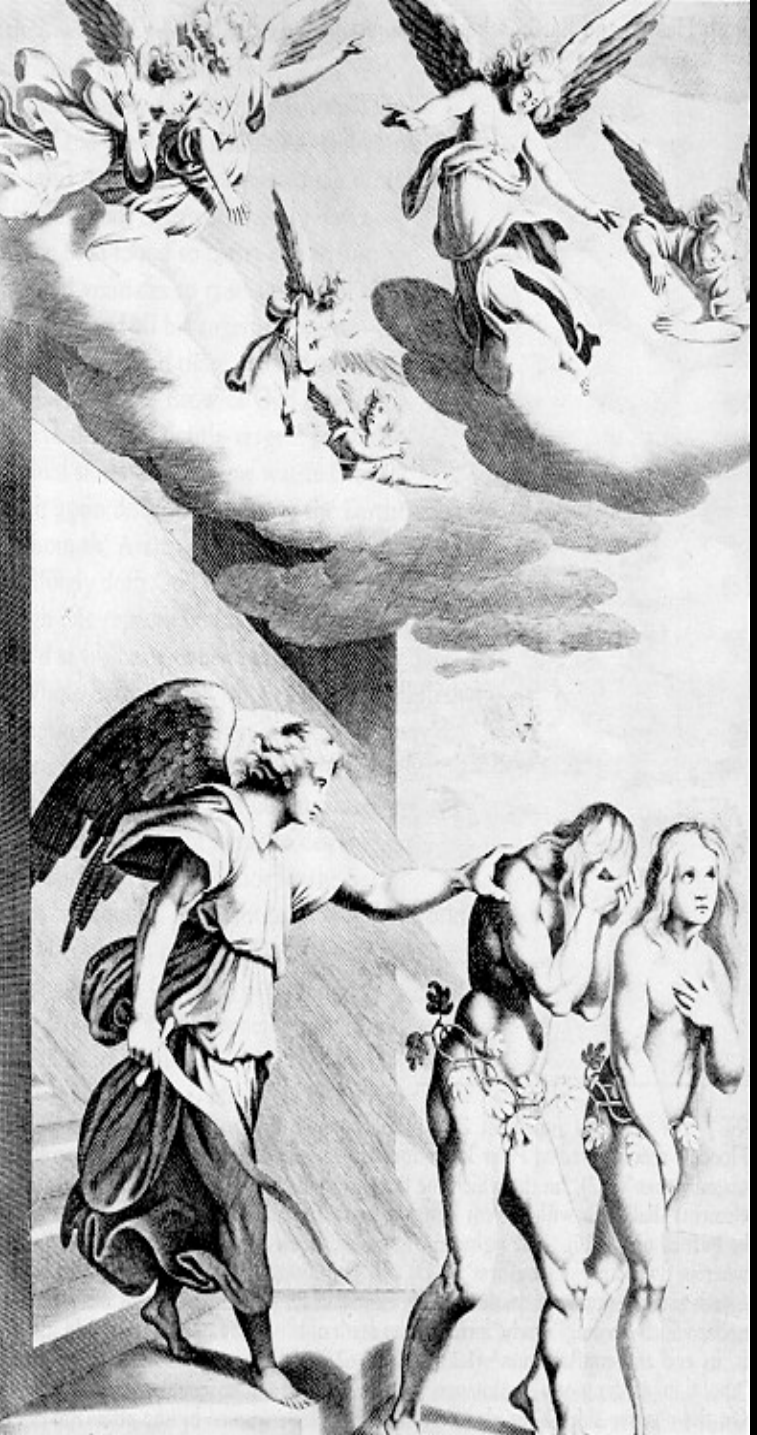


Causes of conceptual (or other) difficulty?

Threshold Concepts

Akin to a portal, a liminal space, opening up a new and previously inaccessible way of thinking about something.

Represents a transformed way of understanding, or interpreting, or viewing something without which the learner finds it difficult to progress, within the curriculum as formulated.



Characteristics of a threshold concept

- integrative
- transformative
- irreversible
- bounded
- re-constitutive
- discursive
- troublesome

However the engagement by the learner with an unfamiliar knowledge terrain and the ensuing reconceptualisation may involve a reconstitution of, or shift within, the learner's subjectivity, and perhaps identity.

Ontological implications. Learning as 'a change in subjectivity'.
(Pelletier 2007).

Liminality

- a transformative state that engages existing certainties and renders them problematic, and fluid
- a suspended state in which understanding can approximate to a kind of mimicry or lack of authenticity
- liminality as unsettling – sense of loss

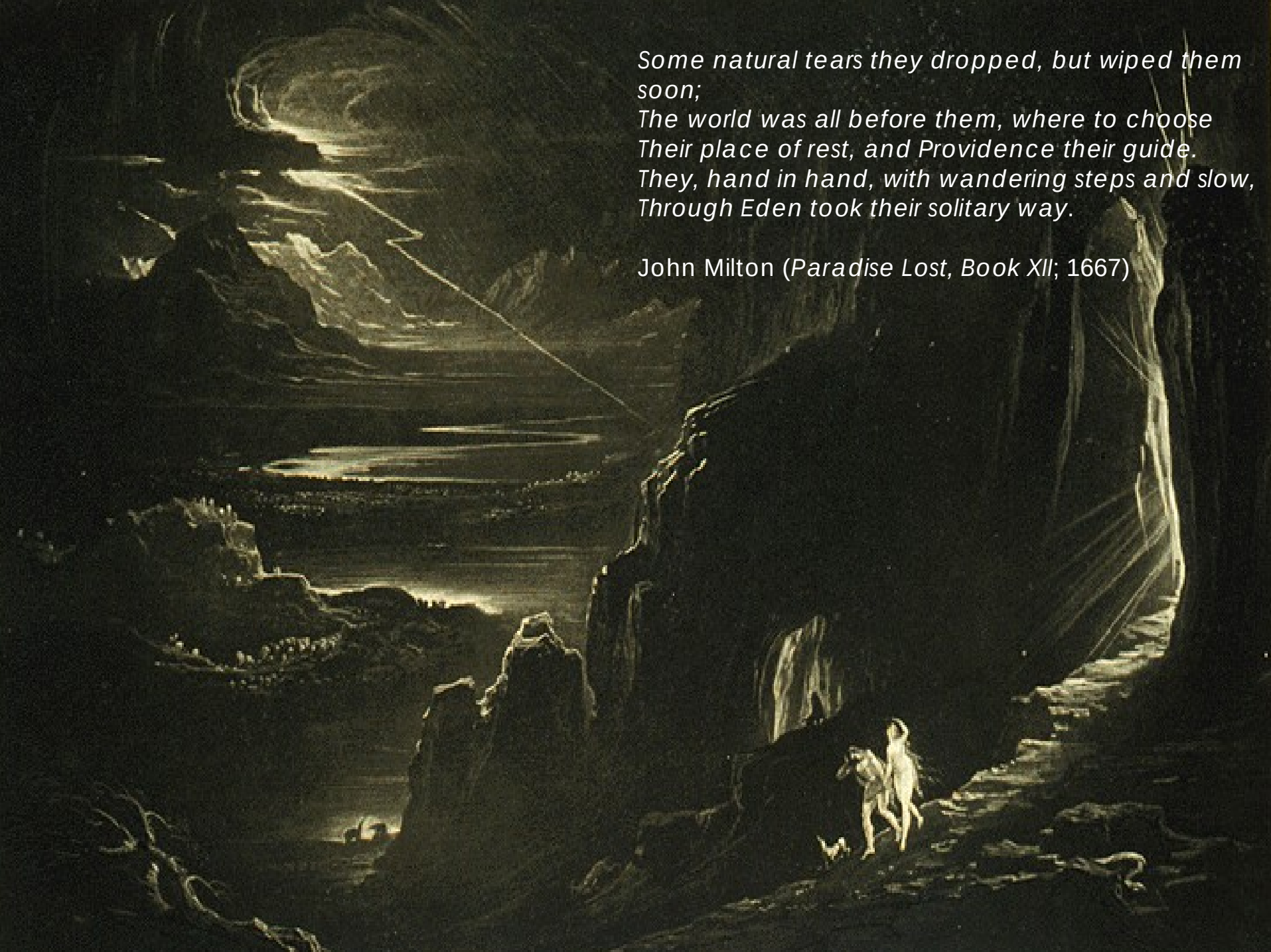
Janus – divinity of the threshold

epistemological

ontological

East of Eden

through the threshold



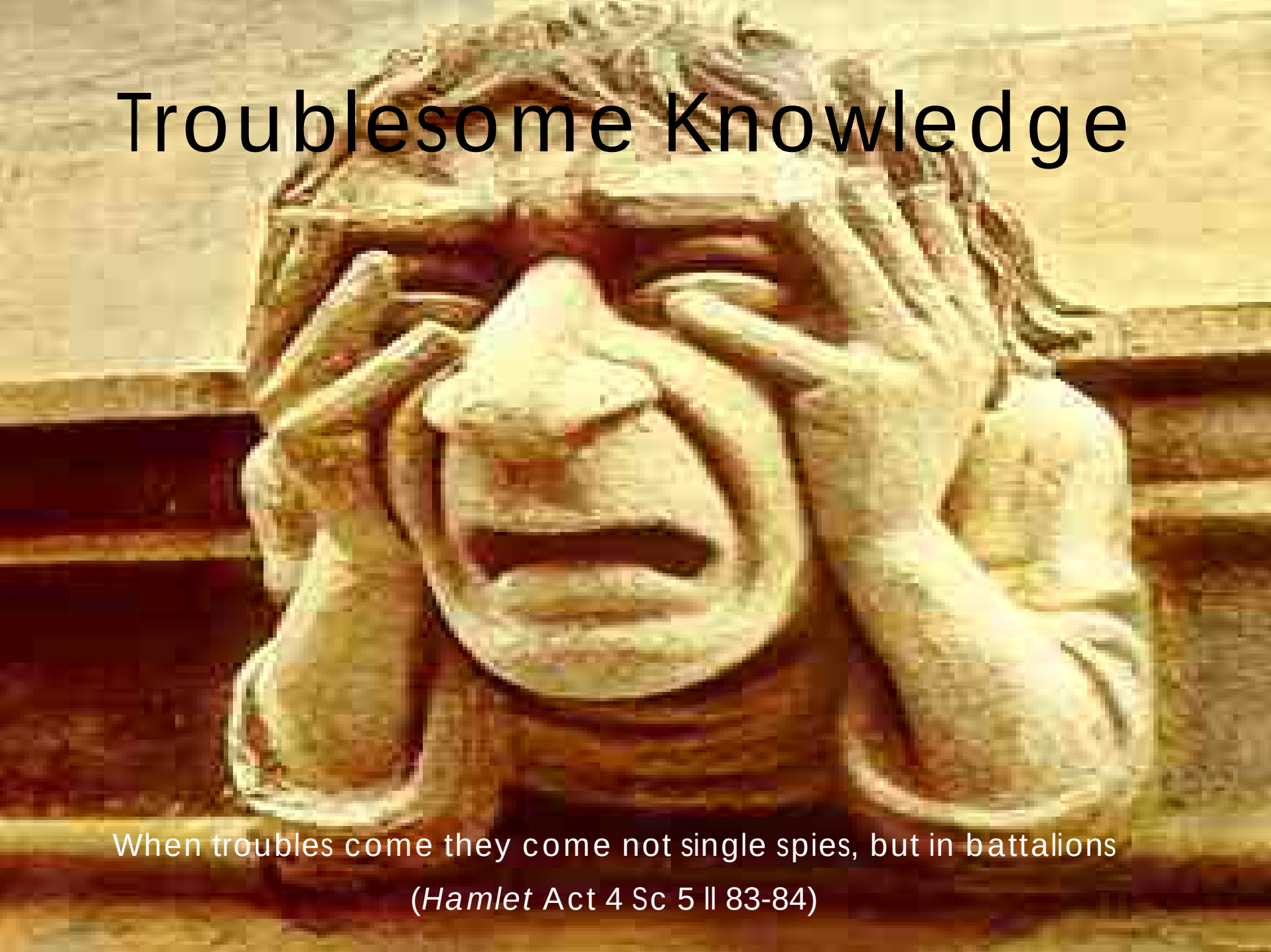
Some natural tears they dropped, but wiped them soon;
The world was all before them, where to choose
Their place of rest, and Providence their guide.
They, hand in hand, with wandering steps and slow,
Through Eden took their solitary way.

John Milton (*Paradise Lost, Book XII*; 1667)

Examples

- Pure Maths – ‘complex number, a *limit’,* the Fourier transform’
- Literary Studies – ‘signification, deconstruction, ethical reading’
- Economics – ‘opportunity cost, price, elasticity’
- Design – ‘Confidence to challenge’
- Computer Science – ‘programming’, ‘Y and Recursion’
- Exercise Physiology – ‘metabolism’
- Law - ‘precedence’
- Accounting - ‘depreciation’
- Biology, Psychology - ‘evolution’
- Politics – ‘the state’
- Engineering – ‘reactive power’, ‘spin’
- History – ‘Asiatic Conceptions of Time’
- Comparative Religion– ‘Biblical texts as Literary Texts’
- Plant Science ‘Photoprotection’
- Health Science – ‘Care’
- Physics – ‘Gravity’
- Geology - ‘Geologic Time’

Troublesome Knowledge



When troubles come they come not single spies, but in battalions

(*Hamlet* Act 4 Sc 5 ll 83-84)

Troublesome knowledge

- ritual knowledge
- inert knowledge
- conceptually difficult knowledge
- the defended learner
- alien knowledge
- tacit knowledge
- loaded knowledge
- troublesome language

Decoding the Disciplines

1. What is a bottleneck to learning in your class?
2. How does an expert do these things?
3. How can these tasks be explicitly modelled?
4. How will students practise these skills and get feedback?
5. What will motivate the students?
6. How well are students mastering these learning tasks?
7. How can the resulting knowledge about learning be shared?

(Middendorf, J. and Pace,D. 2004)

Reflection (deep learning) (Schwartzman 2009)

As a result of deep learning, one switches dynamically -- within the same field of consciousness -- among thematic foci, with correspondent restructuring of thematic fields. The total set of elements in the field remains constant, while boundaries among the thematic focus, the thematic field, and the margin become fluid; and component elements shift between adjacent domains. The mechanism of dynamic switching among extant elements corresponds to *reflection*; ***the operation corresponds to refinement and clarification of one's extant meaning frame.***

Reflectiveness (transformative learning) (Schwartzman 2009)

As a result of transformative learning, in contrast, the contents of the field of consciousness change. Elements formerly not found in any domain of consciousness, possibly including component parts of elements formerly classified as nondecomposable, now occupy the thematic focus or reside in the thematic field; and some elements formerly found there are now relegated to the margin. The mechanism remains mysterious and corresponds to reflectiveness; ***the operation, which results in a different population in the field of consciousness, corresponds to reformulation of one's meaning frame***.

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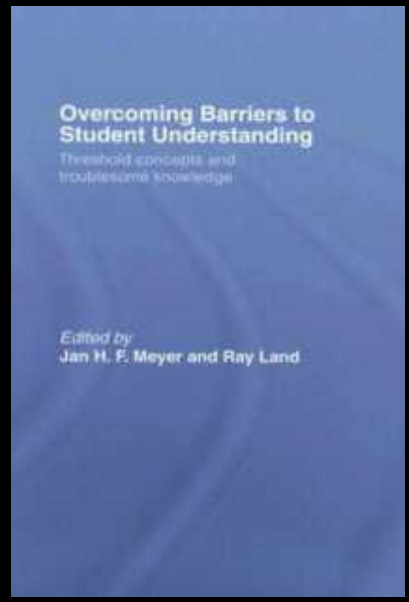

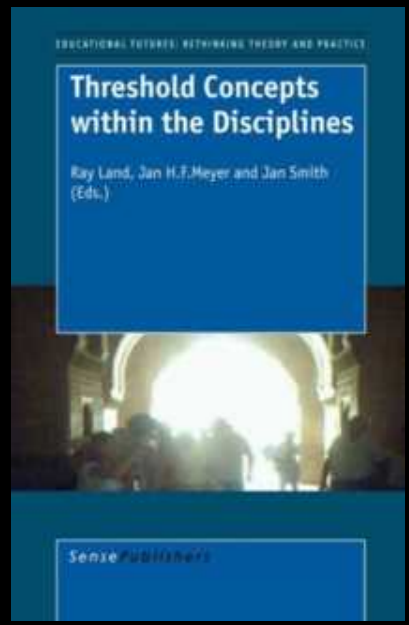

Thank you

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Project information at:

http://www.enhancementthemes.ac.uk/themes/ResearchTeaching/outcomes.asp