Higher Education
Academy

TRANSFORMING TEACHING
INSPIRING LEARNING

Research informed teaching (RIT) and Enquiry based teaching (EBL)

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Why is research informed teaching important?

For the students who are the professionals of the future, developing the ability to investigate problems, make judgments on the basis of sound evidence, take decisions on a rational basis, and understand what they are doing and why is vital. Research and inquiry is not just for those who choose to pursue an academic career. It is central to professional life in the twenty-first century.
(Brew 2007, p. 7)

Enquiry-based learning (EBL)

Enquiry-Based Learning (EBL) – learning that is driven by a process of enquiry

It can address a range of contemporary issues.

Some of the characteristics of EBL are as follows:

- Engagement – with a complex problem or scenario – that is sufficiently open-ended to allow a variety of responses or solutions.
- Students direct the lines of enquiry and the methods employed.
- The enquiry requires students to draw on existing knowledge and to identify their required learning needs.
- Tasks stimulate curiosity in the students, encouraging them to actively explore and seek out new evidence.
- Responsibility falls to the student for analysing and presenting that evidence in appropriate ways and in support of their own response to the problem.

Examples of EBL approaches

- Case-based learning
- Scenario-based learning
- Problem based learning
- Project based learning

See NTU document on research informed teaching (RIT) on Brightspace

Synergies between RIT and EBL

The connection between EBL and undergraduate research as categorised within the rhetoric of research informed teaching is contentious. Jenkins and Healey argue that 'even if not identical [...] they are certainly complementary and mutually reinforcing' (Jenkins and Healey 2009, p22). The authors consider that both EBL and RIT focus on learning through enquiry however Tosey and McDonnell (2006, p.5), raise two major objections to the merging of enquiry with research, these being: firstly, the acceptance rather than the challenging of current orthodoxies in research; secondly, while formal research training may be sufficient for new disciplinary-situated researchers they question whether it is adequate for the development of transferable skills more generally. They argue of EBL that, 'This process of learning draws upon research skills and study skills, but enquiry is not reducible to either research or study' (Tosey and McDonnell 2006, p. 2).

How is research being used?

- ‘Are students working with knowledge in an **‘information frame’** which involved acquiring existing knowledge or a **‘discovery frame’** which involved building new knowledge?’ Spronken-Smith and Walker. 2010

Research teaching nexus (RTN)

Or Teaching research nexus (TRN)

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RTN - history

- The notable moments from which we have created our academic identity encompass both teaching and research.
- Original concepts of RTN explored by Griffiths in 2004; adapted further by Healey and Jenkins 2009.

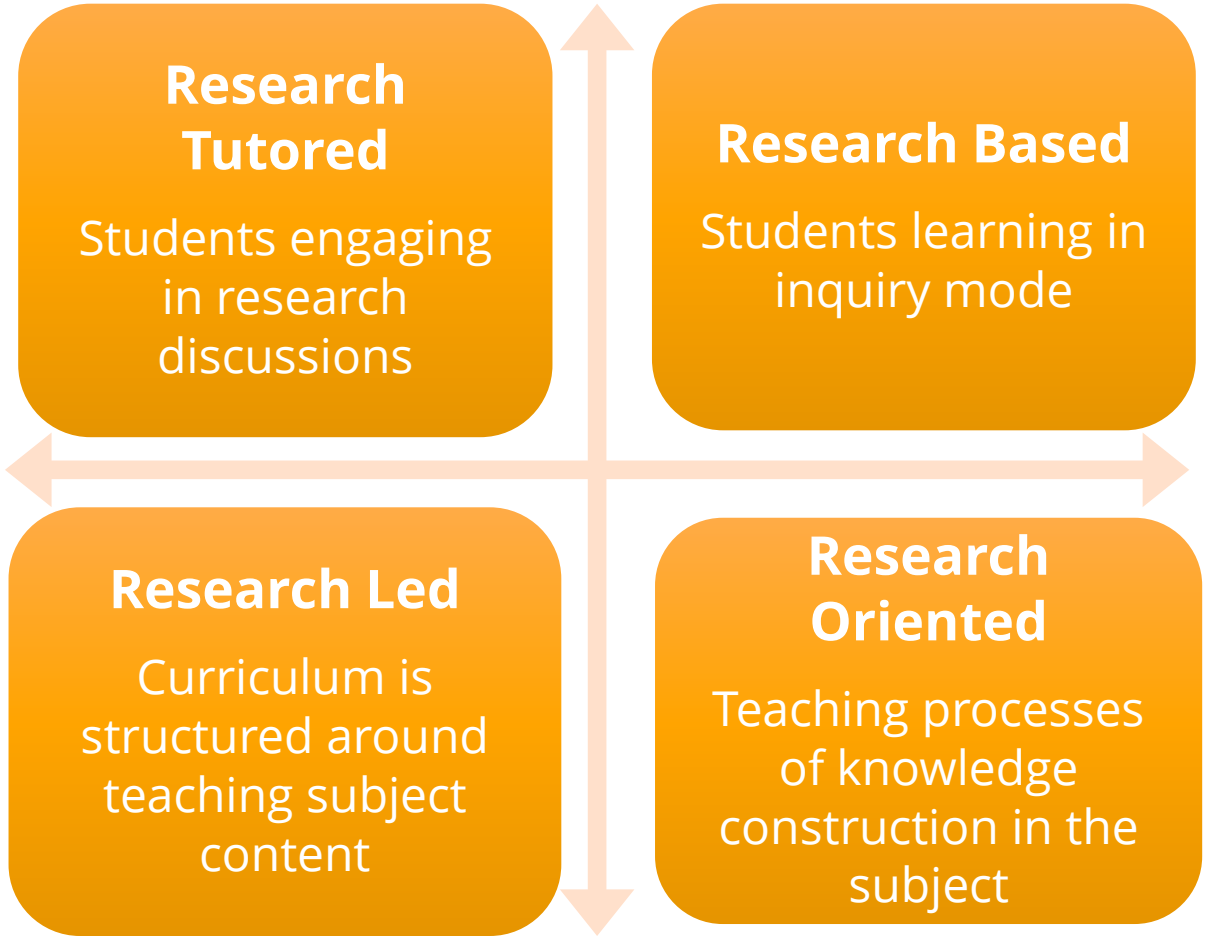
Useful references:

- See more about RTN or TRN in this article by Brad Wuetherick: https://academicmatters.ca/2009/10/unpacking-the-teaching-research-nexus-and-its-influence-on-academic-practice/#sthash.bIlB7NLy.dpuf
- Brew, A., & Boud, D. (1995). Teaching and research: Establishing the vital link with learning. Higher Education, 29, 261-273. doi:10.1007/BF01384493
- Brew A. (2006). Research and Teaching: Beyond the Divide. New York: Palgrave-MacMillan.

Research-teaching nexus (Healey and Jenkins 2009)

STUDENT FOCUSSED
Students as participants

Emphasis on research content



Emphasis on research processes and problems

TEACHER FOCUSSED
Students as audience

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Different conceptualisations of research-teaching nexus: (the quadrant):

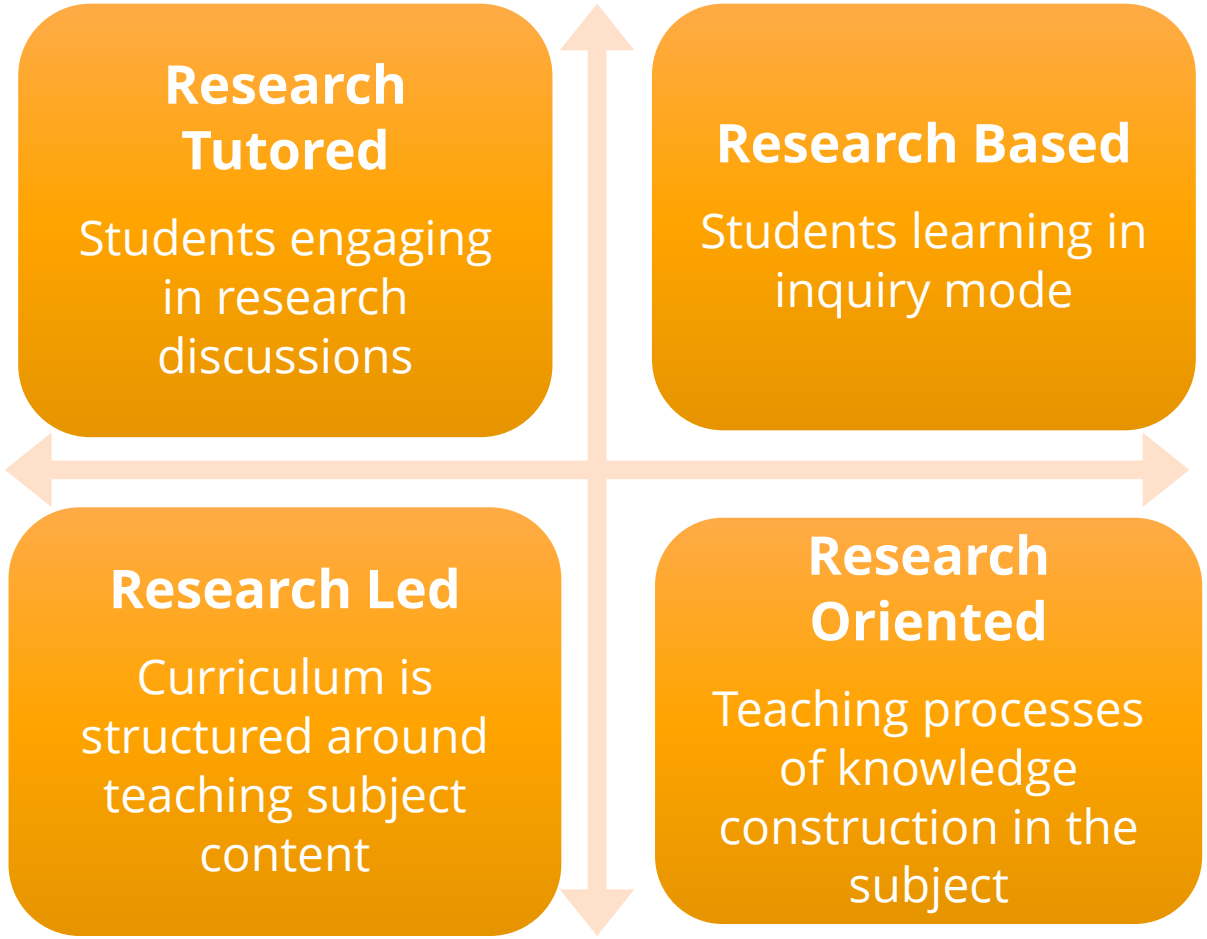
1. RESEARCH LED: research at the fore of the discipline, as well as the research of the individual academic teaching in the classroom, informs the content of the courses being taught.
2. RESEARCH ORIENTED: students are taught research methods.
3. RESEARCH BASED: students are engaged in active, research-based learning, which can be found in degree programmes that are predominantly structured around problem-based or inquiry-based learning but which can be implemented at the level of the individual course where students undertake a research project.
4. RESEARCH TUTORED: Collaboration with academics in research. Students can be engaged in discovery research, normally where students work (often one-on-one or as part of research teams) with academics to undertake discovery research – co-authoring papers with your students, but these can also include students completing dissertations as part of honours programs, and encouraging students to submit to undergraduate journals or undergraduate research conferences.

Plus an additional category: academics engaging in pedagogical research, or the scholarship of teaching and learning. Could be undertaken with students as co-inquirers

Research-teaching nexus (Healey and Jenkins 2009)

STUDENT FOCUSSED
Students as participants

Emphasis on research content



Emphasis on research processes and problems

TEACHER FOCUSSED
Students as audience

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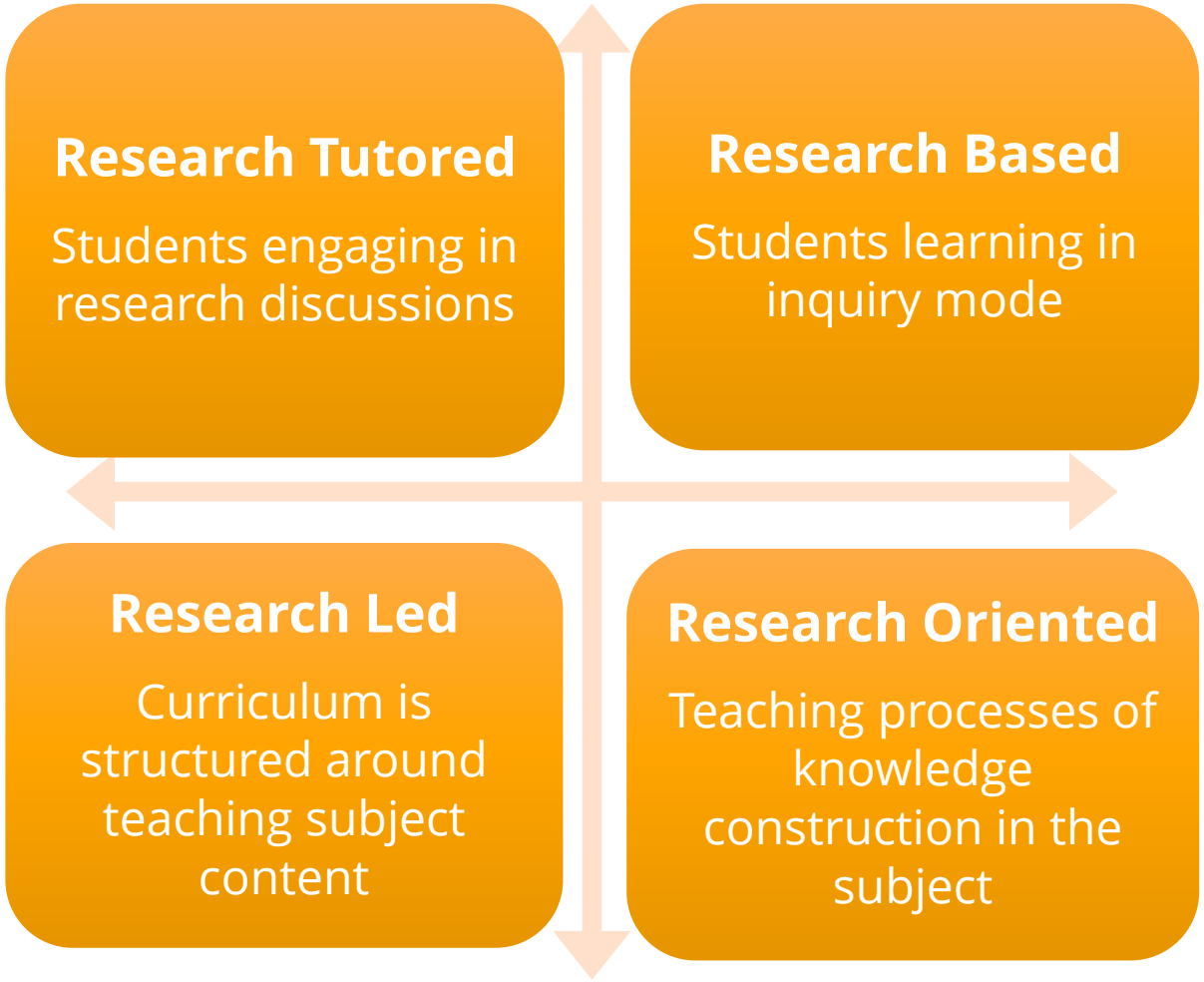
Activity: map your teaching onto the model

Map your teaching onto the model

Include:

- Course materials and reading lists
- Face to face interactions
- Online interactions
- Assessment and feedback
- Student feedback



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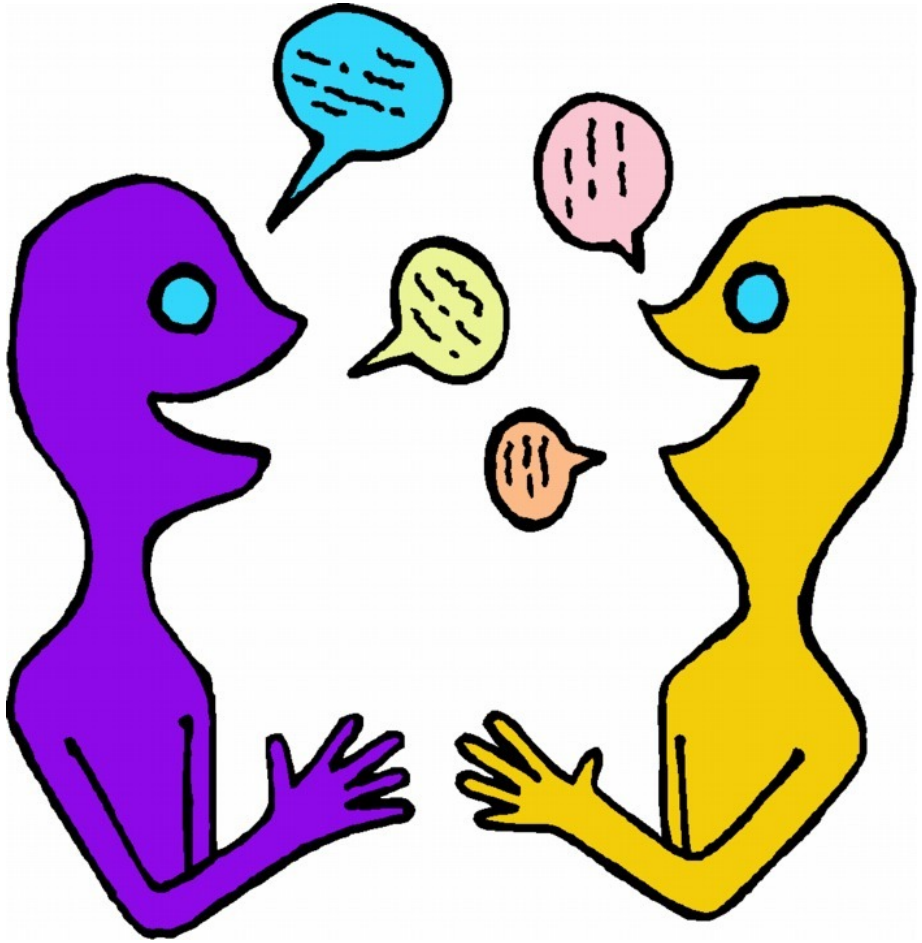
Think aloud

- Swap your map with a neighbour
- Explain your map to the neighbour



Different journeys through disciplinary spaces

- Subject content
  - Can be hard to integrate RTN earlier than the final year because of the hierarchical structure of the curriculum in 'hard' disciplines
- Social Process
  - Common for students in the 'hard' disciplines to work with staff as part of a research team
- Role of professional associations
  - Restricting the amount of RTN in the curriculum in favor of professional competencies

Take students through cycle – progressive, depends on discipline

Foundation

- Knowledge viewed as certain
- Reliance on authorities as source of knowledge
- Externally defined value system and identity
- Act in relationships to acquire approval

Intermediate

- Evolving awareness of multiple perspectives and uncertainty
- Evolving awareness of own values and identity and of limitations of dependent relationships

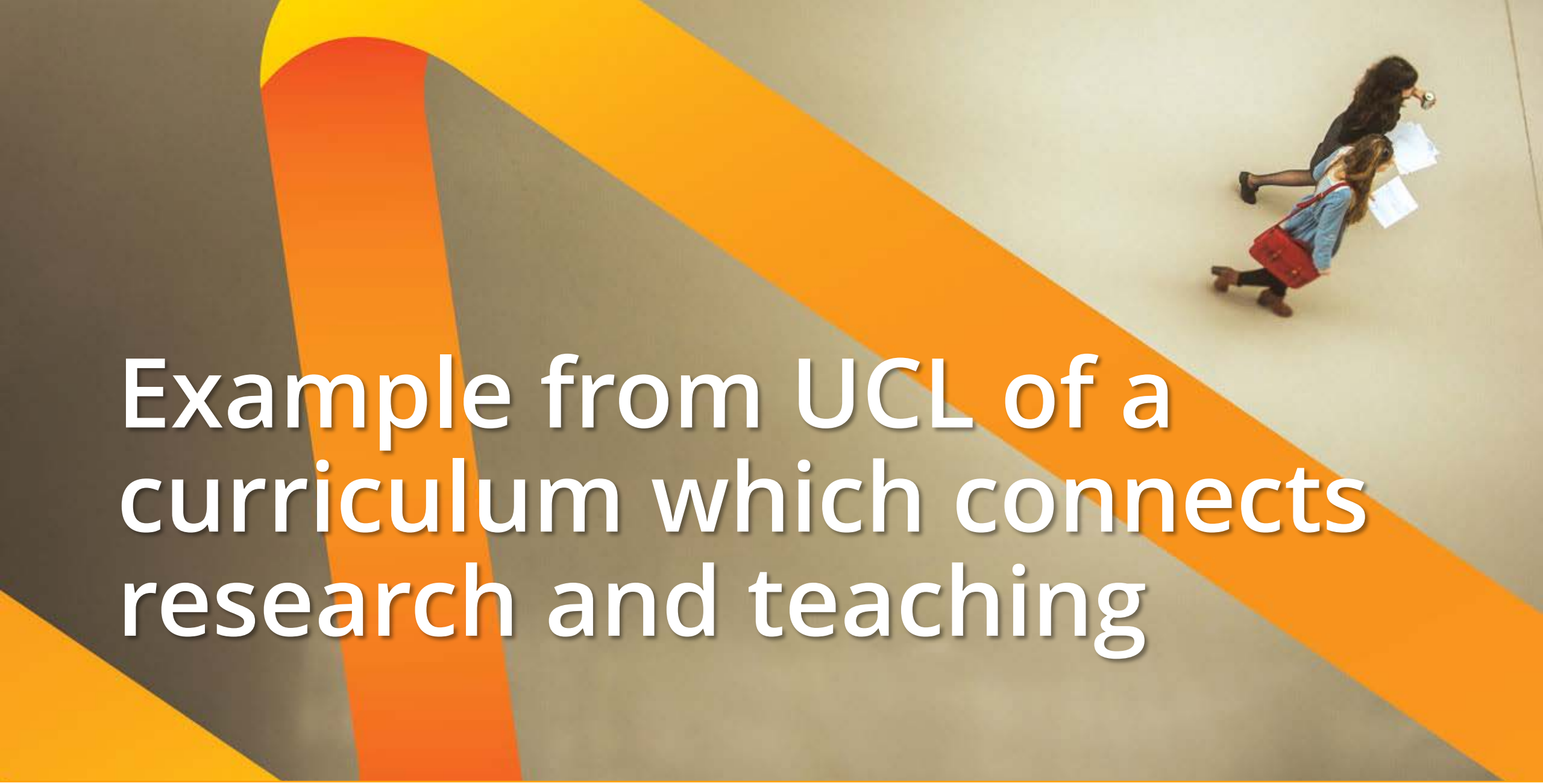
Capstone

- Awareness of knowledge as contextual
- Development of internal belief system ad sense of capacity to engage in authentic, interdependent relationships

Mapping of learning assessment outcomes based on Hodge et al. (2008)

And now – quick write about your research informed practice

And how will your new module include research informed teaching?



Example from UCL of a curriculum which connects research and teaching

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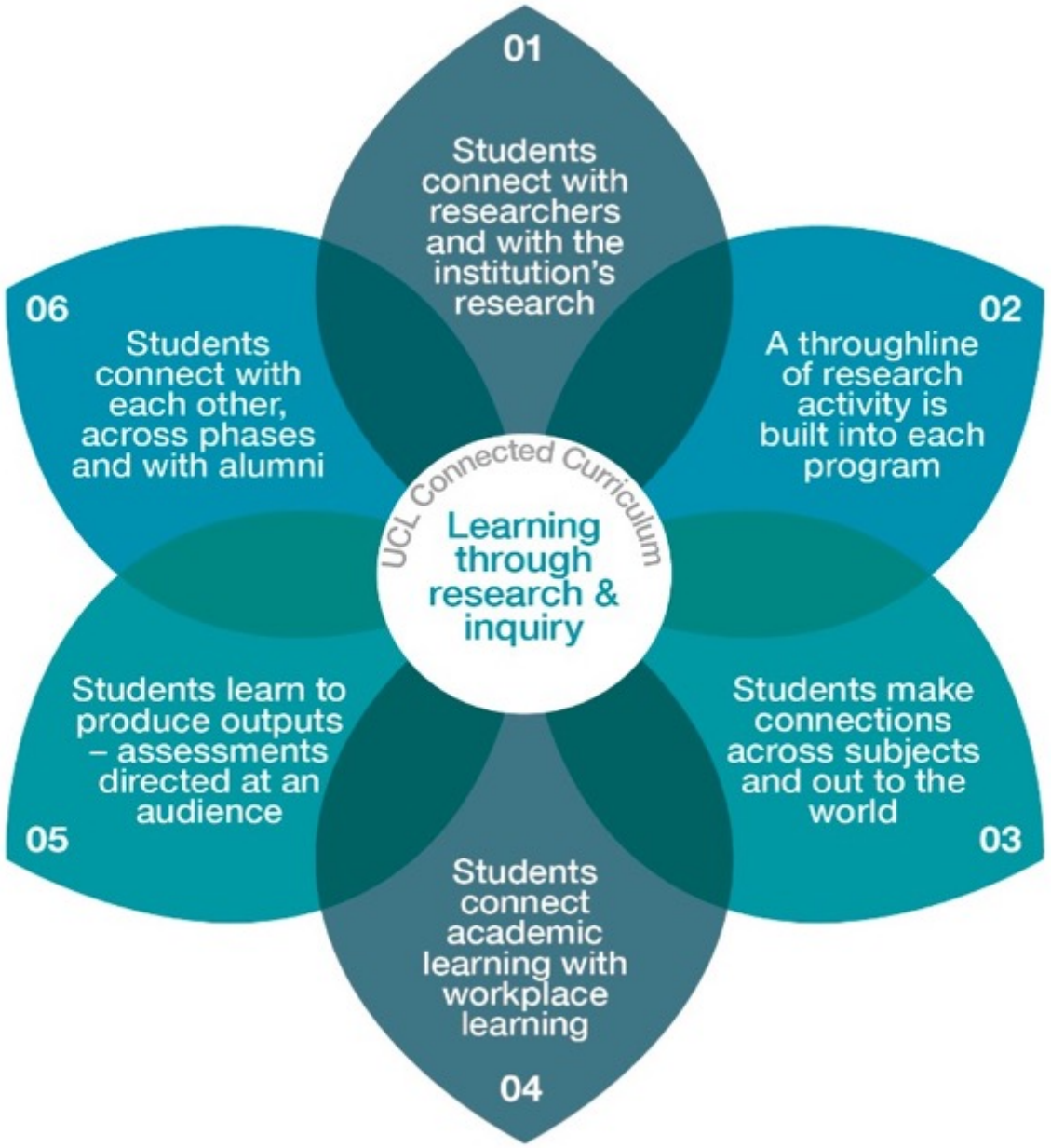
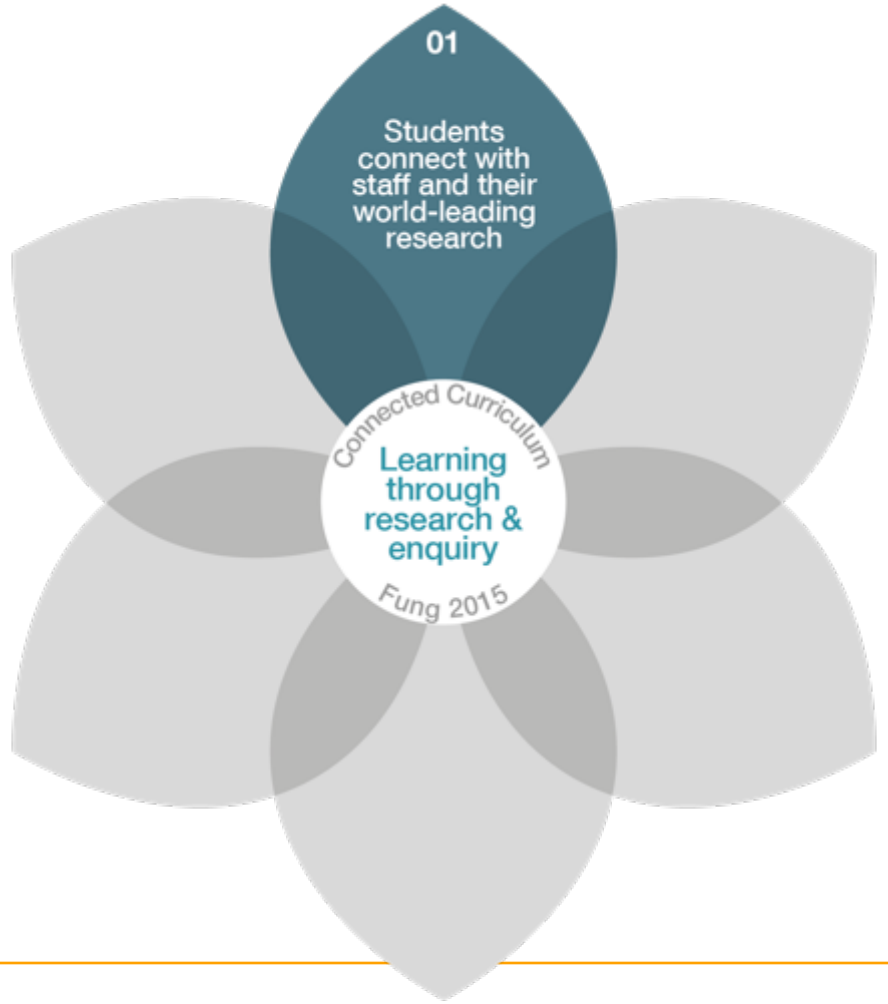
The Connected Curriculum Framework

See Fung, D. (2017a)
A Connected Curriculum for Higher Education
UCL Press: London

Ebook on Brightspace

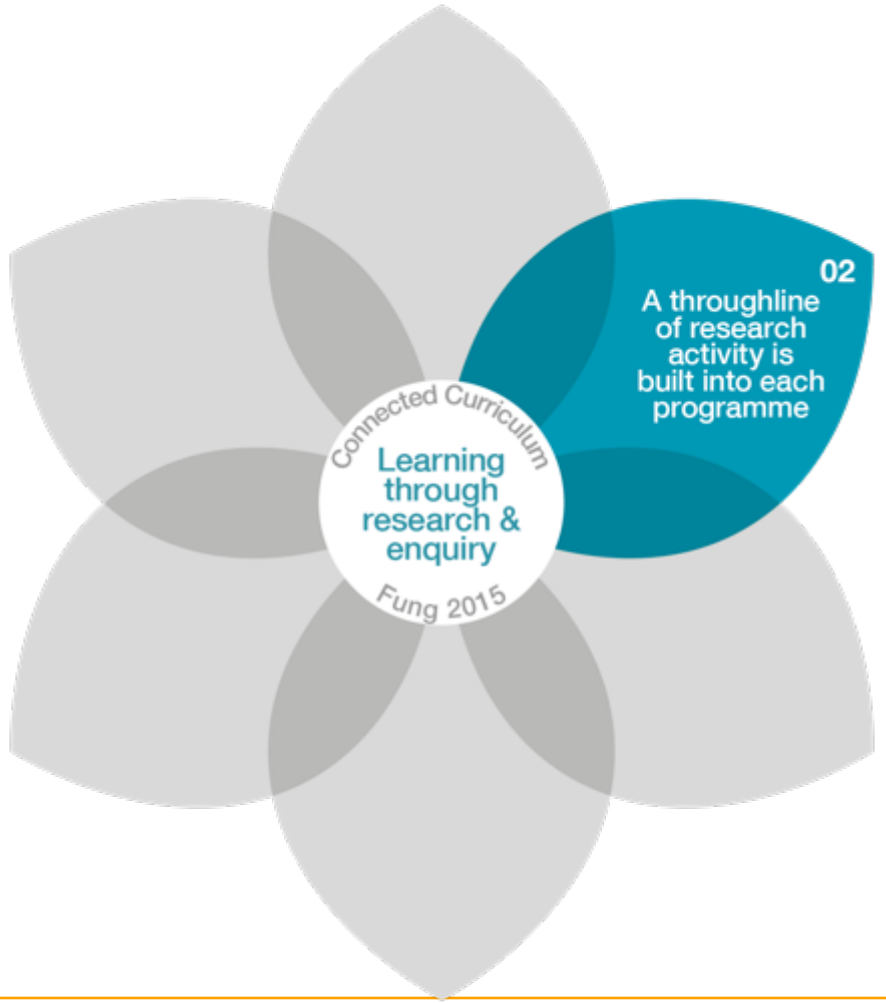


Connecting with research and researchers



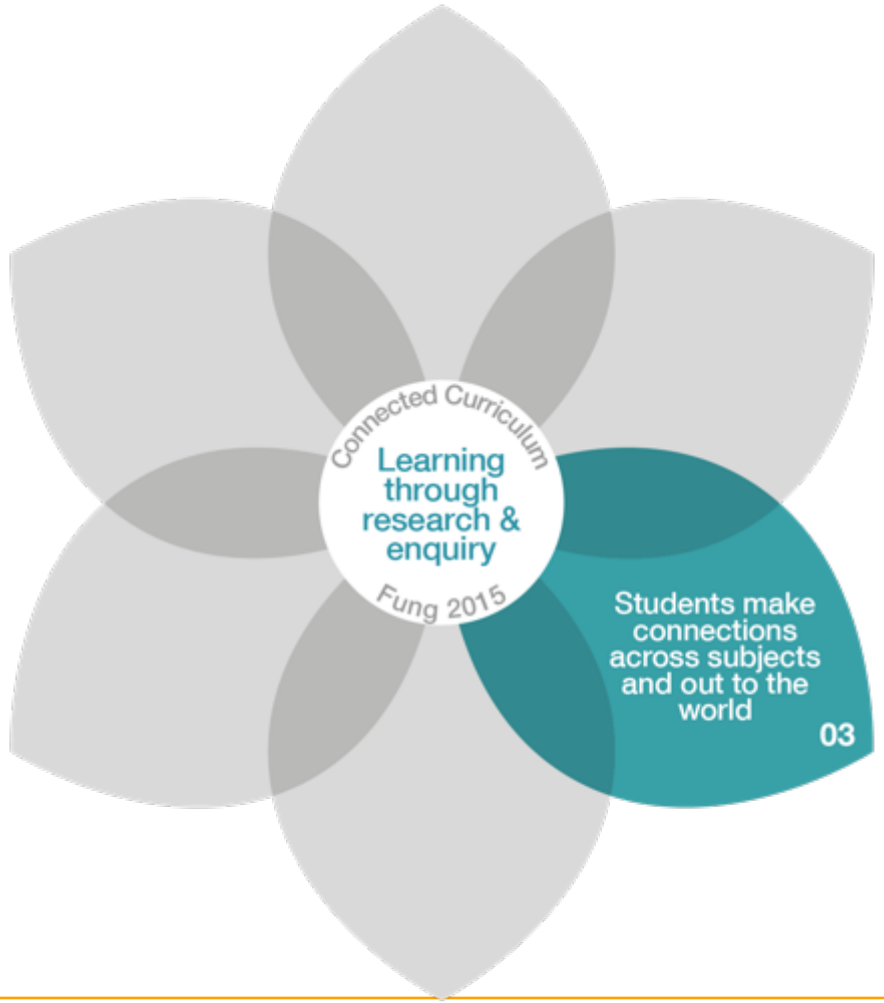
- Are students introduced to and inspired by the latest research in the field, including that undertaken by the department?
- Do their courses and the wider activities and events in their department enable them to meet, learn from and even challenge researchers and scholars?

A ‘throughline’ as part of programme design



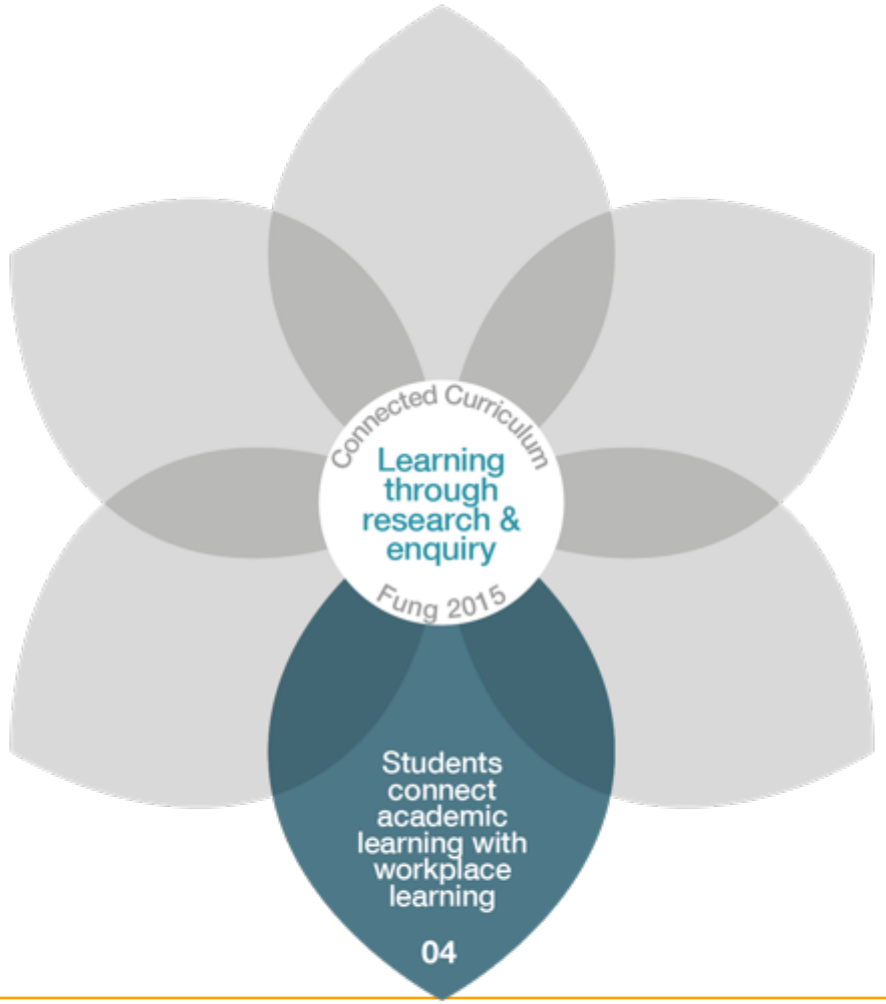
- Is there a connective storyline of enquiry, e.g. in the pattern of learning/research activities and assessments, which helps students to build their own coherent learning narrative?
- Is there a clearly constructed sequence of enquiry-based activities across the years of study that enables students to go beyond accumulating knowledge and develop themselves reflectively as critical, creative people?

Outward looking, interdisciplinary connections



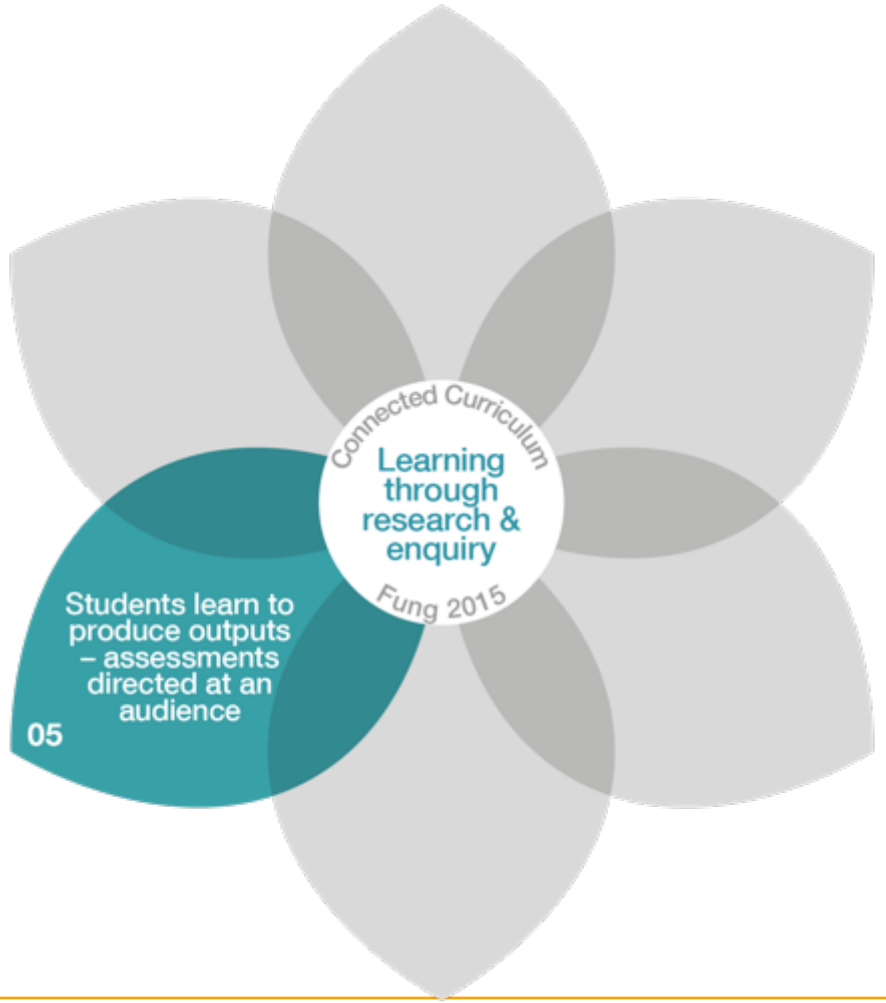
- Can students connect outwards from their immediate subject(s) of study and learn to tackle multi-layered challenges using different 'knowledge lenses'?
- In doing this, can they build understandings of and links with appropriate external communities and organisations?
- Are they encouraged to analyse their ethical bearings through developing research integrity, social responsibility and global citizenship?

Workplace connections



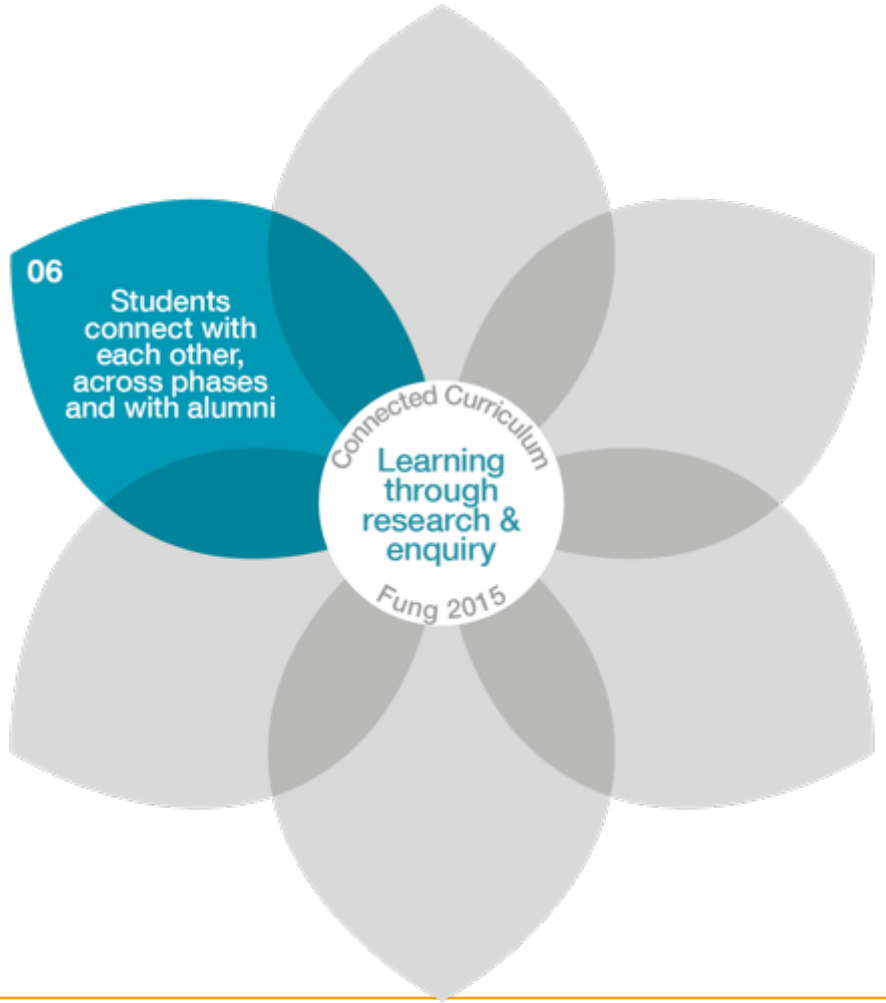
- Are students developing a range of professional attributes, such as leadership, project management, creativity, communication and problem-solving skills?
- Can students make and articulate conceptual and practical connections between their academic learning and the lifelong learning needed for employment and for their future lives?

Students as producers: outward-facing assessments



- Are some assessments of student learning outward facing, directed at an identified audience, giving students a voice beyond the class?
- Can students demonstrate an ability to use a range of digital media effectively, as well as different modes of writing, visual and oral communication, as they express their insights and arguments to others, both within and beyond the institution?

Human connections



- Are students explicitly invited into an inclusive research and learning community?
- Are there opportunities for them to meet, mentor and work collaboratively with their fellow students across year groups?
- Are alumni actively engaged in the learning and research community, e.g. by enriching the curriculum with their expertise, contributing to mentoring schemes or working with departments to enhance their educational provision?

Connected Curriculum Framework

(Fung 2017, 5)