
Integrating Undergraduate Research into the Curriculum: International Perspectives on Capstone and Final-year Projects

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**“new models of curriculum ... should
all ... incorporate research-based
study for undergraduates”**

(Ramsden, 2008: 10-11)

Brief biography

- HE Consultant and Researcher and Emeritus Professor University of Gloucestershire, UK; Adjunct Professor Macquarie University, Australia
 - Economic geographer and previously Director Centre for Active Learning
 - Director HE Academy projects on 'Undergraduate research' and 'Rethinking final-year projects and dissertation'
 - Ex-VP for Europe International Society for Scholarship of Teaching and Learning
 - National Teaching Fellow and Principal Fellow HE Academy
 - Advisor to Canadian Federal Government 'Roundtable on Research, Teaching and Learning in post-Secondary Education' (2006)
 - Advisor to National Academy for Integration of Research, Teaching and Learning (Ireland) (2007-11)
 - Advisor to Australian Learning and Teaching Council / Office of Learning and Teaching Projects on the 'Teaching-research nexus' (2006-08), 'Undergraduate research' (2009-10); 'Teaching research' (2011-13); and 'Capstone curriculum across disciplines' (2013-14)
 - Advisor to League of European Research Universities on research-based teaching (2009)
 - International Co-Editor Council on Undergraduate Research Quarterly
 - Research interests: linking research and teaching; scholarship of teaching; active learning; developing an inclusive curriculum; students as change agents
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Developing and enhancing undergraduate final-year projects and dissertations



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http://www.heacademy.ac.uk/projects/detail/ntfs/ntfsproject_Gloucestershire10



Capstone and final-year projects: Terminology

Dissertation: In the UK this normally refers to an undergraduate honours *project*, while in North America it usually refers to a doctoral level project. In North America the term '*project*' or '*thesis*' is used to refer to research projects at undergraduate level.

Capstone project: This is commonly used in North America and Australasia for a final-year project which provides opportunities for students to synthesise and apply their knowledge and experiences from their whole programme. It helps the transition to the next stage of their career.

Our interest is in those capstone projects where students undertake a significant amount of research and inquiry.

Capstone and final-year projects

We value highly the traditional final-year project as a potentially transformational experience, but we feel **one size does not fit all.**

Argue **need for greater choice** in the form the dissertation may take, the nature of the end product, and the ways in which it is assessed.

Additional or alternative experience?

Capstone and final-year projects

Rethinking final-year Projects and Dissertations: Creative Honours and Capstone Projects (2010-12) NTFS project

Developing research-based curricula in college-based higher education (2013) HE Academy project

Capstone and final-year projects

In US: The Boyer Commission (1998, 27) recommended that **all undergraduate programmes should “*Culminate with a capstone experience.*”** The final semester should focus on a major project and utilize to the full the research and communication skills learned in the previous years.”

Capstone and final-year projects

In Australia: Holdsworth *et al.* (2009) reported on *Developing Capstone Experiences.*

In Europe: The reshaping of the length of the undergraduate degree through **the Bologna process** has forced rethinking about whether, how and when to ensure a research emphasis.

Capstone and final-year projects

In Britain: The final-year **dissertation**, which has traditionally been seen as the gold standard for higher education, is **coming under pressure for reform** as **student participation rates have increased, the numbers studying professional disciplines have grown, and staff-student ratios have deteriorated.**

Capstone and final-year projects

Our focus is on students undertaking research in their final-year, but it is **wider in its conception, function, form, location and how it is disseminated and assessed** than the traditional capstone project or dissertation.

Capstone and final-year projects

Wider in their:

- **conception** (e.g. collaborative projects as part of a research group; consultancy projects);
 - **function** (e.g. synthesising capstone projects; preparatory projects for transition into a profession);
 - **form** (e.g. student group projects);
 - **location** (e.g. employer and community based projects);
and/or
 - **how they are disseminated and assessed** (e.g. through exhibitions, undergraduate research conferences and other forms of public engagement)
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Capstone and final-year projects

Alternative research-led projects in Biosciences at Durham

- a) Laboratory-based project
 - b) Biology enterprise
 - c) Biology into schools
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Capstone and final-year projects

MIT@Lawrence is a university-community partnership that connects faculty, students and staff at MIT with community-based organizations and civic leaders in the City of Lawrence, Massachusetts.

Capstone and final-year projects

**British
Conference on
Undergraduate
Research**

Key characteristics of final-year projects and dissertations

Though we argue that there should be a variety in the conception, function, form, and location of final-year projects and dissertations and how they are disseminated, *all should deliver a set of core learning outcomes.*

In small groups discuss whether you agree with the ten key characteristics on pp1-3 and are there any missing.

Capstone and final-year projects

Alternative or additional projects, some of which may be employment or community-based, **are required to meet the needs of *all* students** regardless of background, discipline or life goals.

Capstone and final-year projects

Case studies

1. Arts, Design, Media and Humanities
 2. Business, Hospitality, Law, Sport and Tourism
 3. Interdisciplinary
 4. Education, Social and Environmental Sciences
 5. Science, Technology, Engineering and Mathematics
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Capstone and final-year projects

In groups of 2-3s **each of you should look at least one different** mini-case study (pp3-18) and identify interesting practices which you can then share with others in your group.

Be ready to **report back on ONE interesting idea** from your group

Time: 10 minutes

Dimensions of final-year projects and dissertations

Additional to honours project

Campus based

Undertaken at the University

Research preparation

Student learning centred

Discipline based

Student initiated

Individual

Original to the student

University audience

In-depth analysis

Assessed by academics

Individual supervision

Alternative to honours project

Employer / community based

Distance learning

Professional / employment preparation

Outcome product centred

Multi- or interdisciplinary

Teacher / supervisor initiated

Group

Original to the discipline

Professional / public audience

Synthesis of knowledge/skills

Assessed by peers / professionals

Group / peer supervisions

“I cannot think of anything more unfair than ... to treat all students as if they are the same, when they so manifestly are not” (Elton 2000: 1).

Capstone and final-year projects

In your groups make a list of the different ways in which you could reduce the staff time taken in organising and supervising final-year and capstone projects

5 minutes

Capstone and final-year projects

- **Joint briefings**
 - **Group supervision**
 - **Development of peer support opportunities**
 - **Employment of the VLE**
 - **Better preparation in earlier years of programme**
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Capstone and final-year projects

**An invitation to participate and send us a
case study**

Capstone and final-year projects

**Let's be creative
and go beyond
the traditional
capstone and
final-year project**

THE END

For more pictures of
Tess and a 1.5 min
movie see:

www.mickhealey.co.uk
