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# ASSESSMENT RESOURCES INFORMATION SHEET

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## USING TECHNOLOGY TO ENHANCE ASSESSMENT OF AND FOR LEARNING

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JUNE 2008

**This information sheet provides a brief insight into the wealth of resources of resources offered by the Higher Education Academy and its Subject Centre network to support the higher education community in the use of technology to enhance assessment for and of learning.**

The Academy, through its generic learning support activities and its network of 24 Subject Centres, collaborates directly with staff in higher education institutions in developing learning opportunities and resources in order to enhance the student learning experience. The Academy responds to the assessment support needs of managers and practitioners by identifying and promoting evidence-based practice, synthesising current practice and helping build capacity. The disciplinary nature of the Subject Centres enables them to provide support which is both pedagogically sound and contextually relevant.

With the increasing use of technology to enhance student learning it is only fitting that the higher education community should work together to ensure that technology is appropriately employed to support assessment for and of learning. Through its approach to research and evaluation and the facilitation of special interest groups, the Academy and its Subject Centres are active in encouraging the development of an appreciation of the affordances offered by different technologies to support assessment in a variety of learning and teaching contexts.

Within the learning support priority area of assessment, which includes plagiarism and feedback, many of the Subject Centres have collaborated with their discipline communities to produce resources

and advice on the use of technology to enhance assessment in a way that is relevant to the teaching and learning within the discipline. Resources include tools typically associated with assessing declarative knowledge such as multiple choice question banks (MCQs)<sup>7,11,24,25,32,34</sup> and interactive assessments through online simulations such as SimPLE<sup>23</sup> which aim to provide students with more authentic learning experiences than can usually be achieved with traditional methods. Evaluations of game-based learning applications show how they can be used to develop problem-solving skills<sup>18</sup>, while case studies provide valuable insights into the effectiveness of a range of different technologies such as personal response systems<sup>4</sup> which can be used in the classroom with large numbers of students to encourage participation and provide teachers with immediate feedback on students' progress.

To gain a more comprehensive picture of the wealth of resources, guidance and activities offered by the Academy and its Subject Centres in support of the student learning experience, and to locate specific resources please consult the relevant web sites, accessible from: [www.heacademy.ac.uk](http://www.heacademy.ac.uk) and [www.heacademy.ac.uk/subjectcentres](http://www.heacademy.ac.uk/subjectcentres).

## A SAMPLE OF GENERIC RESOURCES

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### LITERATURE REVIEW

Hounsell, D., Falchikov, N., Hounsell, J., Klampfleitner, M., Huxham, M., Thomson, K. and Blair, S. (2007) *Innovative assessment across the disciplines: An analytical review of the literature*. The report includes a section on the use of technology in assessment which reviews 38 articles.

→ [www.heacademy.ac.uk/projects/detail/lr\\_2007\\_hounsell](http://www.heacademy.ac.uk/projects/detail/lr_2007_hounsell)

### RESEARCH PROJECTS

2007–8: *ADDER: Assessment and Disciplines: Developing E-tivities Research*

Led by the University of Leicester, the ADDER project (Assessment & Disciplines: Developing E-tivities Research) is focusing on the use of technology to support assessment practices in four disciplines (Education, Inter-Professional Education, Media Studies and Psychology) at four higher education institutions (Leicester, De Montfort, Northampton and London South Bank universities).

→ [www.heacademy.ac.uk/projects/detail/elro\\_leicester\\_uni\\_07](http://www.heacademy.ac.uk/projects/detail/elro_leicester_uni_07)

2008–9: *Research call*

The Academy's third e-learning research grant call for project proposals included the theme: Using technology to support assessment and the delivery of student feedback. Successful projects will submit their reports at the end of the academic year.

→ [www.heacademy.ac.uk/ourwork/learning/elearning/elro](http://www.heacademy.ac.uk/ourwork/learning/elearning/elro)

### CASE STUDIES

Thirteen Welsh case studies on the theme of e-Assessment, topics covered include: e-submission, interactive voting systems, formative assessment, peer assessment, phased online summative and designing out plagiarism.

→ [www.heacademy.ac.uk/resources/detail/resources/casestudies/welsh\\_case\\_studies\\_eassessment](http://www.heacademy.ac.uk/resources/detail/resources/casestudies/welsh_case_studies_eassessment)

### NTFS AND FDTL FUNDED PROJECTS

Projects funded under the National Teaching Fellowship Scheme and the Fund for the Development of Teaching and Learning include evaluations of technologies to support assessment. For information about specific projects visit:

→ [www.heacademy.ac.uk/ourwork/professional/ntfs](http://www.heacademy.ac.uk/ourwork/professional/ntfs)

→ [www.heacademy.ac.uk/ourwork/networks/fdtl](http://www.heacademy.ac.uk/ourwork/networks/fdtl)

## A SAMPLE OF SUBJECT CENTRE RESOURCES

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**Contact Subject Centres directly for additional resources, advice and guidance.**  
→ [www.heacademy.ac.uk/subjectcentres](http://www.heacademy.ac.uk/subjectcentres)

### ART, DESIGN AND MEDIA

**1. Project:** Critical Distance: An investigation into the function of the 'crit' in a flexible learning environment.

→ [www.adm.heacademy.ac.uk/resources/resources-by-topic/assessment](http://www.adm.heacademy.ac.uk/resources/resources-by-topic/assessment)

### BIOSCIENCE

**2. Journal article:** Cann A, Calvert J E, Masse K L and Moffat K G (2006) Assessed Online Discussion Groups in Biology Education. *Bioscience Education e-Journal*. Volume 8.

→ [www.bioscience.heacademy.ac.uk/journal/vol8/beej-8-4.htm](http://www.bioscience.heacademy.ac.uk/journal/vol8/beej-8-4.htm)

### BUSINESS, MANAGEMENT, ACCOUNTANCY AND FINANCE (BMAF)

**3. Project:** Good practice in using wikis to enhance learning, student support and retention for business students:

→ [www.heacademy.ac.uk/business/ourwork/projects/development/2006-07](http://www.heacademy.ac.uk/business/ourwork/projects/development/2006-07)

### CENTRE FOR EDUCATION IN THE BUILT ENVIRONMENT (CEBE)

**4. Case study:** The development of a case study assessment supported by a web augmented text; Online assessment through Blackboard; Improving student interaction via a personal response system and peer instruction.

→ <http://cebe.cf.ac.uk/learning/assess/case.php>

**5. Journal article:** Sher, W. and Williams, A. (2008) Tendering in Virtual Teams - Challenges and Opportunities for Distance Learners. *CEBE Transactions e-Journal*. Volume 5, Issue 1.

→ [www.cebe.heacademy.ac.uk/transactions/index.php](http://www.cebe.heacademy.ac.uk/transactions/index.php)

### ECONOMICS NETWORK

**6. ExcelAssess**, a library of self-marking assessment questions created in Microsoft Excel.

→ [www.economicsnetwork.ac.uk/xlss](http://www.economicsnetwork.ac.uk/xlss)

**7. Question bank**, an archive of questions provided by the economics academic community.

→ [www.economicsnetwork.ac.uk/qnbank/](http://www.economicsnetwork.ac.uk/qnbank/)

**8. 'Toolbox'** for practitioners which includes

a variety of interactive activities which can be used for formative assessment purposes. It also provides links to external applications.  
→ [www.economicsnetwork.ac.uk/teaching/toolbox.htm](http://www.economicsnetwork.ac.uk/teaching/toolbox.htm)

- 9. Handbook for Economics Lecturers**, includes a guide to computer assisted assessment.  
→ [www.economicsnetwork.ac.uk/handbook/caa](http://www.economicsnetwork.ac.uk/handbook/caa)

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## EDUCATION (ESCALATE)

- 10. Newsletter article:** Nicol, D. (2008) Assessment as a driver for transformational change in HE. ESCalate News. Issue 10.  
→ [www.escalate.ac.uk/1999](http://www.escalate.ac.uk/1999)

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## ENGINEERING

- 11. Weekly Assessed Tutorial Sheet(s) (WATS):** to improve student motivation and retention.  
Sample questions and answers:  
→ [www.engsc.ac.uk/resources/wats/](http://www.engsc.ac.uk/resources/wats/)  
Project report:  
→ [www.engsc.ac.uk/downloads/scholarart/wats\\_tutorialsheetsweb.pdf](http://www.engsc.ac.uk/downloads/scholarart/wats_tutorialsheetsweb.pdf)
- 12. Online peer assessment system** that recognises individual contributions to group-work activities, involving and engaging students in self and peer assessment. A project led by Loughborough University in partnership with the University of Hull and Subject Centres for Engineering and Physical Sciences.  
→ <http://webpapproject.com>
- 13. Project:** Portable Learning and Assessment - Towards Ubiquitous Education - a preliminary study of the use of PDAs for CAA.  
→ [www.engsc.ac.uk/downloads/miniproject/pda.pdf](http://www.engsc.ac.uk/downloads/miniproject/pda.pdf)

- 14. Journal articles:**  
Willmot, P. and Crawford, A. (2007) Peer review of team marks using a web-based tool: an evaluation. *Engineering Education*, Volume 2:1.  
  
Bull, S., Quigley, S. and Mabbot, A. (2006) Computer-based formative assessment to promote reflection and learner autonomy. *Engineering Education*, Volume 1:1.  
→ [www.engsc.ac.uk/journal/](http://www.engsc.ac.uk/journal/)

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## ENGLISH

- 15. Case studies:**  
Creating a learning community: the Canterbury Tales VLE;  
From stick to carrot – using Turnitin to help improve students' writing;

Testing language skills using Computer assisted assessment (CAA);  
Using screen capture software in student feedback.  
→ [www.english.heacademy.ac.uk/explore/publications/casestudies/](http://www.english.heacademy.ac.uk/explore/publications/casestudies/)

## 16. Projects:

Creative assessment in the English Literature degree: towards criteria for assessment: teaching and assessing writing skills  
→ [www.english.heacademy.ac.uk/explore/projects/archive/technology](http://www.english.heacademy.ac.uk/explore/projects/archive/technology)

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## GEOGRAPHY, EARTH AND ENVIRONMENTAL SCIENCES (GEES)

- 17. Learning and Teaching Guide**  
– includes a section on computer assisted assessment. Hughes, P. & Boyle, A. (2005) Assessment in the Earth Sciences, Environmental Sciences and Environmental Studies.  
→ [www.gees.ac.uk/pubs/guides/assess/gees%20assessment.pdf](http://www.gees.ac.uk/pubs/guides/assess/gees%20assessment.pdf)
- 18. Journal article:** Fox, R. and Rowntree, K. (2004) Linking the Doing to the Thinking: using criterion-based assessment in role-playing simulations. *Planet*, Dec 2004 – Issue 13.  
→ [www.gees.ac.uk/planet/p13/p13\\_3.pdf](http://www.gees.ac.uk/planet/p13/p13_3.pdf)

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## HEALTH SCIENCES AND PRACTICE

- 19. Projects:**  
2008 – Using web based multimedia, simulated and virtual practice to assess students' professional practice skills  
→ [www.health.heacademy.ac.uk/projects/miniprojects](http://www.health.heacademy.ac.uk/projects/miniprojects)

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## HISTORY, CLASSICS AND ARCHAEOLOGY

- 20. Project:** Hieronymus is a set of online interactive Greek and Latin exercises keyed to commonly used ab initio textbooks with self-assessment exercises.  
→ [www.heacademy.ac.uk/hca/classics/resources/innovations/elearning\\_examples](http://www.heacademy.ac.uk/hca/classics/resources/innovations/elearning_examples)

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## HOSPITALITY, LEISURE, SPORT AND TOURISM NETWORK

- 21. Projects:**  
2008 – Online peer and self assessment in the teaching of Hospitality, Leisure, Sport, Tourism and Events;  
2008 – Can computer-aided assessment assist students' learning?  
2007 – Computer assisted assessment in statistics for Sports Studies students.  
→ [www.heacademy.ac.uk/hlst/ourwork/pedagogicresearch](http://www.heacademy.ac.uk/hlst/ourwork/pedagogicresearch)

## INFORMATION AND COMPUTER SCIENCES (ICS)

### 22. Projects:

Pilot Comment Bank for providing student feedback;  
Pilot Question Bank containing more than 1,000  
Computer Science and informatics questions.  
→ [www.ics.heacademy.ac.uk/projects/index.php](http://www.ics.heacademy.ac.uk/projects/index.php)

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## LAW (UK CENTRE FOR LEGAL EDUCATION – UKCLE)

### 23. Simple: SIMulated Professional Learning

Environment for use in law and other disciplines.  
→ [www.ukcle.ac.uk/research/projects/tle.html](http://www.ukcle.ac.uk/research/projects/tle.html)

### 24. Guide: Writing effective multiple choice questions (MCQs).

→ [www.ukcle.ac.uk/resources/trns/mcqs/index.html](http://www.ukcle.ac.uk/resources/trns/mcqs/index.html)

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## LANGUAGES, LINGUISTICS AND AREA STUDIES (LLAS)

**25. Materials bank** of more than 1,500 learning objects: including formative assessment tasks, e.g.:  
*Computer-assisted practice activities for Irish language learners;*  
*English grammar exercise – activities include MCQs, matching and gap-filling exercises;*  
*Portugese language online – using MCQs.*  
→ [www.llas.ac.uk/resources/bankcontents.aspx](http://www.llas.ac.uk/resources/bankcontents.aspx)

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## MATERIALS (UK CENTRE FOR MATERIALS EDUCATION)

**26. Project:** DoITPOMS (Dissemination of IT for the Promotion of Materials Science), funded by the centre, provides online interactive learning and teaching packages with self-assessment exercises.  
→ [www.materials.ac.uk/teachingdev/index.asp](http://www.materials.ac.uk/teachingdev/index.asp)

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## MATHS, STATS AND OR NETWORK (MSOR)

**27. STACK CA** – a computer assisted assessment system for maths.  
→ [www.stack.bham.ac.uk](http://www.stack.bham.ac.uk)

### 28. Articles: maths-caa-series.

→ [www.mathstore.ac.uk/index.php?pid=136](http://www.mathstore.ac.uk/index.php?pid=136)

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## MEDICINE, DENTISTRY AND VETERINARY MEDICINE (MEDEV)

### 29. Project:

2007 – Development of an ‘EMS Driving Licence’ – a training and assessment package to prepare veterinary students for extramural studies (EMS) placements (clinical placement training).  
→ [www.medev.ac.uk/resources/features/miniprojects](http://www.medev.ac.uk/resources/features/miniprojects)

## PALATINE – DRAMA, DANCE AND MUSIC

### 30. Project:

2004 – Online aural skills: development and assessment for music students  
→ [www.palatine.ac.uk/themes/assessment](http://www.palatine.ac.uk/themes/assessment)

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## PHILOSOPHICAL AND RELIGIOUS STUDIES

**31. Project:** Automated assessment and out-of-class small group discussions: taking WebCT forward in Philosophy

→ [www.prs.heacademy.ac.uk/view.html/prsfundedprojects/6](http://www.prs.heacademy.ac.uk/view.html/prsfundedprojects/6)

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## PHYSICAL SCIENCES

**32. Question Bank:** use the bank to set coursework and provide automated feedback:

→ [www.heacademy.ac.uk/physsci/home/projects/jisc\\_del/questionbank](http://www.heacademy.ac.uk/physsci/home/projects/jisc_del/questionbank)

### 33. Projects:

2004 – The production of generic resources for Computer-aided assessment and learning;  
2002 – Computer assisted assessment.  
→ [www.heacademy.ac.uk/physsci/resources/downloads](http://www.heacademy.ac.uk/physsci/resources/downloads)

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## PSYCHOLOGY

**34. Project:** Evaluation and dissemination of a tool for administering online MCQ assessments to psychology undergraduates.

→ [www.psychology.heacademy.ac.uk/html/miniprojects.asp](http://www.psychology.heacademy.ac.uk/html/miniprojects.asp)

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## SOCIAL POLICY AND SOCIAL WORK (SWAP)

**35. Digital resources** – examples of the use of free crossword software to create learning and teaching activities.

→ [www.swap.ac.uk/resources/digitalresources/interactivematerials.html](http://www.swap.ac.uk/resources/digitalresources/interactivematerials.html)

**36. Project:** e-Supported Learning and Teaching Enhancement (ELTE) - provides digital resources, help and information sheets.

→ [www.swap.ac.uk/projects/externalcomms.html](http://www.swap.ac.uk/projects/externalcomms.html)

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## SOCIOLOGY, ANTHROPOLOGY AND POLITICS (C-SAP)

**37. Project:** 2007 – Learner perspectives of e-assessment.

→ [www.c-sap.bham.ac.uk/subject\\_areas/sociology](http://www.c-sap.bham.ac.uk/subject_areas/sociology)