

**Interim Report January 2006**

<b>Project Name</b>	Re-engineering Assessment Practices in Higher Education (REAP), University of Strathclyde
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**Section One: Summary**

The REAP project is piloting transformational change based on the implementation of technology-enhanced assessment practices in one department across each of the five faculties at the University of Strathclyde (SU), in six subject divisions at Glasgow Caledonian University's Caledonian Business School (CBS) and (to date) two departments at the University of Glasgow (GU). It is intended that the re-engineering of assessment practices in the pilot projects in participating departments/divisions will provide evidence of learning quality enhancement and/or efficiency gains in organisational and administrative processes. The project will also identify the changes required in organisational, cultural and business processes for the embedding of new assessment practices.

The REAP project has a strong foundation in research on assessment in higher education. Evidence and experience show that significant learning gains can be achieved by re-designing assessment practices in ways that encourage greater student participation and self-regulation in learning. The REAP project is based on a broad definition of assessment including self, peer and tutor assessment and it encompasses a wide range of assessment methodologies appropriate to blended learning environments where online and face-to-face interaction co-exist.

Over this reporting period significant progress has been made in REAP despite the later than expected recruitment of central project staff. All departments/divisions participating in REAP have redesigned their courses taking into account current research on assessment. They have also selected from the range of existing and emerging technologies those appropriate to their disciplinary and organisational context. Pilot implementations have begun and baseline data have been collected in departments/divisions with more robust evaluation strategies being developed with the support of the REAP project team. It is important to note however that implementation plans are ongoing and will undergo continuous refinement based on experience and evaluation during implementation.

Numerous activities have been carried out to support the establishment of the project across the three participating institutions during this start-up phase including the development of the consortium agreement, recruitment of staff and the development of reporting mechanisms and communication channels (e.g. website, email lists). Staff development events have been delivered, technological tools have been demonstrated, software has been acquired and there has been significant initial dissemination at external events. A framework has been developed to monitor issues raised at institutional level as result of changed assessment practices. The REAP project team have also been successful in linking REAP to relevant external developments (e.g. the national Benchmarking pilot, the Scottish Benchmarking Initiative, Centre for Recording Achievement expert group on e-portfolios).

## Section Two: Activities and Progress

Progress against relevant workpackages in the project implementation plan:

### Work-package 1: Project Initiation

- **REAP Project Plan and Implementation Plan**

Developed from the project bid document and approved.

- **Consortium Agreement**

Developed and agreed by all project partners.

- **Recruitment**

Recruitment of the REAP Project Manager was completed on schedule by 31<sup>st</sup> October 2005. Two Learning Technology Advisor posts were filled in January 2006, later than planned. Secretarial support is being procured on an ad hoc basis.

At CBS, recruitment of e-champions and module leaders is complete (although due to structural re-organisation of both CBS and organisational changes at GCU this is likely to remain an evolving activity).

### Work-package 2: Evaluation Planning

- **Baseline Data Collection/Departmental 'Position Statements'**

Participating departments/divisions at SU and CBS have completed baseline position statements detailing the modules selected for change implementation, including information on class size, student and staff workloads, current assessment practices, use of technology and the drivers for change.

- **Evaluation**

Additional evaluation activities will take place both at department/division level, across each institution and at inter-institutional level. Participating departments/divisions are working with the REAP team to develop new tools and instruments for further data collection. The REAP team is in touch with the FAST (Formative Assessment in Science Teaching) project that has developed an assessment experience questionnaire. Institutional position statements are being developed for SU and CBS and a framework is being used to capture issues raised through assessment re-engineering.

At SU, an institution-wide survey of staff current and anticipated future uses of learning technologies has been carried out. This is useful baseline data for the REAP project. Also, focus group meetings have been held with staff from across the SU in relation to the evaluation framework being used by REAP (see above). This is informing REAP and being fed into the development of the Strategy for Enhancing Teaching and Learning Through Technology (TLTT). REAP is a key component of the TLTT Strategy. The data compiled from these focus groups will help integrate REAP into the institutional planning processes and inform evaluation activities.

- **HEA National E-Learning Benchmarking**

The REAP Project Director led a successful bid from the University of Strathclyde to participate in the HE Academy National E-Learning Benchmarking Exercise. The REAP evaluation framework will form the basis of one of the main benchmarking approaches adopted nationally. Incorporating benchmarking in REAP will ensure institutional embedding at SU and will provide institutional measures to evaluate transformational change.

- **Scottish Collaborative E-Learning Benchmarking**

GCU and Strathclyde are participating in another initiative to develop a generic framework for benchmarking e-learning in Scottish HEIs. The framework will be adapted for use by the seven participating Scottish universities and subsequently the whole Scottish HE sector. The group will work closely with the HEA, JISC, SFC and Strathclyde in its development. GCU has also been accepted to take part in Phase 1 of the UK wide initiative. Both initiatives will allow CBS to incorporate the measures developed into its internal REAP project evaluation.

## Section Two: Activities and Progress /cont....

### Work-package 3/4: Prepare for Re-engineering and First Implementation

- **Departmental Implementation Plans**

Five departments at SU and six divisions at CBS have produced development plans. GU has held meetings with two departments and plans are being discussed for re-engineering assessment in first year courses.

- **Refinement of Implementation Plans**

The Project Manager is working with each department at SU to refine existing plans and to support course leaders and departmental heads to develop mechanisms to assess risk, to monitor project progress and to establish appropriate ownership of project tasks. At CBS similar activities have been carried out by the Project Co-ordinator. Interviews have been held with participating departmental heads at SU about e-learning needs in order to identify departmental support and barriers to change.

- **Internal Funding Agreements**

Internal funding agreements have been established for participating departments at SU and for consortial partners. Funds will be transferred based on receipt of satisfactory quarterly progress reports from each department.

- **Preparation for Re-Engineering**

Participating departments across all institutions have selected appropriate technologies to support transformation activities and software has been identified and licensing arranged where required. Other software is being investigated for implementation in later phases. A number of meetings, events and training sessions have taken place in order to prepare effectively for implementation.

### Work-package 10: Project Management

- **Local Management Groups**

Local Management Group established at SU to support project management activities and to facilitate links to relevant institutional initiatives, support services and departments. This group meets monthly and is also a forum for communication from project team leaders at GCU and GU and from participating departments. In CBS, there have been frequent meetings, involving all participants in the project (module leaders and e-champions). From January 2006, monthly meetings with e-champions are to be introduced to promote more regular communication and peer support.

- **Project Steering Group**

This group includes senior representation from consortium partners and from key external bodies including the SFC, QAA, HEA and others. This group met in November 2005 and will convene on a six-monthly basis to provide guidance on the strategic development of the project.

- **Project Website**

The REAP website is now live ([www.reap.ac.uk](http://www.reap.ac.uk)) with a growing number of project documents. A re-design of the site and the development of tools for communication and document-sharing are in progress.

A project mailing list has been established ([reap@jiscmail.ac.uk](mailto:reap@jiscmail.ac.uk))

CBS has also established its own project website to enable e-champions and module leaders to access and share information with the REAP team.

### Section Three: Outputs, Outcomes and Deliverables

Main project deliverables to date include the project plans, pilot implementation of these plans, workshops, training events, seminars and dissemination (the latter are dealt with in other sections).

#### Progress in: University of Strathclyde Departments

**Mechanical Engineering** is piloting the use of multiple electronic tools to support a variety of assessment approaches to tap into deep conceptual understanding and its application to problem-solving. The department already uses electronic voting software and WebCT. It is working to integrate multiple-choice online questions before lectures as a way of using formative assessment to shape what is taught in class (called 'just in time teaching'). The department is also piloting self-assessment and has also acquired WebCT e-packs and a new Mastering Physics online homework system from Pearson which is being adapted for Mechanical Engineering. Most staff engaged with first year are participating in the REAP initiative.

**Marketing** has developed in-house technical and administrative procedures for managing the assessment of over 500 students online and have trained departmental staff in their use. The department has piloted online testing using WebCT and has developed a plan to move to dedicated MCQ software this semester. Departmental staff, with support from the REAP team, are evaluating peer distribution software to support peer feedback on assignments within the context of a large first year class. The REAP team are also investigating the feasibility of using Electronic Voting Systems with this group.

**Primary Education** has acquired a license for PebblePad e-portfolio software and staff are now piloting this tool with all first year students after a short trial with second year. PebblePad is being used to support personal development planning and the assessment of students' teaching skills while on placement. A number of module leaders are participating in the REAP project and Primary Education have established a Faculty Steering Group. This will facilitate the long-term goal of rolling these new practices out across the whole education faculty.

**Pharmacy** has built a prototype for the extension of their personal development planning tool which resides inside their VLE. The tool is designed to make reflective learning more 'rigorous and relevant' to the degree and has involved the department in re-conceptualising assessment and feedback approaches across first year modules. Pharmacy has also developed a prototype online tutorial to enable students to test student's skills in formulating and identifying errors in prescriptions. They have piloted this with students and carried out an extensive formal evaluation. This tool will save significant time in teaching and in assessing.

**Psychology** has established a robust evidence-based concept for their REAP project plan. This involves progressively more complex formative assessments (scaffolding) throughout first year (over 500 students) linked to supportive peer discussion processes. Peer discussions will be analysed in relation to exam results and student satisfaction. Psychology has identified relevant technologies (peer distribution software, MCQ software, EVS) with objective tests being piloted this semester. Psychology co-hosts the HEA Psychology Subject Centre and the Centre for Interactive Learning. These will facilitate dissemination and evaluation. An internal Advisory Group has been established.

#### Progress in: Glasgow Caledonian Business School Subject Groups/Divisions

**Innovation & Business Growth** Large scale, online, simultaneous, MCQ summative assessment of 435 students was implemented in January 2006 via the institutional VLE. 259 students (60% of the class) chose to submit online and received immediate electronic feedback on their performance. A full evaluation of the trial involving all stakeholders (technical, administrative, invigilators, tutors, and students) is in progress. Results will inform assessment decisions for end of the second semester.

**Decision Analysis & Risk** Final exam assessment in this module has been replaced by a 100% coursework structure in three staged submissions to provide more appropriately-scheduled feedback to students. Teaching, learning and assessment will draw heavily on online resources provided by the publisher of the core module text. These include e-tivities, simulations, case scenarios, video clips and self assessment MCQs which are currently being customised for use by the tutor to complement and integrate with classroom teaching and learning.

**Accounting & Finance** The teaching team are focusing on developing self regulating learners by re-scheduling elements of module assessment and awarding 10% of the overall aggregate grade based on attempting 10 on-line assessments via the institutional VLE. The module team believe these low stake, self assessments will motivate the students and improve their active engagement with on-line learning and should assist their performance in the other formative/summative assessment/s. The team will use the on-line publisher's quizzes this session but plan to enhance feedback content.

**Change & Management Learning** This module's assessment strategy has been revised to move away from an end-loaded piece of course work and examination, to developing individual student portfolios comprising 3 pieces of coursework which have staged submission dates across the 12 week semester. The aim is to maintain student engagement through coursework tasks and assessment feedback which will underpin and inform subsequent pieces of coursework. The portfolio will be paper based in 2006, but will be an e-portfolio in 2006-07.

**Strategy & Leadership** Use of Electronic Feedback Freeware (EFS) has been piloted in 3 modules. This software enables the creation of a database of feedback comments, automated marks allocation and emailing of personalised feedback to individual students. The aim is to enhance the quality, consistency and timeliness of feedback to students on their written course work assessments. Comparison of feedback and grades awarded traditionally and electronically showed a very high consistency. Use of EFS is to be extended to the whole module cohorts in semester B.

**Globalisation & Public Policy** This is a new and evolving subject group in CBS. Two first year core modules Organisations & Their Environment and Economics, Markets and Enterprise belong to this group. Two strands of REAP-sponsored development are underway, one involving audio recording of live lectures and one involving the piloting of an Electronic Voting Systems (EVS). In the latter, students will be issued with their own identifiable response pad for use in lectures. The tutor is modifying existing PowerPoint lecture slides to incorporate interactive questions and feedback which will be piloted as formative assessment initially in semester B. If the pilot is successful the aim is to 'bundle' personal response keypads with core texts which first year students are required to buy so that identifiable keypads can be used by students in all their lectures as well as in other locations such as classrooms and the new Saltire Centre.

### **Progress in: Glasgow University**

Work has started on software development to support a wider range of question alternatives using the electronic voting system technology. More sophisticated display formats will enable more effective feedback on conceptual understanding and problem solving in class using a ranking of ideas procedure rather than multiple-choice tests. Steve Draper has made presentations on the uses of EVS technology at CBS and at the University of Strathclyde and there are plans to introduce EVS in some of the SU and CBS projects.

Two departments at GU have been identified as initial test-beds for REAP implementation - psychology and computer science. Members of the REAP team have presented to these departments (in June, December) and Computing Science is already re-designing the first year course. GU is Members of REAP will be represented on a Glasgow University group that has been set up by the VP to make assessment a key issue across the institution.

### **Workshops/Training events:**

#### ***Caledonian Business School:***

- Demonstration of Electronic Feedback Freeware by Dr Phil Denton of Liverpool John Moores University. Use now taken up by 3 of 6 modules in CBS.
- Demonstration of an online business simulation environment to be trailed.
- Two all-day e-assessment workshops at GCU led by Gillian Roberts and Kate Lennon (e-champion) to the Strategy and Leadership Group (17 Jan) and to the Change Management Learning Group. (19<sup>th</sup> Jan)

**University of Strathclyde:**

- Demonstration of online legal practice simulation environment.
- Two presentations on e-portfolio tools to the REAP Project Team and to staff from Primary Education on 3<sup>rd</sup> November and subsequent all day training session.
- Several presentations of Computer Assisted Assessment software (TOIA) to REAP departments.
- Workshops on WebCT administration functions to administration staff in Marketing.

**Cross-institutional:**

- Live trial of Electronic Voting Systems (EVS) for 280 first year students led by GU (Steve Draper).
- Two cross-institutional workshops with CBS e-champions for REAP and core module leaders on technology-supported assessment led by David Nicol and Steve Draper (6<sup>th</sup> May, 6<sup>th</sup> June 2005).
- Two presentations of REAP possibilities to departments at GU (psychology, computer science) led by David Nicol
- REAP project staff and GCU module leaders completed a five-week online e-assessment course run by Dundee University.
- Workshop led by Professor David Boud, University of Technology, Sydney on 'sustainable assessment for lifelong learning'. David is a world authority on assessment in adult and higher education. Project staff from CBS, SU and GU attended.

**Early lessons:**

Early lessons indicate that transformational change will require wide ranging changes in complex and embedded university systems and protocols. REAP will start a process of review but it is expected that change will go beyond the life of the project; for example, REAP has significant implications for estates management, faculty degree structures, registry operations, support services and procedures and policies for e-learning and assessment. Experience shows that there is a need to work on many fronts simultaneously – on strategy, organisational structure, human resources and capacity building and management processes as well as technology to effect transformational change. Planning for transformation requires a coherent model for institutional change and a way of recording emerging issues. The REAP project is supporting departmental/divisional change by suggesting appropriate models and supporting their use. It also has a framework for analysing institutional issues that emerge.

**Section Four: Progress towards Strategic Transformation**

At SU the REAP project is already embedded as a key driver of strategic transformation. REAP is closely aligned with institutional strategy for e-learning and indeed is one of the platforms for the operationalization of that strategy. This is evidenced in the university focus on 'the first year experience', the creation of the new Learning Enhancement Network (LEN) which is helping to disseminate REAP through a range of events, the work being conducted to develop the institutional Strategy for the Enhancement of Teaching and Learning Through Technology (REAP framework used as part of consultation) and the close links created to the national benchmarking exercise (SU is the only Scottish member). REAP is also a permanent item on the agenda of the Educational Strategy Group at SU led by the VP for Teaching and Learning.

At CBS/GCU the REAP project is also being embedded strategically. A VLE and E-Learning Strategic Steering Group has been established (Oct 2005) with representation from across CBS/GCU including the REAP coordinator and learning technology advisor. The first cohort of online assessment with approximately 550 first year students has taken place. This involved extension discussions across the institution with the examination office, IT learning resources and the quality office and external consultations and has led to the development of policy (computing) and operational guidelines (exam office) for CBS/GCU for future implementations through REAP. CBS/GCU has introduced a policy that requires all modules to publish a 'student feedback strategy'. For example, all modules must provide generic feedback through Blackboard and an area where students can post questions.

## Section Five: Dissemination

### Dissemination/Awareness Building Events:

- **Project Launch Event**  
Launch event held in April 2005 with representatives from all three institutions chaired by the V-P for teaching and learning at Strathclyde.
- **Strathclyde University Learning Enhancement Network Launch Event**  
SU's internal showcase for educational developments was used to raise awareness of the REAP project to staff across Strathclyde.
- **Strathclyde University Educational Strategy Group**  
The role of REAP in Quality Enhancement at Strathclyde was discussed by the Educational Strategy Group at their away day on 22<sup>nd</sup> September 2005. This event, led by the VP was attended by senior officers and Vice-Deans Academic from the Faculties and from University-wide support services.
- **Strathclyde University 'First Year Experience' Initiative**  
REAP played a key role during a university-wide launch event to promote the 'first year experience'. The first year experience agenda at SU is closely tied to REAP which is also focused on first year students.
- **Glasgow University Presentation**  
Project Director presented REAP to staff in Psychology and Computer Science at Glasgow University.
- **CETIS E-Assessment and E-Portfolio SIG**  
Project Director of REAP presented on assessment and e-portfolios using departmental case studies drawn from REAP project (24<sup>th</sup> Jan 2006)
- **Dissemination of use of EVS**  
Queen's Belfast (classroom feedback systems) and HEA Engineering Subject Centre Steering Group, University of Surrey, Robert Gordon's and American University of Cairo

### Partnership-building:

- **Hong Kong Institute of Education**  
Requested presentation of REAP project and suggested some collaboration. They have a large 'Learning Oriented Assessment Project'. Remote presentation using technology in January 2006 and visit later in year.
- **University of Technology, Sydney**  
David Boud, Professor of Adult Education is a consultant to REAP and presented and facilitated a workshop at REAP's invitation in November 2005. David is a consultant to the REAP Project and is helping us develop some instruments to measure students' experience of assessment.
- **Scottish Quality Enhancement: Integrative Assessment**  
REAP Director is participating in an initiative to develop a framework and collate case studies showing how formative and summative assessment might be aligned in HE institutions.
- **Centre for Recording Achievement (CRA)**  
Director of REAP invited to join the newly formed 'e-portfolio creative thinking group' funded by the Higher Education Academy (HEA). Meeting held in December.

### Publications:

- **'The Caledonian' Glasgow Caledonian University magazine**
- **'E-Learning@GCAL' magazine**  
<http://elisu.gcal.ac.uk/magazine/ELEARNING@GCAL2005.pdf>
- **Weekly GCU Online Newsletter**

## Section Six: Evaluation

- Baseline data has been collected for participating departments/divisions in REAP. Work is underway to ensure that all participating departments are properly supported to measure and assess their re-engineering activities and to identify existing and future data collection activities of relevance to REAP.
- Team members have identified a number of existing instruments of relevance to REAP project outcomes and are assembling a portfolio of frameworks and methodologies that can be utilised within departments with the support of REAP project staff.
- The REAP team is planning for evaluation of the transformative impact of the project at institutional level using a modification of the MIT change management framework (Scott-Morton, 1991). This framework will help the team capture issues raised from a variety of perspectives – policy and strategy, organisational structures, management processes, individuals and roles, technology and external environment. The plan is to create a blogging environment for easy recording of emerging issues. Similar activities are planned at Glasgow Caledonian University and at the University of Glasgow.
- REAP Project Director was successful in leading bid from University of Strathclyde to participate in the national HE Academy E-Learning Benchmarking Exercise. GCU has also been accepted to take part in the next phase of this UK wide initiative. Activities planned under this initiative will also directly benefit evaluation activities undertaken for the REAP project (see above).
- A priority for the REAP project team is to ensure that evaluation activities properly utilise the advantages of a multi-institutional partnership.



## Section Seven: Issues and Challenges

### Key project challenges to date:

- **Scheduling and timescales**

Recruitment of project staff took longer than anticipated which has contributed to delays in project planning, development of the evaluation strategy and some aspects of project implementation, although significant continuity of support for participating departments was provided by the interim employment of one member of CAPLE staff and by increased input from the VLE Project leader, the REAP Project Director and the Evaluator who took on the role of Acting Project Manager (MC),

- **Departmental 'buy-in'**

It has taken longer than expected for departments to develop robust project plans. Although departmental readiness for transformation of assessment is generally high, experience of technology implementation varies significantly and a number of practical barriers have inhibited project plan development in several departments (for example, inexperienced staff, changes in staffing, a lack of technical support and disruptive faculty re-organisations in CBS have all impacted on REAP to date).

Structural changes and staff re-locations within Central Learning and Teaching and e-learning support units at Glasgow Caledonian University have created considerable uncertainty during a period when leadership roles are in transition which has resulted in delays to aspects of REAP project planning and implementation.

- **Evaluation development**

Although work is underway to develop project evaluation instruments this has taken longer than anticipated. This was inevitable given that the evaluation strategy had to be embedded in the project planning process. The Project Team in collaboration with departments are developing a portfolio of instruments and processes that will provide a broad picture of change within each module and to be sensitive to problems of creating simplistic cause/effect relationships. For example, retention of students is a key problem for many first year courses, but it is likely to be difficult to prove that changes in assessment techniques are directly responsible for any changes in retention rates (especially at SU where there is a related project to address retention issues in relation to the first year experience).

### Unexpected project achievements:

- At Glasgow Caledonian University, central support to trial concurrent online assessment has been surprisingly forthcoming given previous years' attempts which met with considerable negativity and resistance, this change being attributed to the impact of REAP.

## Section Eight: Support

- REAP staff attended SFC programme start-up meeting on 20/21<sup>st</sup> April 2005.
- REAP staff participated in an event organised by JISC in Edinburgh on 4<sup>th</sup> October 2005 where they were exposed to thinking about learning design.
- REAP staff presented the project at a joint JISC/SFC/DELOS York event on 6/7<sup>th</sup> December 2005 to contribute to the events' e-assessment theme.
- REAP staff attended the SFC Programmes day at the University of Stirling on 17<sup>th</sup> January 2006.
- The REAP team attended the SQA/SOLAR conference at the Glasgow Hilton on 25<sup>th</sup> January 2006.
- REAP staff have established strong links with the ISLE project. There is some overlap of interests (e-portfolios and assessment) and we aim to organise some joint events.
- The project is investigating synergies with the TESEP project led by Napier through Professor Terry Mayes. Both REAP and TESEP are founded on ideas of learner empowerment.

## Section Nine: Financial Statement

See attached spreadsheet