

How might learning technology impact on the modern delivery of learning in Scotland?



This document has been prepared following a meeting between Michael Russell, Scottish Cabinet Secretary for Education and Lifelong Learning, and the Association for Learning Technology (ALT), represented by Seb Schmoller, Chief Executive and Dr Linda Creanor, ALT Trustee. It is intended to be read in conjunction with the accompanying report on *Technology in Learning*, written jointly by ALT and the Technology Enhanced Learning (TEL) programme¹ in response to questions posed to ALT by the UK Government's Department for Business Innovation and Skills (BIS). The questions concerned whether, how and in what circumstances learning technology is effective, and the evidence base for the comments¹.

The purpose of this shorter document is to highlight areas which are of particular relevance to education in Scotland and to respond to specific questions raised at the meeting in Edinburgh. It has been written by members of the ALT-Scotland group, consisting of institutional ALT representatives from Scottish colleges and universities as well as Scottish-based ALT committee members whose backgrounds encompass all sectors of Scottish education.

A particular focus – one which could almost be thought of as an “all sector” guiding principle for a Scottish approach to technology enhanced learning – is on learner-led digital literacy, with students progressing between educational levels with some kind of digital literacy profile, developed with Curriculum for Excellence and with Scotland's Colleges, which could then shape a more individualised approach for the learner, with learners' digital literacy enabling them to take more responsibility for their own learning across the whole system, and at all levels. Related to this, the establishment of a strong digital literacy capability in Scottish HE institutions and partnership enterprises, together with the international reputation of Scottish education, could build and secure considerable inward investment to this country through the delivery of overseas e-learning and e-consultancy.

1. *What research evidence/project outcomes can we reference that may help to inform future directions of learning technology in Scotland?*

The main report points to considerable national and international research evidence which is informing current developments in learning technology. This evidence includes findings from the transformational e-learning projects funded by the Scottish Funding Council from 2005-2007². A distinguishing feature of several of these projects was their cross-sectoral nature, with explicit encouragement from the SFC for collaboration between further and higher education.

One example is the Transforming and Enhancing the Student Experience through Pedagogy (TESEP) project³, led by Napier University in collaboration with Telford College and Carnegie (previously Lauder) College, which demonstrated that e-learning can enhance active, self-directed learning '*particularly where learners use technology to locate their own*

¹ <http://repository.alt.ac.uk/839/> last accessed 27/10/2010

material and for collaborative work, formative assessment and discussion with peers.’ As illustrated by this project, the distinctive relationship between HE and FE in Scotland, together with the strong emphasis on articulation processes, provides a sound basis for beneficial research collaborations which can have a positive impact on the student experience as they move between the sectors.

Similarly, the findings of the Re-engineering Assessment Practices in Scottish Higher Education (REAP) project, led by Strathclyde University, have been influential both nationally and internationally⁴. Acknowledging that assessment and feedback are key drivers of student learning, REAP demonstrated successfully how technology could be used effectively to enhance student learning, especially in large classes, whilst saving staff time and resource.

Following on from the learner experience studies described in the main report, at least two of which were led by Scottish Institutions⁵⁶, there has been increased awareness of the importance of effective digital literacy skills. This has also been reflected in the QAA Scottish Enhancement Themes, again offering a distinctively Scottish approach to developing evidence-based enhancement processes for teaching and learning. The summary of lessons from the Enhancement Themes confirms the need to develop students’ digital literacy skills in preparation for transitions into, through and out of higher education⁷,

Given the wide-ranging use of IT, both in terms of academic development and general communication while at university, it is important that students are equipped with the necessary skills for success. The assumption that all students today are so equipped when they arrive is false, especially those who are of a different generation from school leavers.

The JISC-funded Learning Literacies for a Digital Age (LLIDA) study, led by Glasgow Caledonian University, investigated learning literacies in UK HE and FE, identifying that there is often ‘*poor integration of information/digital literacies with academic/learning literacies*’⁸. This study also highlighted the parallel need for enhancing teachers’ understanding and skills in this area, stating that ‘*Tutors are still insufficiently competent and confident with digital technologies for learning, despite evidence that learners are strongly influenced by their example*’.

The work of the Online Learning Task Force, supported by HEFCE but with a UK wide remit, again points to the importance of collaboration across institutions in securing a good share of the international market in online education⁹. Their final report, when available, will highlight strategic approaches at a national level which will be of interest to the Scottish sector.

2. What examples of innovative learning and teaching approaches in schools/FE/HE can we point to?

- In the schools sector, Learning and Teaching Scotland has supported and encouraged the integration of technology for learning through, for example, the GLOW initiative, the creation of digital resources for different subject areas and games-based learning. It has

also highlighted the necessity for learning technology to feature as a key aspect of the new Curriculum for Excellence¹⁰.

- The LLIDA study noted above has produced a valuable online resource of current best practices in embedding digital literacies from colleges and universities in Scotland, England and Wales¹¹.
- The REAP study developed 12 principles of good formative assessment and feedback design along with examples of innovative approaches to technology supported assessment across three Scottish Universities¹². These are also of relevance beyond the HE sector.
- The Scottish Enhancement Themes have produced a series of reports and examples of good practice across key areas of teaching and learning in HE. Those which are particularly relevant to learning technology are: Flexible Delivery¹³; First Year: engagement and empowerment¹⁴; Graduates for the 21st Century¹⁵; and Research-Teaching Linkages: Enhancing Graduate Attributes¹⁶.
- The TESEP project created the innovative 'Transform' website which is aimed at managers, practitioners, and staff developers in FE and HE *'who are interested in good, forward-thinking teaching practice that is underpinned by appropriate uses of current and emerging technologies'*¹⁷.
- The SFC funded BlendEd project consortium, led by Reid Kerr College and including six FE colleges, COLEG and the JISC Regional Support Centre for Scotland (South and West), has documented the benefits and challenges encountered in moving from traditional delivery models to a flexible, pedagogically sound model incorporating technology¹⁸.
- Three west of Scotland universities, namely Glasgow, Strathclyde and Glasgow Caledonian, collaboratively developed and introduced an IT Skills certificate with the aim of ensuring a common 'baseline' of skills and competencies for all students. Although this achieved some level of success, it ultimately failed due largely to the difficulties of adding the certificate to an already full curriculum. If however this approach were to be properly integrated with subject-based teaching and incorporated a broader range of digital literacies it could potentially provide a benefit that would place HE in Scotland in a distinctive light to prospective students, and go some way towards addressing the 'digital divide'.
- In the area of assessment for qualifications, SQA has a strategic commitment to increasing the use of e-assessment. It offers on-screen assessment to support an increasing range of its qualifications and has undertaken trials of innovative approaches to assessment using ICT. These include the use of games based approaches to assessment and the use of social software to support the assessment of group work.

3. Is there a role for the private sector in LT development in schools/FE/HE?

The short answer to this question is, undeniably, YES. There is already *de facto* pervasive involvement of the private sector in learning delivery. Practically all the search and retrieval tools that citizens use are provided by the private sector; the devices used to interact with the information environment are entirely private sector in origin; and the networks across which information flows (with the notable exception of the Joint Academic Network) are creatures of the private sector. The dominant virtual learning environment in HE is Blackboard, and RM is the supplier behind Glow. Alongside this the software that runs the Internet, and which underpins the online interactions of learners and teachers (and citizens generally) is the product of the private sector, albeit with Open Source software occupying an ambiguous position. Meanwhile games (educational and otherwise), text books and journals are overwhelmingly the products of the private sector, although they sit alongside a growing “information commons”, of which Wikipedia is the best known, with Open Educational Resources and Open Access journals less so.

With the possible exception of games, where Scotland has particular strengths, there is probably no specifically Scottish agenda to be followed here, except in so far as Scotland is small enough and there is probably sufficient cohesion between and within sectors, for a debate about the interface between the public and private sectors in LT development to be productive. The focus of this could perhaps be on how “smarter” (and smarter includes more economic) learning and teaching could flow from better use being made in learning and teaching of generic technologies that are already well established rather than on creating and/or deploying new ones.

In times of diminishing resources and rising student numbers there is a temptation to outsource areas of provision that are expensive or difficult to maintain. Whereas this is not necessarily a bad temptation to fall prey to, there may also be scope for providers who are already specialising successfully to be invited to supply the service in question to consortia of institutions or even to the whole sector? For example, Scottish Universities themselves might be invited to bid for a new service that would support digital literacy in students. Such a service would simultaneously demonstrate a commitment to real change (and to entrepreneurship) while revenue would be reinvested in the sector. This is not so much a partnership with the private sector, although there is nothing to rule out the involvement of the private sector in some aspects of it – rather it would be a change in attitude in public education within Scotland, moving away from the assumption that institutions have to operate as individual competing organizations, thereby often missing out on opportunities to do things more cheaply at scale. This is something only politicians could bring about, so it seems appropriate to summarise it in this briefing.

4. What kind of strategic projects might help to take this forward in Scotland?

Scottish education has long prided itself on its distinctive nature. Historically, it has embraced a broader curriculum than elsewhere in the UK, embedding traditional values of equality of access to education and ideals of citizenship across the curriculum. In addition, the close links between further and higher education encourage significant levels of cross-sector collaboration which is not always apparent in the other home nations. In the schools sector, the new Curriculum for Excellence is providing opportunities to reflect on current practice and embrace new approaches. Taking these distinguishing features into account, we suggest that Scottish education could support the development of digitally literate citizens and extend its reputation through focusing on the following aspects of technology enhanced learning:

Raising Levels of Digital Literacy by:

- identifying ways in which schools, FE/HE, community and work-based learning can support a broad digital capability and literacy agenda
- exploring a cross-sectoral approach to digital literacy which links Digital Britain and the Life Long Learning agenda;
- building on the Curriculum for Excellence to identify areas of commonality between digital literacy and traditional literacy skills
- encouraging institutions to develop strategic approaches to embedding digital literacy across the curriculum
- encouraging stronger partnerships between SQA and Scottish Higher Education in both exemplifying best practice in on-line assessment and in tackling digital literacy across society, encouraging learners and teachers to adopt new skill sets and generally to improve the productivity of the Scottish economy.

Developing independent lifelong learners by:

- capitalising on the strong links between FE and HE in Scotland to target the use of technology on preparing learners not only for the various transitions involved in their journey through formal education but also for their development as lifelong learners, knowledgeable employees and engaged citizens.
- building on the findings of recent Scottish projects such as REAP, TESEP and LLIDA to encourage the effective use of technology for learning at all stages in the curriculum
- exploring further the use of technology to transform assessment and feedback practices, including exploiting the potential of increasingly ubiquitous mobile devices.

Encourage a collegial approach to technology in learning at all levels by:

- supporting a benchmarking culture, modelled on the most effective parts of the approaches taken recently in Wales and England, and which is represented (in HE) by the Enhancement Academy¹⁹, as well as by the approach taken during work funded by SFC on a baseline study of the e-Readiness of Scotland's Colleges²⁰.
- introducing a cross-sectoral Scottish scheme for rewarding excellence in the application of technology in teaching and learning, operating at the unit level within institutions, rather than with individuals. ALT's currently small scale Learning

Technologist of the Year Team Award provides a model for the approach suggested²¹.

Preparing teachers for 21st Century teaching by:

- creating a renewed focus on professional development across the sectors to encourage fuller engagement with technology enhanced learning and appropriate pedagogical approaches, especially in the light of web 2.0, mobile and social media developments.
- promoting understanding amongst teachers of how learning technologies affect 21st Century life, including issues such as managing digital identities, exploiting the boundaries between formal and informal learning, and encouraging co-creation and sharing of knowledge and resources.
- Exploring ways of acknowledging and rewarding excellence in learning and teaching both locally and nationally, based on models such as,
 - the Distributive Leadership Faculty Scholars model which has been implemented successfully in Australia with the support of the Australian Learning and Teaching Council²² (the collaborative approach adopted by the participating Australian institutions has similarities to the Scottish context);
 - the HEA National Teaching Fellowship scheme in England, Wales and Northern Ireland, funded by the Higher Education Academy²³.

Association for Learning Technology

October 2010 (rev1)

A copy of this document is available on the ALT Open Access Repository at <http://repository.alt.ac.uk/838/>.

¹ ESRC/EPSRC-funded Technology Enhanced Learning (TEL) Programme, last accessed 30th September 2010 <http://www.tlrp.org/tel/the-tel-programme/about-tel/>

² SFC E-Learning and Transformational Change Projects, last accessed 28th September 2010, http://www.sfc.ac.uk/effective_institutions/eLearning/elearning_transformational_change.aspx

³ Transforming and Enhancing the Student Experience Through Pedagogy Project (2010). last accessed 29th September 2010, <http://www2.napier.ac.uk/transform/>

⁴ Re-engineering Assessment Practices in Scottish Higher Education (REAP), last accessed 29th September 2010 <http://www.reap.ac.uk/>

⁵ Creanor L., Trinder, K., Gowan, D., Howells, C. (2006), *The Learner Experience of E-Learning (LEX)*: Final project report for JISC, last accessed 30th September 2010, http://www.jisc.ac.uk/uploaded_documents/LEX%20Final%20Report_August06.pdf

⁶ Trinder, K., Guiller, J., Margaryan, A., Littlejohn, A., Nicol, D. (2008) *Learning from digital natives: bridging formal and informal learning*, Final report for the Higher Education Academy, last accessed 30th September 2010, <http://www.academy.gcal.ac.uk/ldn/LDNFinalReport.pdf>

-
- ⁷ Lines, D. (2010) Things that make a difference: lessons from the enhancement themes, QAA Enhancement Themes Publication, last accessed 28 September 2010, <http://www.enhancementthemes.ac.uk/documents/LessonsFromET.pdf>
- ⁸ Beetham, H., McGill, L., Littlejohn, A. (2009) *Thriving in the 21st century: Learning Literacies for the Digital Age (LLiDA project): Executive Summary, Conclusions and Recommendations*, JISC, last accessed 1st October 2010 <http://www.academy.gcal.ac.uk/llida/LLiDAExecSumJune2009.pdf>
- ⁹ HEFCE Online Learning Taskforce <http://www.hefce.ac.uk/learning/enhance/taskforce/>
- ¹⁰ Learning and Teaching Scotland, last accessed 28th September 2010 <http://www.ltsotland.org.uk/>
- ¹¹ Learning Literacies for a Digital Age (LLiDA): Best Practice Examples, last accessed 1st October 2010 <http://www.caledonianacademy.net/spaces/LLiDA/index.php?n=Main.BestPracticeExamples>
- ¹² REAP principles for good formative assessment and feedback design, last accessed 1st October 2010, <http://www.reap.ac.uk/resourcesPrinciples.html>
- ¹³ Flexible Delivery, QAA Scottish Enhancement Theme, last accessed 30th September 2010, <http://www.enhancementthemes.ac.uk/themes/FlexibleDelivery/publications.asp>
- ¹⁴ First Year: Engagement and empowerment, QAA Scottish Enhancement Theme, last accessed 18 October 2010, <http://www.enhancementthemes.ac.uk/themes/FirstYear/>
- ¹⁵ Graduates for the 21st Century, QAA Scottish Enhancement theme, last accessed 30th September 2010 <http://www.enhancementthemes.ac.uk/themes/21stCGraduates/outcomes.asp>
- ¹⁶ Research-Teaching Linkages: Enhancing Graduate Attributes, QAA Scottish Enhancement Theme, last accessed 1st October 2010, <http://www.enhancementthemes.ac.uk/themes/21stCGraduates/outcomes.asp>
- ¹⁷ TESEP Project Transform web site, last accessed 1st October 2010 <http://www2.napier.ac.uk/transform/index.htm>
- ¹⁸ BlendEd: Collaborative Transformation of Course Delivery last accessed 1st October 2010, <http://www.jisc.ac.uk/media/documents/programmes/elearningsfc/sfcbookletblended.pdf>
- ¹⁹ Higher Education Academy Enhancement Programmes, <http://tinyurl.com/38y8cva>, last accessed 17th October 2010.
- ²⁰ Baseline Study of e-Activity in Scotland's Colleges. Report to the Scottish Funding Council. July 2007. <http://tinyurl.com/344qgkm>, last accessed 17th October 2010.
- ²¹ Document describing the 2010 winners of the ALT Learning Technologist of the Year Award. <http://repository.alt.ac.uk/817/2/LTOY201020v1.520for20web.pdf>. Last accessed 17th October 2010.
- ²² Faculty Scholars Distributive Leadership model, *The Green Report*, supported by the Australian Learning and Teaching Council, last accessed 1st October 2010, <http://www.uow.edu.au/cedir/DistributiveLeadership/>
- ²³ HEA National Teaching Fellowship Scheme. last viewed 29th September 2010, <http://www.heacademy.ac.uk/ourwork/supportingindividuals/ntfs>