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**Research on Technology Enhanced Learning:  
strengthening links with practitioners**

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# Research on Technology Enhanced Learning: strengthening links with practitioners

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## Abstract

This paper will provide two UK examples on the importance of technology enhanced learning (TEL) researchers strengthening links with practitioners. The first example looks at how UK research policy is considering how research can utilise the innovation potential of ICT in order to enhance learning. The second example draws upon a particular case where researchers at the Institute for Employment Research (IER) at the University of Warwick involved practitioners in the design and development of technologically enhanced resources and services to support the learning and development of careers counsellors.

## 1. UK research policy on Technology Enhanced Learning

In the UK a number of national organisations have recently produced reviews and strategy documents that directly addressed the question of how to utilise the innovation potential of ICT to enhance learning<sup>1</sup> and one outcome has been proposals to fund a programme of multidisciplinary research on TEL.<sup>2</sup> The UK's Teaching and Learning Programme (TLRP)<sup>3</sup> has been given responsibility for managing this major new programme. From the above we have drawn out five particular challenges that

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<sup>1</sup> The reviews and strategy documents include:

Becta, Review 2005: Evidence on the Progress of ICT in Education,  
[http://www.becta.org.uk/page\\_documents/research/becta\\_review\\_feb05.pdf](http://www.becta.org.uk/page_documents/research/becta_review_feb05.pdf)

Becta's Research and Development Strategy 2005-8

Delivering research and evidence which can support the strategic development of ICT in education

[http://www.becta.org.uk/page\\_documents/research/research\\_strategy05-8.doc](http://www.becta.org.uk/page_documents/research/research_strategy05-8.doc)

HEFCE, Strategy for e-learning (2005), [http://www.hefce.ac.uk/pubs/hefce/2005/05\\_12/](http://www.hefce.ac.uk/pubs/hefce/2005/05_12/)

JISC, The e-Framework for Education and Research – an Overview,

<http://www.e-framework.org/resources/eframeworkrV1.pdf>

JISC, Designing for Learning: an update on the Pedagogy strand of the JISC e-Learning Programme,  
[www.jisc.ac.uk/elearning\\_pedagogy.html](http://www.jisc.ac.uk/elearning_pedagogy.html)

Josie Taylor *et al*, An e-learning research agenda (2005) (ESPRC/ESRC /core e-science review group)  
<http://www.epsrc.ac.uk/CMSWeb/Downloads/Other/E-learningResearchAgenda.pdf>

ALT Learning Technology Research Strategy – 2005

[http://www.alt.ac.uk/ALT\\_2005\\_Research\\_Strategy\\_20050420.html](http://www.alt.ac.uk/ALT_2005_Research_Strategy_20050420.html)

Technology Enhanced Learning has been identified as being of key importance for the UK government and there are official strategies in relation to particular educational sectors in Northern Ireland, Scotland, Wales and England.

<sup>2</sup> Research on Technology Enhanced Learning: Understanding, creating, and exploiting digital technologies for learning – Call for research proposals (TLRP 2006)

<http://www.tlrp.org/manage/documents/CALLTELfinal-1.pdf>

The European Commission is currently using the phrase 'Technology Enhanced Learning' for Framework VII, and will promote it as a 'new' research area. 'Technology enhanced learning' includes what has recently been termed 'e-learning'.

<sup>3</sup> TLRP is a £38m ESRC initiative that has strong links with many user organisations and has established a significant range of output vehicles for dissemination and impact. It already has funded a number of projects that have a TEL component.

TEL research and development will have to meet if it to enhance learning and support innovation in learning systems.

### **Challenge 1: Research on ‘technology enhanced learning’ needs to be genuinely interdisciplinary**

TEL as a field spans the disciplines of learning, cognition, information and communication technologies (ICT) and education, as well as drawing on the broader social sciences. However, if TEL research is to be more widely used then there needs to be greater recognition of the need to develop the area as a genuinely interdisciplinary research field. Those working in this field need an awareness of research on teaching and learning and research and development on innovative digital technologies to support knowledge development and human interaction. The overall challenges to the research community will be to develop innovative applications of digital technologies that will contribute to making education and lifelong learning more personalised, inclusive, flexible and productive (TLRP e-team, 2006):

### **Challenge 2: recognising the value of personalising learning but recognising its drawbacks too**

Personalised learning appears to be a killer application for TEL, so some advocates of TEL promote personalised learning as if it is a ‘universal good.’ This ignores the fact that much learning has a strong social dimension, whereby quite often an individual might rather study the same topic area as others precisely because it brings access to a peer group and a tutor, even if the topic is of less interest to her or him than another topic that he or she would largely have to study on their own. To achieve the highest ambitions for education and lifelong learning we need to exploit fully what technology offers in support of our goals, but not to set the goals simply to get the maximum use from technology. Overuse of technology might narrow the range of learning outcomes in ways that may be unhelpful for an individual – some large IT employers, for example, were recruiting arts graduates with good communication skills as network consultants in preference to computing graduates on the grounds that it was easier to teach the former IT skills than it was to teach the latter communication skills! So providing there is recognition that personalising learning can be more useful in some contexts than others, then using TEL to personalise learning in order to improve learning outcomes (broadly defined) is an important challenge.<sup>4</sup>

### **Challenge 3: build on achievements that have already been made**

One problem is that insofar as Technology Enhanced Learning is maturing as a discipline so there is a widening of the gap between leading edge research and standard practice. While some state of the art developments can perform a showcase function, it is important to build on the achievements behind the leading edge that could have a significant impact. There is also another dimension to ‘building on achievements that have already been made’ and that relates to the use of evidence from research and development studies that have already taken place.

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<sup>4</sup> In this context it is worth bearing in mind that TLRP draws attention to the need to define learning outcomes quite broadly so as to include both the acquisition of skill, understanding, knowledge and qualifications and the development of attitudes, values and identities relevant to a learning society.

#### **Challenge 4: implementation rather than development as the major challenge**

‘Recent educational research on classroom use of information and communication technologies (ICT) has found that teachers continue to be centrally important in designing and supporting learning with ICT across the curriculum. The potential of new technologies is still not being realised, with few teachers and lecturers making full use of computers and other technologies’ (TLRP e-team, 2006, p. 4). Similarly, the ALT Research Strategy (2005) points to how much research in LT has been accused of ‘failing to address the problems facing practitioners or resource controllers.’ This was partly due to a ‘frequent lack of understanding, especially by developers, of institutional contexts’ (para. 4).

#### **Challenge 5: Issues of fairness, equity and inclusion**

The development and implementation of TEL gives rise to demanding educational, technological and organisational challenges. However, these are mirrored by an equally demanding set of political, economic, social and cultural challenges. A key goal of TEL should therefore be to improve the reach of education and lifelong learning to groups and individuals who are not best served by mainstream methods.

#### **Conclusion: educational purposes – innovation – pedagogy – technology-enhanced learning**

Education should be about the development of character as well as the intellect; helping individuals develop the emotional, social and intellectual capacities to participate fully in society. If this leads to a sense that we need to reform aspects of our learning systems then this reform should perhaps be driven by clearer purposes than to, for example, to raise achievement: it could include young people feeling connected with the world; engaged with learning; valuing and respecting difference; wanting to be active citizens. Technology enhanced learning can play a role in this, but let us be clear that this is a second or third order issue – being clearer about educational purposes and devising a pedagogy to achieve those goals should be the drivers of innovation in learning systems. TEL may have a role to play in this but that role should not be as the driver of the reform: values driven, pedagogically sound and technologically enhanced and underpinned by research and development looks like a balanced approach to learning to us.<sup>5</sup>

## **2. Using web-based collaborative and personal learning spaces to provide rich learning experiences for adult guidance practitioners**

The second example highlights how researchers and practitioners collaborated in the design and development of technologically enhanced resources and services to support the learning and development of careers counsellors. The substantive

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<sup>5</sup> An example of appropriately modest aims for TEL comes from a consideration of the pedagogy strand of the HE eLearning programme that has as its core aims: to provide the post-16 and HE community with accurate, up-to-date, evidence- and research-based information about effective practice in the use of elearning tools; and to promote the application and development of elearning tools and standards to better support effective practice (JISC, 2005). See: [www.jisc.ac.uk/elearning\\_pedagogy.html](http://www.jisc.ac.uk/elearning_pedagogy.html). This approach is informed by evidence from Beetham H (2004) Review: developing e-Learning Models for the JISC Practitioner Communities.

collaboration between researchers at IER and practitioners was further enriched through involvement of sector skill councils (with a remit to promote education, training and development in their sectors) and guidance employers with a responsibility for delivering guidance for both adults and young people. The result of the initial collaboration from 2001-2005 resulted in the development of the National Guidance Research Forum (NGRF), a web-based initiative (<http://www.guidance-research.org>), designed to support the professional development of guidance practitioners. The subsequent attempt to develop an on-line module to help practitioners understand how to use Labour Market Information (LMI) with their clients can therefore make use of a ready-made web-based platform. The NGRF is managed by IER and represents an imaginative way of linking processes of knowledge acquisition, development, transformation and creation with approaches to tackling the core problems of guidance practice. A key feature of the website development was that it was a 'workplace learning partnership' in action. It involved the construction of a shared knowledge base from the contextualised problems that policy makers, managers, practitioners, researchers and trainers face. It involved expert groups focusing on particular topics and providing a mediated commentary on key documents and research findings on-line. This has enriched the process and acted to validate the outcomes. The website initially had two main sections: on 'effective guidance' and LMI Future Trends'.

The website extends the use of ICT to support the knowledge development of the dispersed community of guidance practice (Brown *et al.*, 2002). The work of the six expert work groups meant it was possible to advance understanding through processes of knowledge combination, where existing knowledge was combined with new insights to create new forms of contextualised knowledge. New participants could then make use of online support from a community of interest that focused on the interweaving of guidance research and practice. The commitment of the project team to collaboration throughout the development process is central to how the site is now being operated – supporting the 'community of interest' in an interactive way, whereby the processes of reflection, consolidation and community development are supported by presenting resources in ways that are meaningful for the community.

The LMI module represents an attempt to develop an on-line tool that will support practitioners gain skills and confidence in this area and help to promote workplace learning for guidance practitioners on how to use LMI effectively with their clients. The module comprises units that make use of a resource database and is enriched by use of social book-marking. It also links to experiential activities; facilitates interactivity through use of a space for shared resources linked to a blog; and provides support for navigating the module. But the key development that brings coherence to the activities as a whole is the use of a Personalised Learning Space (PLS). The PLS allows for co-ordination of learner choices, is the driver of self-directed learning and encourages critical reflection. Overall, the provision of web-based collaborative and personal learning spaces offers the prospect of providing rich learning experiences for learners in a dispersed community of practice.

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