

The positioning of educational technologists in enhancing the student experience

REPORT

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Enhancing Learning and Teaching through the use of Technology**

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1.0 Executive Summary

The objective of this study was to determine whether the literature identified:

1. any evidence that the role of educational technologists has enhanced the student learning experience, particularly directly (i.e. having direct contact with students) but also indirectly.
2. if there is any such evidence, is it possible to correlate the enhancement with any particular role or position of educational technologists within the institution?

This objective was pursued primarily by using a framework of nine questions within a social networking site called Cloudworks and inviting contributors to identify and discuss relevant literature.

The main period during which contributions were made occurred during August and September 2009. Much literature was identified and related discussion took place. In addition, a parallel conversation took place on a JiscMail mailing list, initially used to advertise the availability of the Cloudworks site. A summary of this vibrant exchange is also included in this report. Finally, a literature-informed commentary on both discussions concluded the analysis.

This method of seeking literature and opinions on literature about a targeted subject for a limited period proved to be an effective way of gaining a snapshot of current issues and concerns. The following were the major findings:

1. Educational technology is now said by institutions to be mission critical but this is poorly translated into commensurate recognition for educational technologists.
2. Institutions see enhancing the student experience as a very high priority. But there is negligible literature on the core question of the role of educational technologists in having direct links with students in enhancing that experience.
3. The relationship between educational technologists and the student experience is invariably addressed by referring to such staff as being 'brokers' e.g. between academic staff and students.

The primary recommendation is that research should be conducted to seek case studies of specific roles and positions of educational technologists, considering how and whether they enhance the student experience and whether there are identifiable benefits or evidence of added value to each different approach.

The overall methodological conclusion is that this approach of a time limited period in which a targeted community is asked to contribute to energizing a particular contemporary issue through a well constructed social networking site, could be applied more broadly.

2.0 Organisation of References

In the text that follows, there are different contexts in which references are cited. References identified in Sections 3.0 to 6.0 are notes in A-References. References cited within the discussion described in Section 8 are noted in B-References. References 'seeding' the questions in Section 8 are noted in C-References. Finally, references noted from Section 9 are noted under D-References. This classification mirrors the different contexts within which the references have been identified, framing them within the activity in this project through which they have been cited.

3.0 The Challenge

Over a decade ago, the UK Dearing Report (1997) recommended that all institutions should review the changing role of staff as a result of [communications and information technology (ICT)], and ensure that:

staff and students receive appropriate training and support to enable them to realise its full potential

Professor Paul Ramsden (2008), in responding to an invitation to comment on how best to develop a framework for UK HE for at least the next decade, observed that:

Students see ICT as a means to improve learning through better access to resources and information, and as a complement to face-to-face interaction with academics, rather than as a substitute for good teaching and personal contact. Higher education institutions have gradually aligned their use of technology to these expectations and integrated new learning technologies into their teaching and learning strategies.

The 'alignment' noted above is confirmed in a recent survey (Browne et al., 2008) in which technology enhanced learning (TEL) is identified as a major driver for enhancing the student experience, permeating all institutional strategies, policies and actions. However, the literature is relatively silent on the role of the educational technologist in achieving such an objective. In an environment where institutions are increasingly emphasising the student experience – partly due to the challenge technology poses to other aspects of institutional provision, e.g. the quality of academic content - and where TEL is increasingly being regarded as institutionally relevant, the role of staff specifically concerned with both technology AND student learning would seem to warrant special attention.

It is worth pausing at this point to ask what educational technology is and what an educational technologist does. In reality, these questions form much of the debate and substance of this report, but as a starting point it is worth noting the definitions provided by ALT at: http://www.alt.ac.uk/learning_technology.html. The date recorded on the web page at the time these quotes were noted is 10/4/2007.

1. *Learning technology is the broad range of communication, information and related technologies that can be used to support learning, teaching, and assessment.*
2. *Learning technologists are people who are actively involved in managing, researching, supporting or enabling learning with the use of learning technology.*
3. *A very wide range of people in industry and in private and public sector education have learning technology as a core part of their role: you do not have to be called or to call yourself a learning technologist to be one!*

Astute readers will also note that the term 'learning' is used above rather than 'educational'. Whilst it is recognised that different terms can bring varying nuances, for simplicity, except where quotes are given verbatim, the term 'educational technologist' is consistently used throughout this Report. Similarly, the term TEL is used rather than the term e-learning. As outlined in Browne et al. (2008), TEL is now gaining currency as the preferred term.

4.0 What was the motivation from the University of Exeter to undertake this work?

Our particular motivation to bid in response to the tender from the Higher Education

Academy was that at Exeter, we are exploring a new strategic model of placing graduate students as educational technologists for a fixed term within all our Schools. Principally, this is to facilitate an institutional changeover from our proprietary VLE to an open source VLE. They will be jointly managed by a small centrally located TEL team and by the Schools. We are keen to learn from established practice regarding how to maximize the effectiveness of educational technologists working to such a model.

4.1 The proposal and methodology

Our proposal aimed to identify in the literature the most effective positioning of educational technologists within institutions in order to maximize their positive impact upon the student experience. In particular, it sought to identify any direct relationship between the work of educational technologists and the enhancement of the student experience. 'Direct' in this sense implies direct contact between students and educational technologists.

Initially, it had been anticipated that much of the work would be a desk study, supported by engaging the community in some online manner in synthesizing that literature. But during the preliminary literature review and detailed planning, a subtle modification of the methodology took place. It was determined that Shurville et al. (2009) with its 214 references, already provided a current and comprehensive base line review. The emphasis of the methodology thereby changed to promoting the project as a *process* whereby the HE community as a whole, and educational technology staff in particular, were encouraged to identify the literature that was considered of most value to them in addressing the challenge of 'the positioning of educational technologists in enhancing the student experience'. Notwithstanding this subtle shift, a review of the literature identified by the contributors is provided both as a narrative and as reference list and as B-References, it forms a major deliverable from this project.

5.0 A summary of previous reviews

To complement this shift in methodology, a very brief overview of the literature that underpins and has informed much contemporary thinking is noted here. There is some seminal literature produced by a number of UK authors, with work by Beetham, Conole, Gornall and Oliver most regularly cited. Literature, including previous reviews from all these authors is cited in Shurville et al. (2009) and was also highlighted by contributors to this project. Tom Browne, in association with Simon Shurville (please see the section entitled 'Dedication') has also contributed to this literature and Shurville et al. (2009) has already been noted as a plausible contemporary literature review base line, drawing upon 214 references dating from 1977 to 2009. This review is freely available as an online resource and the URL is given with the full reference in A-References. Taken together, these works document the changing and always-complex roles of educational technologists since the turn of the new millennium: key themes are hybridity, mobility, and insecurity of funding and career structure. However, within all these references there is very little evidence of any relationship between the roles and work patterns of educational technology staff and the student experience which is supposedly the rationale for their existence.

The following draws just upon the base line review of Shurville et al. (2009) in order to set the scene. Its main motive was to investigate sustainable career structures for educational technologists and comment upon those factors that militate against such an objective. Without a sustainable career structure, or clear rewards and career progression, educational technologists represent flight risks for their institutions. Their insecurity and associated frustrations can make them prone to moving into academic

or more mainstream academic-related/ professional positions (Shurville et al., 2008) despite the fact that TEL is now central to institutional strategies and missions and to the broader knowledge economy.

Establishing an institutional framework within which educational technologists can flourish is a major requirement for enabling an institution to overcome the barriers to the successful deployment of TEL. Institutions are beginning to grapple with the significant cultural and structural changes necessary to firmly embed technological innovation within mainstream education. Only long term staff with a secure status and understanding of the institution are capable of carrying these changes forward. At the same time, a new focus on enhancing the student experience within their overall mission means that institutions need to lean more heavily on staff – often outside of departments and curriculum teams – for whom the learning experience is a core concern.

The new strategic significance of the educational technology role is evidenced in the recent AECT definition of learning technologists, which includes the phrase ‘improving performance’. As Richey (2008) notes, in a discussion of this new definition, educational technologists are now expected to support:

impact transfer as shown in individual and organizational performance improvement

Such impact transfer could be viewed as an engine for the dynamic creativity underlying successful knowledge economies as identified by the OECD (2005). But much current literature identifies systemic weaknesses regarding the institutional role of educational technologists (for example, see Albright and Nworie, 2008). Resolving this difficulty should not be seen as separate from an institution’s overarching mission to improving the student experience but as an integral part of that mission. There is an increasing body of literature that proposes that the centrality of the role needs to be more firmly recognized by management and that staff with hybrid educational and technology-related roles should be given mandates to initiate and shape strategy, policy, change and innovation, for example, see Duderstadt (2003).

Such a challenge inevitably raises questions over what an educational technologist does. There is an array of previously discrete professions with which the role now overlaps, as noted in a UK survey conducted by Browne et al. (2008). Beetham et al. (2001) noted at least ten discrete role-elements through a cluster analysis of statements taken from staff engaged in learning technology related work, along with ten very diverse activities that seemed common across roles. Has the enhanced institutional significance of educational technology in the eight years since this survey led to a consolidation and clarification of roles in this area? Is there any consensus in the literature or in practice as reported by participants in the discussion, regarding the core elements and perceived boundaries of such roles?

It is further argued that to maximize their effectiveness, it is important that educational technologists are placed within structural settings where their multidisciplinary skills can be exploited to best advantage, as noted by DeBlois (2006). To date, much literature has revealed a disappointing ambivalence towards such staff and the skill sets they contribute (see Hannan, 2005). Are the subsequent flight risks leaving critical holes in institutions’ forward planning at a time of emergent new practice? One response from educational technologists themselves has been to support the development of a professional accreditation body (Oliver, et al., 2004) to enhance their standing within their institutions.

With the emergence of Web 2.0, the literature also identifies new tensions between

local experimentation and central consolidation (see Stiles and Yorke, 2006). Centralised institutional technologies are giving way to an expectation that learners will have personal access to networks and services, while virtual learning environments are being challenged by learner-configured spaces and personal learning environments (Wilson et al., 2006). Online social networks and open content create vast new opportunities for individuals to learn outside of or alongside formal learning, challenging the unique role of educational institutions. In parallel, there has been a shift in conceptions of learning post-16, towards more independent and enquiry-based approaches (CETL Enquiry-Based Learning 2007). All these developments place much greater onus on learners to choose, use and manage their own technologies, develop their own practices, and define their own trusted sources. Potentially, then, the role of extra-curricular staff mandated to support learning, with expertise in technology-enhanced strategies for learning, has never been more significant. Educational technologists find themselves at the centre of a redefinition of post-compulsory education, which combines dynamic new environments for learning with significant challenges to institutions' traditional purposes. Indeed, the literature could be reviewed from the perspective of the educational technologist's role as a metaphor for the institution's engagement with technology, and the consequent revolution in its mission and culture.

6.0 Potential beneficiaries of this work

Different institutional contexts and missions spawn different approaches. It is hoped that this report will assist HEIs in determining what they really expect from and how they should develop their educational technologists. Different stakeholders are identified:

- HE senior management. In a climate where value for money is becoming increasingly important, senior management needs evidence that educational technologists can impact positively upon the KPIs defined for their institution. They will also have a strategic steer on the suite of positional considerations regarding educational technologists.
- Personnel. Given the many contexts in which educational technologists could be employed, personnel departments need a better understanding of the range of job descriptions for both junior and senior posts and in determining what they really expect from, and how they may choose to develop their educational technologists.
- Academics. It is vital to present evidence for the positive impact that educational technologists can make to learning within a range of disciplines, in order to obtain academic buy-in and support the work educational technology staff do in partnership with academics.
- Students. Although they are the primary beneficiaries, their voice, until recently has been largely unheard. Though this has now been remedied, careful consideration needs to be given to how learners' perspectives are captured and interpreted, particularly as many functions of educational technology work are necessarily invisible to them.
- Educational technologists. Their sense of self esteem and career enhancement is greatly influenced by senior management motivations and academics' willingness to engage as equal partners.

7.0 Using Cloudworks

Some explanation of terms within this social networking tool is probably necessary. Cloudworks is a social networking tool produced by the Open University, see: <http://cloudworks.ac.uk/index.php/cloudscape/view/1872>. It was used in this project to facilitate sharing and discussion. A 'Cloudscape' was created, which essentially is the overall environment within which the literature sharing and discussion took place. Within that Cloudscape were a number of 'clouds', which for the purposes of the project can mostly simply be translated as the questions.

This process was advertised on a number of JiscMail lists, namely ALT-MEMBERS HELF and UCISA-SSG. In addition, there were some targeted email invitations to individuals.

Adapted to our purposes, the Delphi methodology (see: http://en.wikipedia.org/wiki/Delphi_method) was proposed as a means to invite specialists to respond to targeted questions with reference to the literature. Using such an approach, it was hoped to identify the literature that is important and relevant to the community. Cloudworks is self consciously an open community. It was therefore essential that all participants were aware of this dimension and conducted themselves accordingly.

Working closely with the OU, Cloudworks was also adapted to suit the needs of this project. An integrated suite of capabilities was incorporated, namely the ability to add a reference as a link, if available and also as a full reference in addition to the usual discussion capabilities. In order to contribute, as opposed to merely viewing, it was necessary to register for Cloudworks, and this may have put off a small number of potential participants, but the process was free and easy. Thereafter, in order to stay informed, the default setting was that email alerts would be sent to all contributors to that particular 'cloud'.

The work was conducted over five months, namely July (preparation), August and September (active sharing), October (continued sharing and writing up) and November (final commentary). Self-evidently, the discussion represents just a snapshot in time and a self-selecting group of stakeholders who chose to engage with the literature review. As such, the B-References noted only reflect the concerns and interests of those who took part. But this is also its strength. Most literature was contemporary and some was authored by the contributors, which was encouraged.

7.1 The Questions

Nine questions were posted to assist in framing the sharing of pertinent literature.

The questions were as follows:

- Q1:** What is the relevance of the student experience to the role of the educational technologist?
- Q2:** Where should educational technologists be 'positioned'?
- Q3:** Are educational technologists impacting on changing pedagogies?
- Q4:** What are the career trajectories and challenges for educational technologists?
- Q5:** How do educational technologists gain institutional seniority and influence?
- Q6:** What are the different emphases in the roles of educational technologists?
- Q7:** To what extent does an educational technologist have to navigate between 'innovative' trends and established practices?
- Q8:** What is the relevance of educational technologists in relation to educational strategic missions?
- Q9:** Is the role of the educational technologist relevant to the contribution of the

University to the wider knowledge economy?

Q1 addresses the core question of whether a relationship between the student experience and educational technologists' work can be traced in the literature. Q2 to Q9 ask complementary questions, derived from Shurville et al. (2009)

Each question was 'seeded' with a quote taken from a reference listed in Shurville et al. (2009). They were not intended to constrain contributions, nor was there any obligation to agree with the quote! They were merely included to stimulate thoughts on the pertinent literature and to help expand upon the question. The references from which the quotes were derived are noted below under C-References.

Just two references were offered within the Cloudscape to assist anyone who was interested but not particularly familiar with this topic. They were Browne et al. (2008) and Shurville et al. (2009), which are listed under A-References.

7.2 Clouds in the Cloudscape

Following this section is a synthesis of the discussions and contributions provided under each question. The different contributors are allowed to speak for themselves authentically without any overt analysis. For the full discussions and literature contributions as they took place, see:

<http://cloudworks.ac.uk/index.php/cloudscape/view/1872>. There is inevitably an overlap of contributions between the questions. The synthesis reports on these contributions in the context in which they took place, but cross references are provided where relevant.

For each question the number of direct contributions is noted and also the number of 'views', (as of 21/11/2009) where the latter is interpreted as the number of unique IP addresses that were used. This could crudely be interpreted as the number of different people who looked at each question and at least scanned the contents. Most activity was in fact completed by the end of October.

Approximately 42.5% of views were undertaken by going directly to the Cloudscape website. Approximately 42% found it via Google.

Q1: What is the relevance of the student experience to the role of the educational technologist?

'Although it's true that some of the drive to go "on-line" has come from above through academic development plans and university strategies, one of the main drivers for the development of online learning has been the student body. One of the greatest levers we've found has been student demand'. (Education for Change, 2004, p.3)

Is there any literature that substantiates this view?

16 contributions and 174 views.

The primary and most important conclusion from the study is that there is as yet no body of literature that makes a direct linkage between learning technologists' work and student experiences, despite the fact that such a relationship was acknowledged of being of fundamental relevance. Currently, the best we have are various proxies, primarily the roles that learning technologists play in enhancing and augmenting tutor skills. The literature is awash with such attempts and often notes the disjuncture between student and staff ICT (which of course is not necessarily the same as TEL)

competencies. So is our real target staff development? But then we must take note of various cautionary tales of academic backlash as recorded in Hanson (2009) in which she raises concerns regarding the impact of TEL on academic identities. More broadly, as HEIs become ever more complex in nature, the tendency towards increased specialisation may result in a growing proportion of staff not having direct contact with students. So there may be developing a systemic weakness, with educational technologists lacking a direct feedback loop to students, which in turn may feed into the related problem that they feel a lack of ownership of their work. One model that comes close to direct engagement is that of using educational technologists as placements. Tangentially related, the University of Exeter has run the first iteration of a 'Students as Agents of Change' programme, see Zandstra and Dunne (2009). Some of the projects involved aspects of TEL, with students working directly with the institution's centrally employed educational technologists.

Another proxy is to note the student experience, or more accurately, the many diverse student experiences and prior competencies (Currant et al., 2008) but students are usually only asked what they think about their lecturers. Witness the LLiDA literature review (Beetham et al., 2009), the Great Expectations survey (JISC/Ipsos MORI, 2008), Phase 2 of the JISC funded Learners' Experiences of e-learning (JISC, 2009a) and the Evaluation of Learners' Experiences of e-learning Special Interest Group (ELESIG) (<http://elesig.ning.com/>). All identify that tutor skills are very important to learners' experience of TEL. By implication then, if it can be shown that learning technologists play a role in enhancing and augmenting tutor skills, then they will have a bearing upon the student experience. But in a direct sense, educational technologists are largely invisible. Russell (2009) is a typical example. This may mean that they are not necessarily well placed to translate from 'what the student wants' to 'what the student really needs' (arguably presumptuous, but felt strongly by some contributors).

The CMALT prospectus (http://www.alt.ac.uk/docs/cmalt_prospectus_v3_2009.pdf) was identified as a source of quotes from candidates and stakeholders, providing anecdotal evidence that well-qualified educational technologists see themselves as central to the changing mission of the sector. It also provides a list of core competencies, though interestingly, any reference to stakeholders is subsumed within the catch-all *an understanding of your target learners*. But any agreed definition of an educational technologist remains elusive, and is usually framed by a list of activities or roles, as exemplified by the longitudinal work highlighted in Gornall (2009a). Indeed, Beetham et al. (2001) and Gornall (2009a) probably longitudinally frame the discussion regarding how educational technologists see themselves.

One challenge thrown down to educational technologists is that whilst the subject of student experience is highly relevant to them, many in the role do not see it as important to engage with the literature or academic debates around the subject in a profound way.

Recognising the diversity of 'positionings' available to educational technologies and also the diversity of students' experiences with and through technology, the term 'brokerage' would seem to be the one common denominator in the literature. This proxy role in relation to a range of stakeholders feeds into much insecurity of the role. Could the term introduced into the discussion of 'paraprofessional' be viewed as a new assertive attempt at 'positioning', as previously discussed in Q2? Peacock et al. (2009) concluded that we need a *more inclusive model of the learning technologist's role* if we are to avoid polarising the field into theorists and practitioners, though in practice most universities (and all pre-92 institutions) assign different contractual

status to academics and others, which militates against the recognition of a parallel expertise. This is further discussed under Q6.

To sum up, much literature suggests that TEL is now central to core university strategies. The student experience and their exposure to TEL is widely reported and analysed. Staff development in skills for TEL is almost universally regarded as critical to institutional strategies and to the provision of a flexible, responsive portfolio of curriculum offerings. But the role of educational technology staff in delivering on these agendas is barely noted in the mainstream literature. Might it be the case that 'technology' is seen as central but 'technologists' are not? Other challenges that were provocatively raised, asked how TEL-competent are our staff developers, would such staff regarded themselves as being, in part, educational technologists and how much is TEL embedded in e.g. HEA-accredited programmes?

Q2: Where should educational technologists be 'positioned'?

'...support for TEL is provided by a wide range of units. There is a differentiation of roles within the different support units ranging from technical support to pedagogic support. Of the different types of support units post-92 institutions have larger Education Development Units with greater numbers of academically orientated support staff. Pre-92 institutions appear to provide more support locally suggesting a more devolved provision'. (Browne et al., 2008, p. 7)

Does the literature confirm this view and what diversity is evident?

18 comments and 199 views.

Beetham et al. (2001) is undoubtedly the definitive starting point, with educational technology staff positioned in a wide range of central service roles as well as in departments, and in hybrid locations. Newland and Byrne (2008) provide a useful outline of typical roles and responsibilities. Gornall (2009a) and Browne et al. (2008) suggest that such staff are still doing very complex and hybrid roles wherever they are positioned. One interesting dimension that surfaced was how the role differs according to position and what interactions occur between learning technologists in different positions in the same institution. Stiles and Yorke (2006) note that:

New initiatives to address the tensions between the need for an organisation to control its processes and need of practitioners to experiment and innovate have begun, .. the relationship between control and innovation is a difficult one.

There is overlap here with the responses to Q7. An argument was made that the 'centre' would have a focus more on control and the 'periphery' would have a focus more on innovation. Central support experiences the tensions of attempting to uphold the 'enterprise' model of fully supported but arguably slow moving infrastructure whilst being challenged by the 'destructive periphery' of fast moving novel ideas and a different sense of ownership. Note also Shurville and Browne (2009), which is expanded upon in Q5. Several participants echoed the literature from their own personal experiences. A supportive anecdote from someone who worked in a faculty, suggested that such positioning enabled a much closer linkage to the community of practice of the group of academics in that faculty than the central learning technologists could offer. Also, working locally, the line management is often by an academic whereas the central learning technologists were working for the university administration/senior management which has an affect on what is expected of that role. A counter view expressed was that educational technologists should not 'go native' within one specific department (or other homogenous context) because part of

their expertise comes from crossing contexts, so that they can see, through the contrasts, the assumptions that are made in each context that might otherwise be overlooked. Pointers to practices that an academic within their disciplinary context might never notice can be a powerful way of sharing practice.

The above anecdotes and opinions align neatly with a much more substantial discussion that took place in parallel on ALT-MEMBERS@JISCMail.AC.UK. In fact this conversation was initiated by the same emails that were sent to various email groups advertising the Cloudscape for this project. The floodgates opened with many frustrations, angst's and bold assertions being expressed. By subscribing to this list, access is given to the archives at: <https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=alt-members>. A reflective summary of these discussions is provided later in this report.

In an inevitable overlap between responses to this question and those for Q1, the following three papers were identified that were presented as a Symposium session at the 2004 Networked Learning conference entitled 'Learning Technologists: split personality or community of practice'. Grainne (2004), Jones (2004) and Armitage (2004) represented views from the researcher, the academic and the educational technologist respectively. Within this is a discussion about who and what are educational technologists.

There was also an international contribution, citing Czerniewicz et al. (2006). Though written for a South African context, it could just as easily reflect UK HEIs, individually and collectively. A multitude of institutional settings and job titles and structures are noted that reflect local cultures etc. Also noted is the 'divide' among the roles of support, development, research and teaching, which tends to be strongly policed in institutional frameworks, compounded by the traditional academic/non-academic divide:

... the report has touched upon the relationship at institutional level, between individuals, emerging organisational forms, roles and practices and current uncoordinated policy frameworks.

Oliver (2002), by entitling his paper 'What do Learning Technologists Do?' raises both a benign question and a challenge. In discussion, it was noted that there is something of the 'other' about educational technology staff because their roles are not inscribed in the HE employment history (or current statistics) as other roles are, they often have hybrid roles and may have come into HE from outside education. Such staff are often 'in between' boundaries and categories (academic, support etc) and they operate a little below the radar. In addition to the work by Gornall (2009a) the UCISA longitudinal studies (see Browne et al., 2008) offer some evidence on the extent to which there is any movement towards core employment, and alignment of the centrality of educational technology staff with the TEL and Learning and Teaching missions.

One thread highlighted the role of librarians (see: Godwin, 2005):

Academic staff are the key to influencing student acceptance of information literacy. Therefore librarians need to concentrate on academic perceptions and interest in information literacy.

So a linkage is made to students, with librarians performing many of the roles we ascribe to educational technologists.

The broad thrust of the discussion echoed findings of the LLiDA study into digital literacies noted in the discussion for Q1 and where/how these are being supported at institutional level, a question which can be seen as a reframing of the question about the position(s) of educational technology staff. If digital literacy is defined as 'effective practices for study in a digital age', it approximates fairly closely to the 'new' rationale for educational technology work which we have seen takes students as its focus. So the LLiDA findings, particularly about the lack of integration between centrally provided services and embedded curricular activities, clearly have relevance to the issue of staff roles and positions. Cross-over activities described by that study included central service staff (librarians, learning development staff, learning technologists, careers staff and educational developers) delivering sessions and modules within curricula, and ambassadors (including student ambassadors) taking particular central missions such as digital literacy into departments and courses.

Identifying a range of staff with responsibility for developing learners, as opposed to developing curricula, helps to link educational technologists to other paraprofessionals within the emerging 'new' university. Rather than being problematically positioned, then, educational technology staff could be regarded as pioneers of a new way of working: team-based, project- or problem-focused, multi-dimensional, collaborative, inter-disciplinary, and with a focus on the student experience and learning journey rather than on the curriculum, though with strong links to academic curriculum teams to whom they become a source of expertise.

Q3: Are educational technologists impacting on changing pedagogies?

'...while part of the framework for flexible delivery may be borrowed from economics, there are progressive interpretations of flexible learning which are structured around competing social and humanist values which have educational expression through concepts such as constructivism, open education, student-centred learning, life-long learning, deep learning, and accessible learning structures'. Nunan (1996, online)

Is there any literature that now substantiates or repudiates this now quite old quote?

5 comments and 111 views.

It was observed that a polarization is developing between two literatures: one that is dominated by technologists and technology enthusiasts, and one that is dominated by educational academics. Although no literature was offered to substantiate this view, it was suggested that there is a strong tendency in the first literature to champion 'new' pedagogies such as connectivism and to state that these are arising as a direct consequence of new technologies, or of the widespread use of new technologies. The educational literature is much more sceptical about the impact of technology on approaches to learning, though is forced to acknowledge significant changes in (for example) the expectations learners have of formal education as a result of their experiences with technology.

The separate literatures may be symptomatic of a structural separation between different kinds of support staff, and/or of an increasing gulf between educational technology staff with a practical remit for implementing 'new technologies' on behalf of the institution, and those with a research remit who are increasingly quarantined away from practical concerns in research departments with a dependence on external sources of funding.

One contributor queried where there was substantive evidence of learning

technologists taking an informed, activist role. Partial answers offered included the work by Roberts (2002) and also some of Richard Hall's blog posts at: <http://www.learnex.dmu.ac.uk/>. In terms of just introducing newer pedagogies, it was suggested that there is a 'constructivist good, behaviourist bad' story that circulates in learning technology research and practice, which over-simplifies both positions but is involved in promoting particular pedagogies. Evolving pedagogic positions are noted in Thorpe (2002) and also Hixon (2008), who makes much of the merit of:

bringing together faculty and a variety of instructional support staff

noting that:

collaborative course development is a significant departure from how many faculty members approach course design and development.

However, evidence may force us to conclude that from the perspective of learners, neither literature is particularly relevant. Work by Wiesenmayer et al (n.d) was highlighted:

This study examines the relationship between technical support and pedagogical guidance, two factors deemed critical to successful programs, and student satisfaction and perceived learning. The outcomes are considered important as analysis demonstrates that those measures that produce high degrees of faculty satisfaction do not significantly impact students in a similar manner. From an application perspective this leads to questions about how current training and support mechanisms can be enhanced to serve both populations.

The following exchanges took place under Q3 though they relate closely to the remit of Q2. Hodgkinson-Williams and Czerniewicz (2007) provide a very bullish article which places educational technologists at the centre of the challenges which are faced *globally and internationally*. Drawing upon the delightful text in their title, namely 'Moving beyond random acts of progress' they note that:

In order to move towards sustained acts of progress we need to understand our role within HEIs more fully and to develop our capacity as professionals responding to the challenges that impinge on the teaching and learning needs within HEIs in the 21st century.

And later, they say:

Yet it is the educational technologists who must be alert to the pedagogic possibilities of new tools as they come into existence.

McPherson and Nunes (2004) say:

this paper discusses four main types of roles (pedagogical, social, managerial and technical).

and it draws upon a reference by Duke (2002) which proposes that the pedagogical approach calls for more in terms of pedagogy than simply *putting professors' lectures on the web*. To the extent that educational technology staff can be said to have a role as pedagogical innovators, the context seems to be largely distance or online learning, in relation to which it is relatively uncontroversial to suggest that existing

practice may require rethinking. This context is prominent in the earlier references as well.

Implicit in the discussion for Q3 is the central / periphery debate which simplistically can be echoed by the conventional VLE / Web 2.0 debate. This is expanded upon in Q7 and impacts upon the extent to which educational technologists play a significant role in pedagogical innovation.

Q4: What are the career trajectories and challenges for educational technologists?

What adds confusion to the emerging profession of educational technology is that the university is one of the key contexts in which that occupation is located...It is likely that professionals are employed in universities on non-academic conditions of service, thus differentiating those working as academics in the new scholarly field in some ways. Depending on the status of the practitioner's position, the work may be invisible and professional knowledge unacknowledged'. Czerniewicz (2008, p. 172)

Does the literature indicate a growing inequality between academic or non-academic or is there evidence that differences impact upon the perceived status of educational technologists?

4 comments, 119 views.

Gornall and Thomas (2001) noted nearly 10 years ago that though the broad grouping of roles that falls with the heading of educational technologists may be regarded as at the heart of much higher educational thinking today, it is not entirely clear that these posts or people are at the heart of their institution:

Indeed, anecdotal evidence suggests that whilst the rhetoric may place such work at the 'centre' of the organisation, the contractual and status position of many of these staff is more likely to be at the margins of the HE labour market.

This is echoed in Beetham et al. (2001). Bringing it up to date, see Gornall (2009b) and a related Cloudscape drawing from the latter reference at: <http://cloudworks.ac.uk/cloud/view/2076>).

The Cloudworks site hosted a discussion around the extent to which 'young' educational technology staff gain credibility, for example by working in partnership with academics (Browne 1999), and by gaining academic qualifications such as a PhD. However, despite the growing status of learning technology research, and the growing number of educational technology staff pursuing activities more traditionally associated with the role of an academic, such as publishing papers and presenting at conferences, educational technologists rarely enjoy an employment status akin to that of an academic. In terms of career trajectories, there was much despondency expressed in both the Cloudworks and the ALT-MEMBERS parallel discussion and, echoed in Shurville and Browne (2009).

Q5: How do educational technologists gain institutional seniority and influence?

...it is frequently stated that the UK e-university did not have any acknowledged e-learning experts amongst its senior management and that, therefore, policy discussions had to begin at a lower level than an experienced team would expect. Keegan et al., 2007, p.72)

Does the literature identify any issues around the placement of educational technologists within HEIs' power structures?

8 comments and 126 views.

Duke et al. (2008) conducted a study on behalf of JISC, in collaboration with the Leadership Foundation for Higher Education (LFHE) to:

assess current awareness, practice and issues relating to the integration of technology into institutional strategies in UK higher education with the objective of identifying actions that they might take to encourage and support higher education leaders and senior managers to engage more with the strategic technology agenda, both within their own institutions and across the sector.

This challenge has previously been identified by White (2006). In discussion, it was noted that there has been a trend for about a decade for HEIs to have a Pro Vice Chancellor equivalent role with a brief for Teaching and Learning. This updates the old style 'academic' portfolio' with a clearer agenda for general pedagogic issues including TEL, and a new emphasis on the student experience. Luckin et al. (2006) describes how the engagement of a PVC with a strong interest in TEL allowed the technology-enhanced learning agenda to move from progress 'by stealth' to a powerful central position. Gornall (2004) suggests that even by that date, many TEL 'new professionals' had good access to senior levels of management, often thanks to high-profile external/collaborative projects and developments, and that this access was improving around the 'student experience' brief. Often, PVCs were 'sponsors' of Teaching and Learning developments or innovations, and this sponsorship played a pivotal role in bringing together staff across the very different units in which they were situated, often outside traditional organisational structures. Five years later Gornall (2009b) finds that:

These non-traditional posts and units are not yet encoded in much official reporting and yet are part of what most agree is a very significant change movement.

Shurville and Browne (2009) discuss how individuals make the move from having acknowledged expertise to acquiring legitimate organisational power. Despite evidence that many individuals with educational technology expertise are successfully moving into management roles, the JISC-funded report by Duke et al. (2008) found that, overall:

managers who combine a deep understanding of technology with senior management experience remain uncommon in the sector.

In conjunction with the Leadership Foundation in Higher Education, a number of recommendations are made, centred broadly around someone akin to a CIO being part of an institution's senior management team.

Q6: What are the different emphases in the roles of educational technologists?

Newcomers being inducted to the field need to know the parameters of the field and its knowledge base. Members of the research and professional community need to agree where their shared areas of interest, focus, approach and projects lie'.

Czerniewicz (2008, p. 177)

Does the literature affirm this view?

12 comments and 103 views.

Contributions to this question interpreted it in different ways, some emphasising the potential role within e.g. research and development, others more on the practical business of supporting academic staff and students. Also in the mix was a discussion on a central services role versus a hub-and-spoke, distributed, or 'going native' role. Also, a participatory role in curriculum teams was raised, acting in partnership with a range of other staff, compared with a more 'service' role in which educational technologists respond to requests for support, especially in relation to materials development. There is an inevitable overlap here with the discussion under Q2.

Completed in 2004, ALT, with funding from the JISC undertook a project entitled 'The development of an accreditation framework for learning technologists'. It involved the development and piloting of an accreditation framework aimed at educational technologists. Seven reports are available from <http://www.ucl.ac.uk/calt/alt-accreditation/>. It was noted that a tension existed between work which primarily involved engagement with technology, and work which primarily involved engaging with people, and the award was deliberately structured to require evidence of both to obtain CMALT accreditation.

Ellaway et al. (2006) hits the mark both here and in relation to Q7. The report exemplifies the argument that engagement with people ('the learning community') is an essential aspect of the educational technologist role, but that one of the means by which people are engaged is through the development and implementation of technologies ('the learning environment') to support their interactions. For example:

... direct participation in the learning community is essential for learning technologists and that common codes of practice for learning technologists are required, both as a benchmark and as a framework by which professional practice can be measured and developed. ... 'This article set out to explore the ways in which learning technologists affect the learning environment in which they work and the implications this may have for the development of professional guidelines for learning technologists.

and finally (following both theoretical underpinning and a suite of interviews):

An essential component of the role and working context of learning technologists has been shown to be their practical and ethical alignment with the learning environments they support and serve.

There is a recognition here that the learning environment is not simply an aggregation of technologies and services: it is an essential component of the learning and teaching relationship. *Educational* technologists need to understand the context in which technology is being deployed as a unique one, and recognise how their interventions influence the learning and teaching situation.

Peacock et al. (2009) conclude we need a:

more inclusive model of the learning technologist's role if we are to avoid polarising the field into theorists and practitioners.

This raises again the discordance and distinctions between academic and academic-related contracts. Conole et al. (2007a) offer support to this view.

Alison Hudson's work in this arena was highlighted at <http://www.iml.umu.se/alison-hudson/> and by great timing her PhD is now available, see Hudson (2009). She notes that educational technologists and related professionals are:

.. affected by the shifting value of social, cultural and economic capital in the constantly changing higher education, are subject to struggle regarding 'position' and agency and are susceptible to the demands of new power regimes and technological solutions.

She goes on to argue for:

... a more cohesive approach to educational development in higher education which embraces learning technologies and higher education policy. Furthermore, this thesis suggests that the balance of power and the value placed on social, cultural and economic capital in the knowledge economy of higher education is shifting; from teaching and learning towards change and 'innovation' underpinned by new technologies, business imperatives and new forms of management.

Lave and Wenger (1991) was brought to our attention. A strong focus of their book is how newcomers become part of a community of practice through engagement with the practices themselves. This was further developed at a recent workshop at which Ettiene Wegner gave a keynote presentation (Wegner, 2009) and two 2009 MirandaMod online broadcasts by Wegner (<http://mirandamod.wikispaces.com/Communities+of+Practice+of> and <http://www.l4l.co.uk/?p=854> were highlighted. It was also commented upon that perhaps, the role of the educational technologist has become - or can become - more integral or legitimate (rather than peripheral) in both knowledge management within institutions, and in facilitating the conduct of learning.

An interesting blog reflection by an academic cum educational technologist cum open source practitioner, Miles Berry was noted and is available at: [Open Source Projects as Communities of Practice](http://milesberry.net/2009/09/open-source-projects-as-communities-of-practice/) <http://milesberry.net/2009/09/open-source-projects-as-communities-of-practice/>. In discussion, the possibility of an overlap between Communities of Practice and what is increasingly being called the Teaching Research Nexus (TRN) (e.g. see the material at <http://trnexus.edu.au/index.php?page=what-is-the-trn>) was posited. Currently, they are pursued as different strands of literature. But in neither is the role of the educational technologist particularly prominent. This was an opportunity for raising again the concern regarding 'going native', with a preference expressed for seeing educational technologists as what Wenger calls boundary-crossing agents.

It was postulated that their need to engage with researchers and educators etc may be one way in which they actually constitute part of the teaching research nexus. Wegner (2009) was said by one contributor to have touched upon some overlap.

A late contribution to the discussion opened a gateway onto a parallel debate taking place among learning technology professionals in South Africa (Czerniewicz 2009). The terms 'academic amalgam' and 'blended professional' were used to describe the positioning of learning technology staff between academic and non-academic status. Three themes emerge from this contribution and the responses that were made to it on the contributor's own blog:

- The nature of learning technology work is incontestably 'academic' in its focus, and increasingly involves specialist research, innovation, teaching and supervision. Indeed learning technology is a rapidly emerging field of

- scholarship in its own right.
- However, this is rarely recognised in the conditions of service, and 'we know that where and how positions are located influence the focus and nature of the work'. One respondent felt the overwhelmingly non-academic status of learning technology work was economically motivated, but another emphasised the cultural issues: 'in the university discourse we are seen as peripheral and expediently replaceable'. It may be that learning technology work is at the cutting edge of a third development:
- The changing nature of academic work itself, which is increasingly hybrid, professionalised, and complicatedly stratified.

Q7: To what extent does an educational technologist have to navigate between 'innovative' trends and established practices?

[...] position descriptions are often written and people selected based on their experience with the specific learning management system employed at the institution...while the value of skills with the existing system is important, the knowledge is confined to a specific system and can limit considerations of other approaches, which may be more coherent and practical. (Jones and Muldoon, 2007, p. 453)

Does the literature raise any tensions between the service culture and a more developmental culture for the positioning of educational technologists?

5 comments and 105 views.

Underpinning the contributions was a recognition that the history of the educational technologist role in HEIs can to a large extent be seen as falling into two halves: before and after the VLE. In the days before widespread adoption of a centralised course management system, development work was by definition localised and ad hoc. There were many joys to working with self-identified innovators and 'mavericks' among the teaching staff, but equally many frustrations as wheels were often reinvented.

With the VLE came the motive for institutions to centrally mandate a certain level of engagement with learning technology, and with this mandate came a whole new role for educational technologists, suddenly having to distribute their attention across a far larger swathe of the academic population, and having to demonstrate change in the day-to-day practices of the many, rather than forwarding the grand schemes of the few.

A second wave of change is currently taking place, whereby institutional systems - while still important to students and for general course management and communication - are ceasing to be the technologies of choice for the vast majority of learners when it comes to their personal and social study practices. Educational technologists are once more having to serve two quite different masters: the centrally managed and increasingly integrated learning environment, comprising the VLE, assessment management, e-portfolios, content repositories, and the information systems that interoperate with them; and the social, personal and immersive technologies (Web 2.0, streaming data, file sharing etc...) that are the new engines of innovation.

Oliver, M. (n.d.) noted that new practices are disruptive, and that learning technologists have learned to manage this disruption so as to prevent it from

impacting too greatly on existing values of teaching. However, it is only by gradually disrupting academics' work, leading (hopefully) to a wholesale reappraisal of practice, that the changes they have to deal with can be passed on to others, so that the work is sustainable in the long term (because teachers can now deal with it, not just specialists). The paper by Stiles and Yorke (2006) noted in Q2 is highly relevant here. In discussion, it was noted that it raises the issue of a lack of regard by some academics for the expertise that is available from educational technologists and harks back to Browne (1999), where arguably the title of the paper was more of a cry of despair than actuality.

Hannon (2008) was identified as an interesting study on how people in different roles can 'see' a situation very differently, even though they are allegedly working towards the same goal. It also raises some of the challenges that educational technologists have to negotiate between being at the 'disruptive periphery', where arguably much innovation takes place, and equivalent staff who are promoting the central enterprise systems.

Q8: What is the relevance of educational technologists in relation to educational strategic missions?

a critical addition to the 2008 definition [of an educational technologist by the Association for Educational Communications and Technology] is the term "improving performance". This echoes the demands now placed on our field. Effective products are no longer the primary goal. Even learning is no longer the only goal. Our efforts are expected to impact transfer as shown in individual and organizational performance improvement Richey (2008, p. 24)

To what extent is this new institutional emphasis evident in the literature?

1 comment and 60 views.

Is it notable that this question elicited just one response? Shurville et al (2009) was considered to cover the context very clearly. In relation to the drive towards a post-fordist university:

a major innovation in human resources management now required of HE is a re-examination of the role and organisational position of educational technologists.

This does, though, beg the question of how institutional academic cultures are resisting the post-fordist vision, and particularly the role of ICT/TEL.

Teasing out a little more meaning from 'post-fordist', it could be taken to mean a division of organisational labour to facilitate efficiencies, and this organisational trend can tentatively be associated with an equivalent economic trend towards a division of labour in the service and intellectual industries, whereby coherent professional roles are becoming highly compartmentalized. From this perspective, and particularly in a time of economic recession, educational technologists are at risk of being recruited to a narrow remit related to an institutional mission that focuses more on efficiencies and enhanced workflows and less on those broader horizons that have traditionally attracted such staff to work within HE. Such circumstances are likely to be emphasized when such roles are funded by external projects driven by a central government/funding body agenda about the future of education. In this regard, educational technologists are likely to be much more closely identified with institutional missions than staff on traditional academic contacts, who are, at least in a relative sense, buffered from the winds of change.

Q9: Is the role of the educational technologist relevant to the contribution of the University to the wider knowledge economy?

[...] the real challenge for education and training in the 21st century is to harness the technology effectively, and to help teach individuals how it can be best used to achieve their personal goals. There is a tendency to look on modern IT-related technology as a "parallel universe", somehow divorced from the real world...the truth is that it is part of our real world. Those who can effectively use the opportunities that technology can offer to enhance the timeless interpersonal and motivational skills can unlock the potential of the knowledge-based economy on which our future depends.
Weston (2008, p. 21)

What literature exists that affirms the role of educational technology and technologists as being strategically relevant to the knowledge economy?

No comments (!) and 58 views.

This question is discussed at some length in Shurville et al (2009) and also Hudson (2009) sits easily in response to this question. But what conclusions could be drawn from the fact that it elicited no responses? Might it be that educational technologists do not consider their role in this context?

It is possible that the way the question was phrased confused potential contributors. Also, there is a reaction to the notion that we are moving towards a 'knowledge economy'. Globalisation and outsourcing could emphasise a different model whereby there is a stratification of 'professional' employment which is underpinned by a much larger number of relatively low skilled jobs. How this might play out in HE and what its relevance might be for educational technologists could be another arena for further study.

8.0 Methodological Reflections on the Cloudworks discussion

There were about a thousand 'views' in total but only 21 direct participants. This latter small number must be taken into account when considering how representative the identified literature is of widely held opinion. But neither should the willingness of a relatively small number of people to actively engage in such an exercise be disregarded, particularly when it can be observed that many of them are significant individuals in this field of work. A total of 45 references were highlighted and several more web-links were offered.

It was interesting to note how the discussion developed over time and one contributor commented on the value of occasionally pulling themes together and prompting further discussion, which was undertaken by Tom Browne. This was intended as a means of promoting a 'Delphi' style summary on areas of convergent thinking. But further analysis would be interesting to try to determine *how* the questions were asked in the beginning (i.e. tone, focus, formality / informality) and how this may have encouraged or discouraged initial engagement, though it was also noted that either way, such variables became less important as the discussion developed, themes emerged and relationship roles became established.

The developers of Cloudworks at the OU, in adding for the express purpose of this project the ability to add links and references considered that the positive impact these functionalities had on levels of engagement and what they call the 'intelligence' of the Clouds as being very significant. It has also been the first time that the site has been used for what we may now call an 'open review' but several similar, if less formal, Cloudscapes have subsequently emerged as a direct result of this one

becoming well known - casting a net for literature, research and understanding around a particular area of interest.

Finally, as recorded in the Cloudscape, this methodology of engaging the community was valued by the participants and there was an expressed desire that the site should stay open. Realistically however, without constant and regular encouragement after the funding period, the site is unlikely to have very much additional activity. Its value must therefore be judged on its fixed term, snapshot nature.

8.1 Methodological conclusions

This approach as a rapid means of gauging opinion and sources of information on other topics and also as a means to e.g. evaluate the merit of funding particular lines of research could be used effectively in many related contexts.

9.0 Summary of parallel discussion on ALT-MEMBERS @JISCMail.AC.UK

As notes earlier, the availability of the Cloudscape for this project was advertised in early September 2009 on a number of mailing lists, including ALT-MEMBERS@JISC.AC.UK. An unanticipated outcome was that it sparked off an independent but parallel discussion on some of the issues discussed within the Cloudscape. Given the alignment of these two universes, it seems appropriate to provide a summary of the mailing list discussion here. Any references noted here to complement the discussion are listed under *D-References*. The discussion does not neatly map onto the Cloudworks questions, except for Q3. But the value of this discussion is that it was self-generated and reflects the issues that participants (often quite passionately) wished to raise. ALT members (individual or institutional) can subscribe to this list and gain access to the archives, i.e. the full discussion exchanges, at <https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=alt-members>.

From the discussion on the JISCMail list it appears that ALT members regard themselves as working with both 'pedagogy' and 'technology', or perhaps in a slightly more sophisticated rendition, 'between' technology and pedagogy (*'We span and can integrate both these fields'*). The scope and role of an educational technologist therefore depends on how one defines the intersection of the two. If one takes the view as expounded in Beetham and Sharpe (2007) that in a digitally networked age 'all learning is, potentially at least, technology enabled', then the overlap is both large and significant. Much of the day to day work of educational technology, however, rests on much narrower but more clearly defined intersections, such as the 'translation' of a curriculum offering from one mode of delivery to a more technology-dependent one, or the introduction of particular kinds of digital content, or the exploration of new technical capabilities in relation to their affordances for learning in a particular topic area.

Educational technology roles remain complex, hybrid and subject to change. Seb Schmoller, speaking on behalf of ALT, noted the very broad definition used by the association and the fact that 'a very wide range of people in industry and in private and public sector education have learning technology as a core part of their role'. Note the ALT definitions of educational technology and technologists in the section-3 entitled 'The Challenge'.

In discussion, longer-established members of the community described some of the history of the pedagogy/technology intersection for the benefit of more novice members. Going back to the 1970s, and taking in developments in the UK as well as the UK, this discourse centred on the contribution that cybernetics (Pask, 1976), systems thinking (Checkland, 1981) and instructional design (Dick and Carey, 1978)

have made to defining the field. However, the claim that educational technology has its origins in the systematisation of educational principles to support computational delivery was disputed by other members of the community. ('where is the pedagogy? where is the learner? where is the feeling of participation?'). Recent changes to the definition of educational technologies/ists by associations in the UK and USA appear to shift the balance further away from technical development per se, and towards educational theory and practice as it is being redefined by the prevalence of technology in the learning environment. Clearly there continues to be a rich diversity of opinions!

One participant pointed out that 'if e-learning as a term and discipline is disappearing as technologies become 'embedded' in everyday teaching practice... [this] would make the 'profession' of Learning Technologist rather precarious...'. Other contributors agreed that 'much of what we do today will in future be part of all teacher's work' and become 'elements of the skillsets of future professionals'. However, and in a related post, if 'technology' refers only to what is most new and therefore worthy of note (rather than fully embedded and invisible), the role of educational technologist continues to be essential as the specific technologies change. Addressing the educational impacts of technical innovation and socio-technical change, rather than any specific technologies, are what define the role. This is borne out by an undercurrent of realisation that supporting 'transition' and managing 'change' are now at the core of the profession. The comparison with observations recorded by Beetham et al. (2001) is worthy of note: at that time core priorities were identified as keeping up to date with technical and pedagogical developments and supporting individual staff with development projects.

So within this ALT discussion, the pedagogical aspects of the profession were regarded as the more 'durable', as well as (implicitly) the more highly valued. Anecdotally, educational technologists prefer to be aligned with educational development units than, for example, IT support or media production.

One participant on the discussion list urged ALT members to get involved in their subject community as a means of achieving greater security and recognition. However, since 'technology is not the only game-changer', it is important to understand how technical and socio-technical developments in particular – and in particular cases of each – can impact on learning and on educational institutions (not the same thing – another division within the ranks). Note the comments recorded under Q2 and Q7 regarding the dangers of 'going native'.

There is resistance to a definition that leaves technology as the poor relation: 'If we are not technically aware... then the technology will determine the pedagogy'. Proficiency with social technologies was also seen as a potential advantage to educational technologists, as academic reputation becomes more aligned with online visibility (tags, followers, citations, OERs).

The JISCMail discussion reveals that educational technologists are rather bored by issues of terminology. They prefer to talk about the wide range of things they are required to *do*, and the *values* that they hold, which can be seen as one means of integrating their disparate responsibilities. 'The learning before the technology' was one value clearly espoused by the list.

Another discernable thread within the discussion related very closely to Q3 in the Cloudscape, i.e. *Are educational technologists impacting on changing pedagogies?* The discussion included two interesting posts of relevance to this question, the first on 'technology trends' and the second on 'trends in the pedagogy made possible by the

technology'. The technology trends were given as:

- open content
- social networking
- serious games
- virtual worlds
- location sensitive devices

All of these have been argued to have profound implications for possible future pedagogies and learning environments.

The 'pedagogy' trends were given as:

- adaptive learning personalised to the needs of the individual student
- transnational learning accepting global dimensions of education
- the continuum of learning across the different phases
- the move to outcome-based education
- the move to more authentic learning and relation of theory to practice.

Though encompassing only four exchanges, this particular discussion encapsulated some of the anxieties educational technologists experience when technology *per se* becomes the focus of their exchanges. The first contribution, though it named technologies, was not technologically determinist in any sense. These are trends that educators and learners may respond to in a multitude of different ways. The subsequent contributions all gently chided the original contributor for the perceived focus on technology, and/or suggested alternative ways of approaching the question which brought pedagogy more obviously to the fore. Ironically, though, these contributions did nothing to explain or demonstrate how the pedagogical trends related to the technical and socio-technical trends. As a contributor noted elsewhere in this discussion, if educational technologists never talk about technology, we lose one of the most powerful ways we have of intervening in the processes of learning and teaching.

The fourth contributor to this exchange argued that educational technologists have more influence when they talk less about pedagogical approaches or technology opportunities, and more about the challenges facing educators such as large classes, diverse student cohorts, multilingual and multicultural programmes etc. Should this view gain any traction then again it demonstrates the need for educational technologists to be alert to the specific affordances of specific technologies in specific contexts of learning.

In summary, concepts that appeared critical to the ALT mailing list discussion were:

- design (instructional, learning) – particularly among more established members of the community
- students as 'customers' and 'end-users'
- transition: recognising, coping with and helping others to cope with change
- systematisation (and it's counterpart: a 'feeling of participation')
- translation, interpretation, a sense of working 'between' different communities and their languages
- a sense that roles were being defined by powerful others: HEFCE, 'the employers' etc, who might 'stop us doing the kind of work we're interested in'.
- a sense of the precariousness of the role: posts and job titles disappearing
- increasing complexity – more technologies, more demands, more institutional roles and strategies to be concerned with.

9.1 Commentary on the Cloudworks questions reviewed

This commentary brings in key points either from previously noted or additional literatures that had not surfaced in the Cloudworks questions or the ALT mailing list discussions. The literature is listed under *D-References*.

In relation to the overall context, centralised institutional technologies are giving way to an expectation that learners will have personal access to networks and services, while virtual learning environments are being challenged by learner-configured spaces and personal learning environments (Wilson et al., 2006). Online social networks and open content create vast new opportunities for individuals to learn outside of or alongside formal learning, challenging the unique role of educational institutions (Seely Brown & Adler 2008). In parallel, there has been a shift in conceptions of learning post-16, towards more learner-directed approaches. The role of educational technology staff needs to be seen against this backdrop of increasing responsibility for learning-with-technology being devolved to learners themselves.

Q1: What is the relevance of the student experience to the role of the educational technologist?

There is an evolving literature on student expectations of technology in learning (JISC/Ipsos Mori 2008; Hardy et al., 2009) which suggests a conservatism about the use of technologies and some distrust of TEL, at least insofar as students perceive it to be threatening the quality and quantity of contact time with tutors. More research is needed, however, into how learners' expectations and beliefs change once they engage with technologies for learning in a well-supported context. This and the associated literature on learners' experiences of TEL (Creanor et. al., 2006; Conole et al., 2007b; Seale et al., 2008; Thema, 2009; Jefferies and Hyde 2009; Sharpe et al., 2010) have begun to bring learners' voices into the debate about how technology should be deployed and supported. Careful consideration needs to be given to how learners' perspectives are captured and interpreted, however, particularly in relation to educational technology work, as many aspects of the role are necessarily invisible to them.

The literature on 'tangible benefits of e-learning' (summarised in JISC, 2009b) traces the impact on stakeholders of a large range of interventions in which educational technologists have been prime movers. A case could be made for treating the entire evidence base for TEL benefits as demonstrating the relevance of educational technology work to the student experience, though too few case studies record the exact role and contribution of educational technology staff.

Q2: Where should educational technologists be 'positioned'?

The Beetham et al. (2001) study attempted to correlate learning technologists' actual responsibilities (though not their effectiveness) with their role and situation within institutional structures. This proved almost impossible to do across institutions, and surprisingly difficult even within institutions, where job descriptions, responsibilities, affiliations, funding sources etc were in almost continual flux. Gornall (2009a) found the paraprofessional staff such as educational technologists were more likely to be on permanent contracts than ten years earlier, but that they continued to feel insecure about their professional development, how they were being valued and recognised, and to some extent whether they would be retained in an economic downturn. This raises the question of how far the educational technology 'position' can be satisfactorily 'fixed' by a secure contract and job description, and how far it is essentially outside of or across normative institutional structures.

Q3: Are educational technologists impacting on changing pedagogies?

As noted in the Cloudworks discussion, a polarization seems to have developed between two literatures: one that is dominated by technologists and technology enthusiasts, and one that is dominated by educational academics. There is a strong tendency in the first literature to champion 'new' pedagogies such as connectivism (Siemens 2005) or 'learning 2.0' (Seely-Brown and Adler 2008) and to state that these are arising as a direct consequence of new technologies.

Both literatures are largely invisible to staff in departments for whom pedagogy is inherited practice, much of it tacit and relatively unexamined. It could be argued that educational technology staff are close to staff/educational developers in both their organisational position and their opportunities to influence the pedagogies in use – that is, mediated through other staff who are in more direct contact with students. The educational development literature (e.g. Gosling 2009) is therefore a useful source of analogies, and in both cases evidence of direct (unmediated) impact will always be elusive.

Q4: What are the career trajectories and challenges for educational technologists?

The significant additional reference in relation to Q6 is that by Bett (1997), which has been referenced by Browne (1999) and Gornall (2009b). They both expressed concern at the distinction between academic and non-academic roles that Bett promoted and which are still evident. Educational technology staff are in many ways archetypal of the academic/professional hybrids that are coming to outnumber academic staff employed in departments, and in addition they are closely identified with a number of contested agendas: technology; professionalisation of teaching; the learner experience; opening up to new markets (e.g. distance, work-based learners); marketisation of learning materials. Educational technologists are therefore potentially central to the literature of the 'new professionals' in HE, and to other literatures about the changing nature of academic work and academic institutions.

Q5: How do educational technologists gain institutional seniority and influence?

The observations on the CMALT scheme cover most of the important issues here.

Q6: What are the different emphases in the roles of educational technologists?

Educational technology work takes place at the meeting point of technology, teaching, learning, the curriculum, digital content, and organisational change. At different points in their career, in the academic work cycle, or even in their working day, educational technology staff will be focusing effort in different areas. Increasingly, however, as technology extends its reach to all parts of the organisation, bringing change in its wake, it is difficult to distinguish these forces clearly. Educational technologists in curriculum teams may simultaneously be influencing the curriculum, helping review the learning environment, supporting the development of new content, and engaging learners in dialogue. Hypothetically, how educational technology roles are defined over time and in different institutions, may give a clue as to how these critical agendas are becoming inter-related and playing out against one another.

Educational technology work also involves practices that are variously: research-like, scholarly and investigative; developmental; and implementational. All three of these modes could potentially be applied to all of the areas of focus (technology, teaching etc), giving a matrix of activities. We would expect any given educational technology role to involve activity in several or many parts of the matrix, as previous studies have found, but we have little sense of any patterns that may be discerned in terms of role differentiation, or change over time. It might be valuable to repeat the activity mapping

and cluster analysis sections of the Beetham et al. (2001) study, to gain a 2010 view of how educational technologists presently spend their time and see whether this activity matrix – or any other explanatory model – is reflected in the evidence.

Q7: To what extent does an educational technologist have to navigate between 'innovative' trends and established practices?

It has already been noted that new practices are disruptive, but that educational technologists have become adept at managing that disruption and using it effectively to gradually change academic behavior. In particular, educational technologists have learned the value of 'disruption' on a small scale: the 'trojan mouse' argument (e.g. Dalziel 2008) describes how the changes required by the introduction of technology to learning and teaching situations can lead to a whole-sale reappraisal of practice. However, educational technologists also have to deal with reluctance on the part of many staff to change practices that are associated with their academic history and values. There is also evidence of 'change weariness' on the part of time-pressed staff.

Many learning technology professionals signed up to a Facebook group and twitter stream launched in 2008 by Professor Mark Stiles to discuss 'tensions between innovation and control' (<http://www.facebook.com/group.php?gid=6572643972&ref=ts> – accessible only via Facebook). This would tend to confirm that allegiance of educational technology staff is delicately balanced between the core systems of the institution and the disruptive innovators at the margins, who are constantly placing new demands on them.

Q8: What is the relevance of educational technologists in relation to educational strategic missions?

In a departure from the standard approach of identifying relevant literature, a tender from the JISC is highlighted here. The JISC, in reviewing bids to its recent Institutional Approaches to Curriculum Design call (Beetham 2009) notes the following issues as typifying the direction of current institutional missions:

- widening participation (also called access to learning)
- dealing with student numbers
- enhancing employability
- serving new learners (also called new markets) e.g.: international students, distance learners, work-based learners, CPD learners
- enhancing the student experience (also called student expectations)
- enhancing retention/progression
- enhancing the role of assessment/feedback in the curriculum
- business and community engagement in the curriculum
- integrating technologies across curriculum processes
- developing efficient institutional processes

Projects funded under this programme are exploring the contribution technology can make, whether deployed in institutional systems or in learning situations, to furthering this range of institutional missions.

Q9: Is the role of the educational technologist relevant to the contribution of the University to the wider knowledge economy?

No additional literature is proposed beyond what was noted in response to the (lack of!) discussion within the Cloudscape.

9.2 Overall conclusions on the key questions addressed by this study

1. There remains a major gap in the literature concerning learning technology

staff, their roles and positions, particularly in relation to their overall contribution to the learning experience.

2. Nevertheless, the literature and contributors to the discussion continue to affirm the central importance of educational technology work to institutions, and the lack of career progression and security available to those engaged in it. Very few educational technology staff are accorded 'academic' status despite their increasing involvement in research, scholarship and teaching, alongside essential organisational development work. Anecdotally, there is an increasing problem of flight risk and recruitment shortages, though there is as yet insufficient evidence from the literature to confirm these opinions.
3. Educational technologists contribute to diverse institutional missions in diverse ways, and from diverse institutional locations. Skills of brokerage, negotiation, acting across disciplinary and organisational boundaries, social entrepreneurialism, forming partnerships and ad hoc affiliations etc remain essential to the role.
4. There is no clear evidence of educational technologists being primary movers behind major changes to pedagogical approach. There is evidence that the widespread availability of personal ICT devices, along with open content, ubiquitous connectivity, and personalised services, are driving changes to student expectations of formal learning, and that educational technologists are critical to how HEIs respond. Educational innovators, with the support of educational technologists, continue to find new ways of harnessing the potential of technology to support learning and teaching.
5. Educational technology staff are archetypal of the academic/professional hybrids that are coming to outnumber academic staff employed in departments, and in addition they are closely identified with a number of contested agendas: technology; professionalisation of teaching; the learner experience; opening up to new markets (e.g. distance, work-based learners). Research into the role and experience of educational technology staff therefore has the potential to open up new perspectives on the changing nature of academic work and academic institutions.
6. It would be of considerable interest to repeat the activity mapping and cluster analysis sections of the Beetham et al. (2001) study, to gain a 2010 view of how educational technologists presently spend their time, including the focus of activity and who is typically involved. This would be of interest to the educational development community and those responsible for their career development and employment, but also to further general understanding of how academic work is changing and the role technology is playing in its redefinition.
7. Tom Browne was asked the 'Desert Island' question, i.e. if he was only able to read one paper ... This is both an unreasonable and fascinating challenge. Whilst wanting to prevaricate by identifying 'must read' aspects of many papers, the one that has made most impact is that by Hannon (2008) and discussed under Q7. The author takes a situation and then analyzes how people, each with some pretensions to be educational technologists, at least in part, though in different roles 'see' a situation very differently, even though they are allegedly working towards the same goal. It is essential reading before embarking upon such a staff development role playing exercise!

10.0 Recommendation

The overriding recommendation and an additional suggestion for further work is that research should be conducted to seek case studies of specific roles and positions of educational technologists and consider how and whether they enhance the student experience. In each case study, identifiable benefits or evidence of added value to each different approach should be explored.

11.0 Taking this work forward

Expanding on the limited review that it has been possible to conduct here, it would be useful to identify the key journals, conference proceedings, etc covering the specified period (roughly 2001 to present) and conduct a formal literature review relevant to the 9 questions in the Cloudscape. Such an exercise would provide a deeper evaluation of the issues that are exercising practitioners in the field.

Now that the Cloudscape is well populated, there may be merit in re-launching it, targeting a wider and perhaps more international group of mailing lists, to elicit further comments and studies.

12.0 Dissemination of this study

1. The report is available via the EvidenceNet wiki site at: <http://evidencenet.pbworks.com/2009-Synthesis-Projects> and it has also been linked from its e-Learning [sic] page at <http://evidencenet.pbworks.com/e-Learning>.
2. The HEFCE funded Higher Education Technical Development Programme: dissemination to sustainability (HEaTED) project will provide an additional dissemination outlet. See: <http://www.hefce.ac.uk/lgm/build/lgmfund/projects/show.asp?id=158&cat=13> Exeter is the lead institution for this project.
3. ALT have expressed enthusiasm, in association with the HEA, to promote and publicise this work in some form.
4. HELF has invited Tom Browne to one of their meetings to discuss this work in the context of TEL leadership during cultural and organisational change.
5. In association with other work at the University of Exeter, this project will form part of a journal article that will focus on the strategic context of TEL in relation to our institutional strategies.

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The use of Cloudworks for this project has been the authors' first meaningful use of the software and it proved to be a very enjoyable experience. It could only have taken place with the enthusiastic support from colleagues at the Open University, in particular Rebecca Galley, for putting up with Tom's misunderstandings and interminable questions, Grainne Conole, who has been a very passionate advocate for Cloudworks and has visited Exeter on a number of occasions to promote the software and also to Juliette Culver who has worked tirelessly behind the scenes to fix bugs and add at incredibly short notice extra facilities for this work.

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14.0 Dedication to Simon Shurville

Tom Browne has known Simon Shurville for many years. He has been a most generous literary companion in a number of papers and conference proceedings. He owes much to his encyclopedic knowledge of the literature and his critical reasoning. It had been the intention that Simon would be a partner in this project. Unfortunately, he fell seriously ill just after the bid to the HEA was accepted and continues in long term rehabilitation. This work is the lesser for his absence but neither could it have happened without him.

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