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'Shrouded in the mists of someone else's vision' - Teachers using Learning Technology in Post Compulsory Education

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Introduction

'E-learning has the potential to revolutionise the way we teach and how we learn ...

but e-Learning is not embedded in our teaching and learning

the time has come to recognise the benefits that these technologies can bring to the way we teach and learn' (DfES 2003c p 4).

The recent 'Towards a Unified e-Learning Strategy' Consultation Document is not alone in presenting an upbeat vision of 'e-learning at the heart of the way we all work' (DfES 2003c). Central to this strategy is the notion to 'create the conditions that allow the teaching profession to take more responsibility for the way teaching and learning is carried out, rather than being tied by the physical constraints of the classroom, the book and the timetable. E-learning should enable teachers and lecturers to be innovators in the teaching of their subject.' (DfES 2003c : 22)

This paper presents the view that teachers in Post Compulsory Education (PCE), far from being at the forefront of the e-learning revolution, are often 'shrouded in the mists of someone else's vision' (Le Gallais 2002) and pressured to move in a direction they are not necessarily convinced is the right one. Whilst accepting and endorsing a number of the key elements of such a vision as potentially positive enhancements of a teacher's role and responsibilities, the paper argues that there is a significant, and probably growing, gap between where the vision expects teachers in Post Compulsory Education (PCE) to go, and where a significant proportion of them actually are. Ongoing research by the author, into the views of teachers in PCE on Learning Technology, suggests that many are in reality ill prepared, practically and psychologically, to embrace and utilize e-learning, and often unconvinced of its value in their teaching. Doubt is also cast on the current penetration and effectiveness of initial training and professional development in e-learning for teachers in PCE, which has generally failed to make a substantial impact. A number of the debates about the advantages and disadvantages of e-learning are subjected to critical scrutiny, acknowledging areas where genuine progress has been made, and outlining major problems which still remain.

The paper concludes by indicating how the author's ongoing research aims to provide teachers in PCE with opportunities to 'tell their stories' about their day to day engagement (or lack of it) with Learning Technology, and how the results may point to some positive ways forward for the future.

The Context

Consider these three statements, made over a 30 year period :

One of the great disappointments of the national effort to date is that for all the funds and effort thus far expended for the advancement of instructional technology, penetration of new learning materials and media into higher education has thus far been shallow'

(Carnegie Commission on Higher Education 1972 : 47)

It is important that they ('IT systems and devices') should be well used, not only for their own sake as tools for teaching, but also help schools to 'prepare children for life in a society in which devices and systems based on microelectronics are commonplace and pervasive' If we fail in this we not only fail to fit people with skills for today, but may also deny them the ability to gain those they will need tomorrow'

(Carter and Monaco 1987 p xi)

the large investment in colleges' technology infrastructure since 1999 has been slow to have a widespread impact on teaching and learning practice ... ILT is often a supporting element, outside scheduled learning activities; online assessment remains the preserve of ILT enthusiasts.

(BECTA 2003 : 5)

Spanning a thirty year period, and separated by fifteen years (the first is from a major 70s review of Higher Education in the US, the second a late 80s research project on primary and secondary schools in the UK, and the third a recent e-learning report relating to Further Education in the UK), these statements combine to represent not the confident march of technology which has often been forecast, but what a recent report has described as a story of 'thwarted innovation' (Zemsky and Massy 2004).

The prospect of a unified and coherent approach to e-learning is generally something many in the education system would endorse, and a goal towards which a relatively small band of enthusiasts have been striving for some time. Since the growth of personal computers and the Internet in the second half of the 20th Century, some teachers have constantly striven to make the most of the potential of technology as one of the tools they can use to help people learn.

Teachers by definition find themselves at the centre of any debates, policies or initiatives relating to e-learning, especially now suggestions that technology could facilitate learning as effectively without teachers being involved at all have generally and unsurprisingly been discredited. Although cast at the centre of the debate, teachers often remain to be convinced of the benefits, and are not embracing e-learning in their teaching in any significant way in the majority of cases. As a result PCE is now faced with a situation where a world of innovative, autonomous and deep learning enriched by technology does exist, but on the periphery of the multitude of other day-to-day pressures of teaching, which crowd it out. One could almost describe it as the 'virtual world' and the 'real world' of PCE, and at times they

can be as far apart as the stunning special effects of movies today and the reality of everyday life.

Definitions

One of the problems with technology has arisen not from the nature of the medium necessarily, but from our capacity to define what we mean when we are using it. This is partly due to the pace of progress, often meaning a definition is out of date even before it has gained wide acceptance. Some of the more widely used terms and definitions are :

Educational Technology

Educational Technology is the theory and practice of design, development, utilisation, management, and evaluation of processes and resources for learning (AECT 1997)

Educational technology is the application of research, learning theory, emergent technologies, and child and adult psychology to solving instructional and performance problems. (San Diego State University 2003)

Learning Technology

the systematic application of communication and information technologies to increase the efficiency and effectiveness of education through the design, implementation, use and evaluation of learning resources, organisational structures and methods. (University of Warwick 2003)

Information and Communications Technology (ICT)

In an educational context, ICT refers to the integrated use of computers and communications facilities such as the Internet, e-mail, CD-ROMs and video conferencing within the curriculum to support teaching and learning. (LSC 2003)

ILT (Information and Learning Technology)

is about using IT (Information Technology) and ICT (Information and Communications Technology) to facilitate learning and to administer and manage learning and the business activities of the college; exploiting communications technology to create learning and teaching media, in a culture which celebrates the possibilities of on-line education. (LSDA 2003)

e-learning

E-Learning is the effective learning process created by combining digitally delivered content with (learning) support and services (Waller and Wilson 2001 p 1)

'the use of network technology to design, deliver, select, administer, support and extend learning' (Masie 2001)

The DfES (2003c) offers what on the face of it appears to be a clear definition:

If someone is learning in a way that uses information and communication technologies (ICTs), they are using e-learning. They could be a pre-school child playing an interactive game; they could be a group of pupils collaborating on a history project with pupils in another country via the Internet; they could be geography students watching an animated diagram of a volcanic eruption their lecturer has just downloaded; they could be a nurse taking her driving theory test online with a reading aid to help her dyslexia – it all counts as e-learning. (DfES 2003c p 4)

Remembering that ICT was defined (LSDA 2003) as the integrated use of computers and communications facilities, this definition has its attractions.

These terms and definitions are useful and valid in their own way, and they attempt to reflect the technological, human and organisational dimensions involved, but overall the picture remains confusing and lacking in consistency. If only some agreement on terminology could be internationally put in place, all of us could at least work from a common language. There is some convergence of understanding within these differences however, and for this paper we will use two definitions, which are intended to be clear and simple :

learning technology

the use of information and communication tools in an integrated way to enhance teaching and learning.

e-learning

the use of information and communication technologies (ICTs) to support and extend learning

Learning technology is therefore the means by which e-learning should work.

What e-learning does work ?

There is a substantial body of research relating to e-learning and its effectiveness, and no shortage of ideas about best practice and how to encourage it. The debates are ongoing and in many ways still inconclusive, but a number of recognised way in which e-learning can make a difference have now been generally accepted, albeit more enthusiastically by some writers than others. A typically positive view is reasonably represented by Inglis; Ling and Joosten (2002) when they assert

the knowledge media hold the promise of delivering education and training more effectively by providing students with a much richer environment in which to learn. (51)

Even so, they are still describe promise rather than achievement, and add this note of caution :

Whether that promise is realised depends on how the media are used (51)

Haywood and Hutchins (2004) argue the positive case for using learning technology as well as any :

Like any resource, ICT can be used creatively, to enhance learning. However, a learning activity does not have value simply because it is approached through a sophisticated technology. An activity which is educationally unsound and inappropriate for the learner does not become a good learning experience simply because it is computer based. ICT can be used for impoverished as well as rich learning opportunities ... It may be tempting to think 'why bother!' The reason for bothering is that ICT is a medium for developing a range of higher order skills including collaborative learning, collective thinking and building communities of learners, whether local or global. It has the capacity to offer challenging and motivating opportunities, when learners have access to powerful learning tools. Commercial games manufacturers have taken full advantage of this potential. (p 8)

It is possible, although something of an over-simplification, to identify two key factors, which are generally present in a wide range of accounts of e-learning working effectively (CHEPS 2002; Crawley and Attewell DfES 2004; IHEP 2000; Kirschner and Selinger 2003; Kirschner & Wopereis 2003; le Gallais 2002).

- The first factor is to use the technology as a tool to enhance and enrich learning, as the means to an end, and not an end in itself. The primary focus is to ensure that principles of effective learning are foremost, and that they are not driven by the technology but by the pedagogy.
- The second factor is to locate the e-learning within, a planned, resourced, organised and supported infrastructure, which is completely focussed on learning. This must include active promotion of the benefits, and ongoing training and support, which can motivate and encourage both teaching staff and students to make use of e-learning.

What is the vision for teaching staff ?

As we have already argued, teaching staff are at the forefront of any intention to extend the boundaries and uses of e-learning. The following selection of quotes is representative for teachers in Post Compulsory Education :

by 2005/06 the vast majority of fulltime and a majority of part-time college teachers and lecturers should be appropriately qualified. (DfES 2002 : 12)

the use of ICT is a sophisticated and empowering tool to be used by all learners and (needs) to be understood and used in expert and sophisticated ways by the teachers. (Simpson and Payne 1999 : 2)

All of the teaching workforce will need to be competent in their use of Information and Communications Technology (DfES 2003a : 12)

How far is this vision being achieved ?

When reviewing research in this field across education as a whole, finding evidence of significant progress with this anywhere vision proves particularly difficult. This is not to suggest that good practice is absent, for, as we shall see, much does exist. Mainstreaming the good practice is the issue, and sources almost all highlight that good practice is anything but mainstream :

There must be grave doubts about the sector's ability to make sufficient contribution to effective and efficient growth of IT literacy and the wider use of ILT in the UK. .. 80% of the lecturing workforce would need to develop skills to support remote learners on-line and to support other ILT based learning. Hence there is a massive and continuing training need (FENTO 2001 : 16)

Many trainees receive little effective training on managing behaviour or on the full range of available teaching resources, including ICT, and how to use them. (DfES 2003b : 37)

There is some evidence of ICT being used in traditional teaching, and some blended learning is taking place. However ICT and e-learning are still largely peripheral to classroom teaching and are most extensively used for additional support activities, to extend independent learning. (BECTA 2004 : 3)

The recent 'Thwarted Innovation' report in the US (Zemsky and Massy 2004), is unequivocal :

E-learning will become pervasive only when faculty change how they teach-not before. (iv)

For the most part, faculty who make e-learning a part of their teaching do so by having the electronics simplify tasks, not by fundamentally changing how the subject is taught. (52)

Although about higher education, this report involved a substantial sample of views and practices across a period of 18 months, and found that even when teaching innovation through e-learning was extremely well supported, it was not sustained, and the teachers moved back into more traditional approaches. The outlook for change is not encouraging.

What may help teachers to change ?

This paper is not attempting to undermine the excellent work which has already been undertaken by many researchers, developers and teacher trainers. Achievements have been made, some of them significant, in helping teachers to more successfully and enthusiastically engage with e-learning. Examples of success generally include a combination of four components, which are outlined below.

Hearts and minds

Crawley (2002), Inglis, Ling and Joosten (2002), Le Gallais (2002) and Watson (1999) endorse this approach, which is essentially about working to involve and engage teaching staff in the vision, rather than, as the title of this paper suggests, enveloping them in something they do not feel part of. By drawing staff from different levels and roles together to work co-operatively and as a team on developing new approaches and strategies, a dynamic evolves which moves towards 'generating a commitment to change and creating a common understanding of the directions of change and the means to attain it' (Inglis, Ling and Joosten 2002 : 118). Once convinced of the merits, and actively involved in strategies to decide how they can make positive use of e-learning in their teaching, staff can move a considerable distance along the road from being skeptics towards being enthusiasts. As Watson (1999) puts it, the result can be 'academics as change agents teaching teachers to be change agents' (188). Improvements and innovations introduced in this way are far more likely to be sustained than those unwilling participants who Kirschner and Selinger (2003) describe as the 'road kill on the information superhighway'.

Embedded in practice

In simple terms this the 'if teachers use it and it works, they will keep using it' approach. Boshuizen, & Wopereis (2003), Browne (2003), Simpson and Payne (1999), Watson (1999) all argue the case for this method, which involves integrating e-learning into normal teaching practice, primarily through initial teacher training and professional development, and ensuring it is genuinely relevant to day-to-day professional practice. When learning technology 'loses its status as something special and ... becomes fully integrated in all normal tasks in teacher training, the better it is.' (Boshuizen, & Wopereis 2003 : 152). Teachers themselves can then experiment with, and explore 'the potential of ICT as a pedagogical tool' as part of their normal teaching activity, and by doing so and will become 'generators of a range of resources' (Simpson and Payne 1999 :12). Browne (2003) argues this well :

A model of training needs to be developed which explores the use of ICT in a purposeful and relevant learning context, that is focusing upon using technology for learning, rather than learning to use technology. (186)

Wrap around support

Alongside the learning and staff-focussed components, which concentrate on staff becoming actively involved, this approach recognises the need to ensure an infrastructure is in place which will support them in an immediate and ongoing way while they actually are involved. IHEP (2000), Mumtaz (2000) and Sloan C (2002) all emphasise the value of this approach. The 'Monroe model' used by Monroe Community College in the US has received much positive endorsement (Sloan C 2002), and the author has observed a similar model at St Petersburg College in Florida. Overall, and perhaps significantly, this particular component emerges less frequently than the other three, when searching the literature. The intention is to provide developmental, technical and creative support for teachers at all stages of the cycle of preparing to use, using, evaluating and improving e-learning. It should be resourced and staffed centrally as an institution-wide service, but should also

operate with support staff at every campus. The support generally includes help desks, training, design, templates and specialised hardware and software resources, but this changes as staff needs change. Staff can then develop and experiment, whilst support is never far away.

Moments of inspiration

Engagement with the vision, embedding the technology into normal working practices, and underpinning all this with principles of effective teaching and learning and 'wrap around' support for staff makes sense from both a strategic and professional development perspective. The third approach is however equally important. If we are arguing that e-learning is a rich, exciting and conceptually thought-provoking approach, we have to make sure that creativity, innovation and 'moments of inspiration' are central to any training, exemplars or models which are provided to teachers. If it is going to be exciting and fun for our students, it should also be so for our teachers. (Le Gallais 2002, Watson 2001)

Above all, we need to be constantly on the lookout for killer applications that will make the integration of IT into classroom activities too good to be turned down.' (Watson 2001 : 188)

Where does that then leave the Post Compulsory Sector ?

We are faced overall with a relatively slow acceptance by teachers in PCE of the benefits of e-learning, or at least a reticence to use it in any significant way. Usage trends are moving upwards, but painfully slowly. There are, as yet, no required minimum competences either in IT skills, or their use in e-learning within Post Compulsory Initial Teacher Education programmes. There are examples of good practice, and showcases of excellent achievement. Overall we are faced with a picture of both promise unfulfilled, and a doubt that the promise is as high as it is argued to be.

Without some form of sea change in the sector or in training, where do we go from here ?

The research

The author is involved in ongoing research, which it is hope will make a contribution to the debate, and signal some ways forward. The central focus of the research is an International Comparative Study providing opportunities for a selection of teachers in a number of post compulsory institutions, in different countries, to reflect on their views of learning technology in a variety of ways. Up to three Further Education Colleges in the UK, two US Community Colleges, and one Vocational College from the Netherlands will be involved, and approximately 12 each of their teaching staff. This will provide a rich variety of evidence from a range of post compulsory contexts, subject areas and situations. To provide comparability, participants in the research will be selected on the basis of their 'starting points' in relation to their views about learning technology, along a spectrum ranging from what could informally be described as 'skeptical to enthusiast'. Differences and similarities in their international, national, local and subject-related experience will also come to bear on their views,

but their 'starting points' as described provide the most useful, valid and relevant basis on which to select participants.

The research will generate a broad set of reflections, views, comments and analysis from the teachers about their experiences, the barriers encountered, learning and / or training undertaken, and any conclusions they may have about the benefits or otherwise of learning technology. The aims are to :

- Provide opportunities for teachers in Post Compulsory Education to express their views on learning technology
- Locate these views within institutional, national and international contexts and relevant theoretical frameworks
- Critically analyse the arising issues in relation to learning technology and teachers' professional practice
- Review, rethink and reframe current pedagogy, policy and practice in relation to uses of learning technology in the light of the results
- Develop new strategies for learning technology within initial training and continuing professional development of teachers in PCE
- Use learning technology within the research as part of the data gathering methodology, and to evaluate its effectiveness

The questions the research will be asking include :

- How are teachers in PCE disposed towards learning technology, and what are the reasons for their views ?
- What do the results reveal about the uses of learning technology by teachers in PCE ?
- In which ways do these views provide opportunities to critically evaluate current pedagogy, policy and practice in relation to uses of learning technology ?
- What actions could take place to improve the situation of teachers in PCE in relation to learning technology ?
- What can the use of learning technology within this research contribute to the debate ?

Results from preliminary studies

A number of small projects have already taken place, from which this research has developed, and preliminary visits to all of the participants in the study have been undertaken.

Those projects have included :

- Surveys of staff about their competence in Personal IT Skills, and how they learnt them
- How much they use e-learning in their teaching and what the opportunities and constraints are in relation to increasing its use
- Face to face interviews and desk research about the institutions' policies and practice in e-learning
- Comparisons of the results with other similar studies and with recognised benchmarks / literature in the field

Preliminary results have indicated that teachers :

- Are increasing their personal IT skills
- Are not significantly increasing their use of e-learning
- Mainly learn their IT and e-learning skills in their own time and by self-teaching
- Have varying levels of enthusiasm for e-learning, with a majority to date not fully convinced of its value
- Can embrace and use e-learning when they have high quality and comprehensive support available
- Expect that 'if it can go wrong it will' with technology
- Where significantly involved in e-learning, have felt their face to face teaching has improved as a result
- Spend more time supporting on line learners than face to face
- Need flexibility in employment conditions to effectively manage e-learning
- Find the immediate time and place of e-learning can increase pressure on them for almost immediate responses

Methodology

Designing and providing the means by which the teachers involved can express their views and tell their stories is the methodological concern at the centre of the ongoing research, and the approach used will be to make use of narrative enquiry.

Fenstermacher (1997) asserts that narrative enquiry is a valuable method to be used as 'teaching can only be known through a deep regard for the discourse of teachers.' The advantages and disadvantages of this approach are discussed in his review of a number of articles relating to its use with teachers. Questions relating to truthfulness and validity of the resulting narratives, interaction of the researcher with the narrative and the narrator, and the need to deconstruct narratives are all discussed, and he cautions that there needs to be 'some way to hold the narrator accountable for his or her claims, so that the narrator and the readers of or listeners to the narrative might guard against deception, illusion, or falsehood.' (Fenstermacher 1997 : 121). I accept some of the problems associated with narrative enquiry as pointed out by Fenstermacher, but will adopt this methodological approach because :

one of the truly valuable contributions of narrative inquiry in education is the revelation of the intentions and beliefs of teachers. Through narrative, we begin to understand the actor's reasons for action, and are thereby encouraged to make sense of these actions through the eyes of the actor. This understanding constitutes an enormous contribution to learning about and getting better at teaching. (Fenstermacher 1997 : 123)

It is proposed to therefore create a series of activities specifically designed to provide opportunities for the teachers involved to tell their own stories through narratives (such as interviews, discussion groups, group workshops). This will have two components :

- Face to Face activities aimed at facilitating opportunities to express views individually and in groups

- On line activities aimed at facilitating opportunities to express views individually and in groups

The research will be completed by 2007.

Conclusion

This paper has reviewed the current situation with regard to teachers' use of e-learning in Post Compulsory Education, and presented a picture where advances are being made, but where much remains to be achieved. Even though we may not be entirely 'shrouded in the mists of someone else's vision', lack of involvement by teachers in the vision is still commonplace. Technology has a major place in the lives of individuals and communities the world over, but has still to find a significant place in the day-to-day activities of teachers in PCE.

Over the summer months at my own institution, animated and enthusiastic conversations about the a simple system to share music made the point as forcefully as any research could. A simple, user-friendly way of sharing and listening to music across a network, so that anyone could listen to their own music collection, and perhaps more importantly, other people's music collections, generated days of engaged and interested conversations over lunch and coffee. People went of to install it, and came back the following day to chat about who liked which music and why. This united e-learning skeptics, enthusiasts and teaching and non-teaching staff in a lively conversation about technology in a way, which I have never seen in relation to teaching. When we can talk in the same way about e-learning, I'll know we are getting somewhere.

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