Staff Use of E-learning and Graduate Competencies for the Knowledge Economy: a study of the misalignment between rhetoric and practice

NICOS SOULELES
Cumbria Institute of the Arts, United Kingdom

ABSTRACT E-learning is part of the wider debate on the changing role of higher education (HE). It is associated with the agenda on graduate employability and competencies for the knowledge economy (KE). Policy documents make explicit that participation in the KE is congruent with the acquisition of meta-skills. The role of HE is to provide for these competencies and e-learning is presented as assisting this objective. A primary prerequisite, however, is appropriate staff development. This qualitative study examines the relationship between the rhetoric and the practice of e-learning, and argues that issues associated with professional development exist at both institute and staff levels.

Introduction

Often in educational policy documents, there is an explicit connection between graduate skills and participation in the global knowledge economy (KE). A common theme is that higher education (HE) needs to address in a systematic manner the provision of information and communication technologies (ICT) competencies and related skills. In this context, the role of e-learning is significant. It is a facilitator and contributor to skills for the KE. It supports innovative approaches to teaching and learning, enhances graduate prospects for employment and promotes opportunities for lifelong learning. The proliferation of virtual learning environments (VLEs) and e-learning programmes in English HE institutions elicits questions on the contribution of these technologies to skills and graduate employment in general. Anecdotal evidence from colleagues suggests they use online tools and VLEs, but there is little evidence of new approaches to teaching and learning or student acquisition of additional skills. Within the dominant theme on competencies for the KE, there are calls for teaching staff to have training and development so they can ‘innovate’. This study compares the rhetoric on e-learning against staff use. It compares the relationship between expectations on the one hand and application and practice on the other. Is there a misalignment between the two and what contributes to this? How do staff use e-learning tools, and what competencies do students develop? What is the role and significance of staff professional development in e-learning?

This is a qualitative study based on interviews with staff from humanities and business/accounting programmes that use e-learning as a supplement to teaching. It draws from vignettes to highlight a number of issues and patterns. There is an underlying acceptance that online learning technologies can benefit teaching and learning although it can be argued this is an inherent property not of the technology but of pedagogy. Following issues of research methodology and philosophy, this study draws together some common themes in policy documents. These documents often adopt an alarmist rhetoric suggesting shortage of graduates with the right competencies and lack of staff training as obstacles for participation in the KE. This is a priority agenda for the government, which calls upon HE institutions to foster new methods of learning and closer links with industry, and for staff to reconsider teaching methods and to ‘innovate’ through e-learning.
It is argued that new modes of production and work-related practices based on post-Fordism are the drivers for the changing role of education. The prevailing contention is that the KE requires a workforce with flexible skills and competencies. The role of HE is to prepare graduates for jobs with blurring boundaries and multidisciplinary tasks. **Neo-correspondence**, with its emphasis on individual learning and a wider perspective on the development of competencies, provides a suitable model for the connection between economy and education. The role of ICTs is to assist with customisation of learning, modularisation of curricula, flexibility of delivery and learning style, and the provision of opportunities for lifelong learning.

It is central to the rhetoric of the KE that new methods of curricula delivery and the competencies these support necessitate staff training and revision of teaching and learning practices. The incorporation of e-learning in HE brings to the forefront aspects of professional development, including institutional strategies and incentives for staff development as well as the availability, suitability and appropriateness of training provision. This study argues that staff development is a multifaceted issue that includes institutional strategies and staff approaches to teaching and learning.

The analysis of the vignettes identifies where the misalignment between rhetoric and practice appears. This study does not expand on the validity or rationale of the former, nor does it question the need for new competencies. The nature of the rhetoric is often government-driven, inspired by promises of efficiency, cost savings, increased participation and improvements in teaching and learning. The Marxist critique contends that networked learning ‘is part of a hegemonic discourse … part of a wider set of debates concerning the nature of social processes, power and culture’, and the perceived skills deficit is linked to labour market policies with a capitalist agenda (Jones 2004b). Such interpretations place political labels upon the rhetoric and upon policies on education and the KE, but do not negate the validity of the prevailing rhetoric vis-à-vis technology and competencies for the KE. The misalignment between rhetoric and practice can indicate areas for improvement and refinement at the level of adoption, whether national, institutional or individual.

**Methodology and Philosophy**

Long-term studies can map the skills students acquire through e-learning and their professional status after graduation and then compare the nature and rate of employability against other graduates with no e-learning experience. This study has a more limited focus on the role of HE staff who use e-learning. The aim is to ‘tease out’, illuminate and explore, rather than quantify or provide an answer to a research problem. Despite this limited objective, it is worth reflecting on the relationship between research methodology and philosophical position, for as Conole et al (2004) suggest, this is lacking in e-learning research:

This critique of e-learning research methodology invites reflection on the connection between research process and theoretical position. It is implicit that the latter will affect the contact of the former and intertwined are issues of interpretation and validity.

‘Soft’ versions of technological determinism recognise in ICT the existence of unique qualities and the significance of appropriate use of online learning technologies to initiate change (Jones, 2004a; McConnell et al, 2004; Hodgson & Watland, 2004). As opposed to ‘hard’ determinism, that perceives a combination of external pressures as the driving force for change, soft determinism implicitly places the onus on individuals and organisations to develop awareness. In this respect, it is empowering and flexible. This is why advocates of soft determinism, such as Bates (2000), will often refer to technological change in the context of the ‘learning organisation’; the ‘journey’ will reveal what is appropriate use of ICT and e-learning. From this perspective, the ontological assumption about the nature of e-learning knowledge involves no absolute to ‘unpack’ and
measure or estimate, but rather a ‘patchwork’ and a ‘mosaic’ of actuals dependant upon numerous and various contexts that are constantly evolving. The objective is to identify various trends, factors and contexts where the inherent qualities of online learning technologies apply and seek examples of best practice. ‘We must not forget that learning technology research is a practical and applied discipline which is contextualized in nature’ (Conole et al, 2004, p. 95).

This article is an interpretive study of qualitative data and as such, strengths and weaknesses in terms of validity and transferability are widely debated. Proponents of quantitative methods have often critiqued the notion of validity in qualitative research mostly on the basis that the latter lacks explicit controls and standard means of measurement that would allow for the formal testing of prior hypothesis. Qualitative researchers generally respond that certain categories of validity – for example, concurrent validity, convergent validity and criterion-related validity – are relevant to quantitative research but have little or no relevance to qualitative research (Maxwell, 1992, pp. 279-280). There is also the ‘widely shared view that [generalizability in qualitative research] ... is unimportant, unachievable, or both ... Many researchers actively reject generalizability as a goal’ (Schofield, 2002). Maxwell (1992, p. 281) suggests that understanding is more fundamental to qualitative research than validity, and validity is relative because understanding is relative. However, if understanding is relative then Hammersley’s definition of validity as ‘the truth’ (as cited in Silverman, 2000, p. 175) is debatable, for in qualitative research the process can be influenced by a number of factors, including the individual perspective of the researcher. This inherent characteristic of qualitative research (exposure to a degree of bias) supports the position that validity is a matter of degree, not an absolute (Maxwell, 1992, p. 284).

As Cohen et al (2002, p. 105) state:

at best we strive to minimize invalidity and maximize validity ... Differences between research paradigms in e-learning are addressed by Jones (2004a: 111) who argues that ‘... qualitative and quantitative research are not competing paradigms ... they reflect a single research paradigm, they may not be perfect partners as they represent both different ends of this spectrum of activity but they are intimately connected.’ The author argues that there is no principled difference between the two research paradigms and that the phenomena under investigation are never interpreted fully. Jones (2004a) contends that qualitative approaches can capture aspects of experience that are lost in quantitative studies.

The interviews seek to establish the level of correspondence between staff experiences, attitudes and practices on the one hand, and the policies and rhetoric of e-learning on the other. The research process involves a thematic analysis of answers based on interviews with open-ended questions (see Appendix). In this context, vignettes represent and illustrate more general trends and issues. They constitute examples on how participants respond, engage and consider online learning, but they are also open to interpretation. The three interviewees from humanities, education and business/accounting disciplines provide indicative data based on their practice.

**Common Themes and Policies**

Often policy documents emphasise the connection between e-learning and ICT skills and participation in the KE. In these documents, the rationale for technological change and the role of education are presented in an alarmist tone and in the context of inevitable global changes, competition and shortage of appropriate skills for both the workforce and teachers. According to the Commission of the European Communities (2000, p. 5):

All over the world the way is being paved for a new economy and societies are increasingly driven by information and knowledge. Yet although its citizens [Europeans] are amongst the best educated in the world and its education and training systems rank amongst the best in the world, and although it has the necessary investment capacity, Europe has major weaknesses and is well behind the United States in the use of the new information and communication technologies ... [There is a] shortage of qualified staff, particularly teachers and trainers with ICT at their fingertips. Over the next five years, one out of every two jobs will depend on these new technologies. The shortage of specialists in the new technologies corresponded to 500 000 jobs in Europe in 1998. Failure to stem this trend would take this figure over the 1.6 million mark in
Graduate Competencies for the Knowledge Economy

2002. There are no accurate figures available for the number of teachers in Europe who have real skills in the new technologies and can fully incorporate them in their work, but they are a minority, even in Europe’s most advanced countries.

By embracing new technologies, the role of education is to generate and contribute to the knowledge and skills that have economic benefits for the citizens of Europe. E-learning allows educational institutions to provide for lifelong learning opportunities to a continuously knowledge-dependant workforce. To further cite the Commission of the European Communities (2000, pp. 6-7):

> to allow Europe to catch up, to grasp the opportunities offered by the new digital technologies and derive all the benefits in terms of raising people’s level of knowledge, enhance its economic competitiveness and create jobs, the Lisbon European Council ... adopted ambitious objectives for adjustments to our education and training systems ... It will also help to mobilise research for better targeting of actions in the area of education and lifelong training and learning ... [and] provide each citizen with the skills necessary to live and work in the new information society ...

> [The objective is to] adopt a European framework to define the new basic skills which lifelong learning must make it possible to acquire.

Further, this document calls not only for the incorporation of e-learning in the curricula, but also for the re-evaluation and reconsideration of pedagogies to allow for new ways of teaching and learning to develop. This has implications for teaching staff that require development and training. For example:

> the use of the new technologies must be seen in the context of teaching practices. Furthermore, they must be adapted to the different subject areas and contribute to an interdisciplinary approach ... [N]ew technologies will notably allow for the implementation of new types of relationships between students and teachers ... [but] must also focus on the development of the skills required to use the new technologies. It must be an integral part of initial and continuing training for each teacher and trainer ... (Commission of the European Communities, 2000, p. 8)

The document continues:

> Everyone in Europe will in the very near future have to come to terms with the new information and communication technologies if they are to play an active role in an increasingly knowledge-driven society ... New skills – technical, intellectual and social – are becoming essential for living, working and participating actively in a knowledge society. While their scope extends well beyond ‘digital literacy’, they are the basis on which it depends. They fall into the broader category of ‘new basic skills’ (foreign languages, entrepreneurship etc.) to be acquired in a process of lifelong learning. (Commission of the European Communities, 2000, p. 13)

Similar and parallel themes are highlighted in a report from Australia. Here, the onus is on universities to prepare graduates for the KE, to address skill shortages among teaching staff, and to collaborate with industry and professional associations to meet workforce requirements. According to Education Network Australia (2002, pp. 1-5):

> universities will be the fundamental drivers for the ... information economy, which is largely knowledge-based ... [W]ork is required in technical and policy options that will enable universities to give students access to cutting edge information technology ... and advanced applications that are essential for the information economy ... ensure that ... graduates enter the workforce with the competencies needed, including information literacy skills and lifelong learning skills needed in the information economy ... Cooperation with industry to develop modularised, flexible teaching and learning resources to support lifelong learning, possibly in an industry or online rather than campus based setting ... [Universities need to] review current courses leading to professional accreditation to ensure they have sufficient content in relation to computing, information technology and information systems; develop modularised, flexible teaching and learning resources to support lifelong learning... ensure staff continue to have their skills upgraded to take advantage of new opportunities presented by new technology... [M]uch of this may well be possible through online education.
The consultation paper by the Department for Education and Skills titled 'Towards a Unified e-Learning Strategy' (2003), makes explicit not only the connections between skills, education and KE, but also government determination to embed in HE curricula the e-agenda in a systemic process and through nationally integrated strategies. In Britain, the Department for Education and Skills (2003, pp. 5-6, 13) asserts that

this is a unified e-learning strategy for the whole of England ... We need an e-learning strategy that touches the life of every single learner ... All learners, from pre-school to lifelong learning, can benefit from mixing these new technologies with their other forms of study. Government has a responsibility to ensure that the benefits are universal. It also has a role in facilitating change, and tackling those areas where public services need to present a united front to the lifelong learner ... Teachers need to be able to innovate and take the lead in pedagogical developments, using, creating and sharing e-learning resources to offer more active and creative ways of learning in their subject area.

A summary of the themes from these documents indicates the characteristics of the prevalent discourse. First, we find the almost universal acceptance that there are skills and competencies that should be developed and advanced. These are congruent with participation in the KE. Second, the significant role of HE institutions in fostering and promoting this set of skills is asserted. In England, some form of government intervention is expected in the near future because of the 'unified e-learning strategy'. The collaboration between HE and industry for the development of online learning is a desired objective. HE is to provide graduates with ICT-related competencies, and to cater for the delivery of flexible, modular and in-time learning for the professional development and lifelong learning needs of the workforce. Third, teaching staff are identified as a key group requiring training and support to acquire the right knowledge and skills. It is possible to explain these themes within the neo-correspondence perspective that provides a useful framework in conceptualizing the changing role of education vis-à-vis skills and employment in the KE.

**Neo-correspondence and Competencies**

Prevailing rhetoric contends that in the global KE the preferred model of work-based practices should follow post-Fordist modes of organisation. The notion of the ‘learning organisation’ entails a wider and more flexible set of skills that include adaptability and flexibility. These are required to deal with a variety of often-unpredictable changes, including financial, technological and organisational. The global economy requires employees with skills appropriate for a competitive world that is increasingly knowledge-based and information driven. As Saunders (2000, p. 1011) argues, this rhetoric of post-Fordism is ‘hegemonic’ and ‘varied forms of organisation are now characterising work’. The role of HE is to prepare graduates for a growing number of jobs with blurring boundaries, multidisciplinary tasks and a lifelong learning attitude. This perspective of the relationship between education and economy is characteristic of neo-correspondence. Within this model, the role of education is to ‘more explicitly prepare young people for teams, project work, flexibility, problem solving, decision making and a range of other generic or multi-disciplinary activities driven by a vision of a post-Fordist work order’ (Saunders 2000, p. 1011). With its emphasis on learning rather than education, neo-correspondence prescribes closer and explicit links between HE and workplace.

It emphasises individual control over learning, as well as the development of new skills such as reflexive capability and holistic thinking. It differs from traditional competence-based approaches to teaching and learning, and is closer to the vision of post-Fordist work practices and organisation. It advocates a qualitative shift of emphasis in teaching and learning, and it questions traditional instructional methods that provide for specific skills and competencies (numeracy, reading and writing) as didactic and non-interactive.

The Marxist perspective of correspondence considers connections between the ‘hidden curriculum’ and the transmission of appropriate working practices to maintain capitalist control over the workforce. Working classes are educated to match corresponding sectors of the social/occupational ladder (Hickox & Moore 1992, pp. 100-101). In this context, the role of education is to produce a ‘subservient labour force ... [s]eeped in assumption[s] of control ... [Education] under-emphasises the extent to which “useful skills” for employment might be
developed through the educational system’ (Saunders & Machell, 2000, pp. 288-289). Critique against the correspondence perspective of education and economy focuses on the lack of evidence that education can affect working-class socialisation; it is reductive and overstates the significance of power structures. (Hickox & Moore, 1992, pp. 102-103; Saunders & Machell, 2000, pp. 288-289). It is also plausible to argue that the development of post-Fordism is ‘uneven’ – that is, not all graduates experience a working world based on post-Fordist models of organisation (Hickox & Moore, 1992, p. 113). This brief reference to competing theories has little relevance to Scott (1997, p. 23), for there is sufficient agreement on two things: first, information in its numerous forms is a key commodity for the KE; and second, there has been a shift in production towards high-value services, ephemeral consumables and accelerated turnover. This has implications for the role of HE, graduate competencies and employability.

At least at policy level many universities accept the political and economic agenda associated with the KE. The majority have a commitment to skills development and accept the role of the state and employers in contributing to their curricula. In fact, ‘a review of both national and international literature suggests that a consensus has emerged with regard to diagnosing the needs of the future economy and the prognosis of the skills base’ (Bennet et al, 2000, p. 106). There are calls to reconsider what constitutes graduateness and preparedness in the context of employment in the KE. Here, too the rhetoric is hegemonic and common themes emerge to provide an account and range of desired skills. For example, Goodyear (2001, p. 5) argues that

Employers rarely rate specialised knowledge as the key factor determining whether they will hire graduates. This knowledge... is liable to obsolescence... [Employees] value intellectual flexibility, logical analysis ability to conceptualise issues rapidly and to deal with large amounts of information... [E]mployers are looking for transformative potential: willingness to learn, ability to deal with change and question assumption, analytic, critical and problem-solving skills.

Similarly, Barnett (1997, p. 3) contends:

'Transferable skills' and 'core skills' are simply the code for the kinds of capability now being sought; 'adaptability' and 'flexibility' are indications of the kinds of disposition now required. These are meta-skills. Not only do they enable persons to deploy effectively a repertoire of generic and more specific skills, but also make it possible for the self-reflexive individual ultimately to jettison particular skills and take on new ones... individuals are called upon to refashion themselves through their lifespan.

The role of ICTs is to support and facilitate appropriate competencies as well as new forms and opportunities for teaching and learning. Distance education, networked learning, lifelong learning, student-centred learning and work-based learning are possible with ICTs. Saunders (2000, p. 1011) proclaims

a form of neo-correspondence is emerging... aided by ICTs, education is being redefined as learning... HE is often called upon to validate learning in the new environment and asked to provide a qualification framework... learning processes are the focus rather than education.

These perspectives broaden conceptions of competencies away from measurable outcomes and closer to individually tailored and socially constructed and negotiated methods of teaching and learning, facilitated by the use of ICTs. They also imply organisational and technological changes, including appropriate professional development for staff, so that they can ‘innovative’ and develop new approaches to teaching and learning.

Staff Development

A common theme in the literature on HE and e-learning is the significance of development in e-learning pedagogies. The range of issues associated with staff development extends beyond the individual beliefs and values of teaching staff. The wider institutional context provides the framework for policies and support strategies. Within the prescriptive literature on managing technological change, the implementation of e-learning requires some degree of organisational adaptation and modification. Increased student numbers, massification, and reduced resources suggest that staff engagement is not assured without institutional policies that include appropriate
incentives and reward. At the micro-level, staff are asked to become ‘innovative’ in their approaches to pedagogy and engage in new forms of educational practice. This implies appropriate training with emphasis on pedagogy. The range of factors associated with staff development is a combination of macro and micro issues rather than merely the responsibility of teaching staff alone (Bricheno & Higgison, 2004, p. 206).

For Bates (2000, pp. 43-44), the role of the senior management team is to provide the leadership, vision and support within a post-Fordist organisational structure. The strategic priorities of the managerial team include ‘a vision for teaching and learning, and where technology fits ... determine organizational staffing ... ensure that innovation for teaching is properly recognized and rewarded ... [and] decide on key areas of investment and resource allocation’. The implication is that some form of organisational change or adaptation is required. The authors of a recent study on implementing e-learning in European HE institutions (Cousin et al, 2004, pp. 140-141) concluded that prescriptive and ‘step-by-step’ approaches do not consider the significance of ‘multiple cultural configurations’, and implementing e-learning requires the interrogation and consideration of a multiplicity of factors and internal organisational dynamics. This critique of prescriptive approaches is not new. The empirical response suggests cultural factors are of primary consideration but inevitably accepts the necessity for change albeit following a different approach.

In mapping an ‘ecology of implementation’, Cousin et al (2004, p. 141) provide a list of elements which inevitably require organisational change. They are pedagogical (disciplinary cultures, teaching, learning and assessment regimes, educational development, profile of students), technological (support and access, virtual learning environments, software and licensing conditions), cultural (language, visions, resistances, personalities, communities of practice, change agency), and organizational (rules, procedures, policies, strategies, reward structures, resources, agendas for quality assurance and enhancement). There is debate not on the rationale for change but rather on the method. It is not so much what strategy but how it is developed (Bricheno & Higgison, 2004, p. 200).

In a recent comparison between HE and FE, Bricheno & Higgison (2004, p. 203) noted that many FE institutions have over-arching Information and Learning Technology (ILT) policies and these provide for effective incentives and rewards for staff development in e-learning. In comparison, some HE institutions have no ILT policies and allow faculties and schools to set individual targets. In the case of the latter incentives and rewards ranged from ‘naïve’ to non-existent. Researchers repeatedly comment on the correlation between low levels of staff engagement in e-learning activities and weak incentives. Pedagogic innovation in e-learning is associated with institutional vision and support for online learning that provides for staff development, incentives and quality-control procedures. Kenny (2001, p. 333), for example, describes the implementation of e-learning as incorporating key project-management processes embedded within an institutional framework, with staff development requiring considerable resource allocation. For Laurillard (2001), the culture of pedagogic innovation requires staff upskilling and upgrading informed by cyclical and iterative quality-assurance processes. In the prescriptive literature on technological change, the significance of leadership, the role of senior management and the provision of incentives for staff development are institutional objectives.

In staff development, the focus is the content and form of training rather than availability, opportunity and access to the technology per se. Bennet et al (2000, p. 122) suggest that ‘a continuing process of training and professional development for academics will be required’. More specifically, teaching staff have to re-evaluate and reconsider teaching and learning methodologies. As Education Network Australia (2002, p. 5) puts it, ‘for universities to supply the skills necessary to drive the information economy, they must have staff with the vision and the skills to make use of new technology, new applications and new approaches to learning’.

Access and proximity to online technologies does not entail automatic improvements. Educational innovation is not an inherent property of the technology (Thornton et al, 2004). Staff development programmes with emphasis on e-learning pedagogies are articulated. ‘What is required is innovative approaches to educational delivery that require different skills from that traditionally associated with face-to-face teaching ... teachers are encouraged to become guides, coaches, motivators and facilitators’ (Creese & Jones, 2001). This suggests a shift in values and perceptions on what constitutes learning and teaching. It entails some degree of individual re-
Graduate Competencies for the Knowledge Economy

evaluation and change of practice. Bennett et al (2000, pp. 131-133) proclaim: ‘for many teachers there will need to be a shift in beliefs as a prerequisite for appropriate training’.

The range of instructional theories and strategies associated with e-learning includes constructivist learning, situated learning, problem-based learning, student-centred learning, team-centred learning and cross-discipline collaboration. ‘Document dumping’ promotes didactic modes of knowledge transmission and has little instructional value. Thornton et al (2004, p. 212) highlight the potential of e-learning for ‘greater interactivity and reflection, increased student independence, autonomy and power, and [access to] more extensive resources for learning and teaching’. For Goodyear (2001), the appropriate model for networked learning ‘emphasises that learning is active (requires cognitive operations), is cumulative (extent of prior relevant knowledge), is individual (learners build individual knowledge), is self-regulated (awareness of learning activity, ability to adjust approach to problems’). Likewise, Creese & Jones (2001) argue that teachers are required to present knowledge in an integrated cross-discipline way with an emphasis on problem solving of real world issues. Students work both individually and as a team to collect and assess information to solve problems with their success assessed in terms of their ability to solve problems, communicate ideas, present information, and learn how to learn, rather than simply to repeat facts.

These approaches suggest that socio-constructivist theories and models of learning are suitable for e-learning.

The issues associated with professional development exist at various levels and are not restricted to staff attitudes towards e-learning. This article notes some of these issues to highlight the breadth and complexity involved. Staff attitudes towards e-learning are only one of numerous critical components. Studies identify obstacles at national, institutional and individual levels. For example, Bennett et al (2000, p. 122) list the following as constraints outside the control of staff: the research assessment exercise with the focus away from teaching and course development, the quality of student assessment, and institutional and departmental policies regarding curriculum delivery such as modularisation and increasing student numbers. Coaldrake & Stedman (1999, pp. 7-8) argue that ‘those who seek to teach more flexibly and use technology to enhance their teaching find themselves faced with major changes in the ways they work, and frequently find conflicts with established practices governing workload allocation and professional recognition and reward’.

At the staff level, the main issues are training in new delivery methods (distance education, flexible delivery, blended environment), the re-evaluation of teaching and learning practices and the importance of learning theory. E-learning covers a wide scope of practices ranging from self-contained, modular and flexible units of learning to degrees of blended learning where it mostly supports traditional methods of teaching and learning. The level and form of required training and development is relative to the extent to which e-learning is embedded in practice. The interviewees in this study function at the lower end of e-learning, between traditional delivery and blended environment.

Analysis of Vignettes

There is limited research on comparative use of online learning technologies in different disciplines. In a recent study by Jones et al (2004) on the different uses of digital resources, which constitute only one component of e-learning, the authors suggest that a divide exists between ‘soft’ disciplines (humanities, social sciences and applied social sciences) and ‘hard’ disciplines (physics, mechanical engineering). Although the use of digital resources varies within soft disciplines, they differ more from hard disciplines than they do from each other. The interviewees come from humanities, education and business/accounting. This places them in the soft disciplines. However, this division has the potential to disguise variations in teaching and learning. It is possible to design constructivist learning for hard disciplines and behaviourist learning for soft disciplines.

Potential early adopters of e-learning are staff with previous experience in the use of instructional technologies. One respondent attributed the use of online facilities to the introduction of a VLE when he/she commenced employment, indicating the presence of institutional strategies and/or an individual interest in professional development.
I always had an interest in using computers. It moved from there. So, any new technology I am interested in using. For example, when PowerPoint was first introduced I used it for my lectures. So using e-learning is a natural extension. When Blackboard became available I used it. (Interviewee A)

One interviewee has no previous experience with learning technologies but the rest do. This they attribute to the concurrence of personal interest and available opportunities as well as pressures from senior management to accommodate for increased student numbers. Only one quoted previous participation in a well-structured VLE and experience in using the technology to enhance teaching and learning. In all, previous experiences range from weak or non-existent to strong.

Before Blackboard I used overhead slides but I had too many. When PowerPoint came along it made it easier to show my examples. Moving to Blackboard was a natural extension. (Interviewee A)

I was involved in flexible and distance learning programmes because of raising student numbers. We had a Head of School who wanted a computer on every desk and increasing use of the technology for learning. (Interviewee B)

In the majority of cases, the interviewees did not attribute significant changes to instructional methods attributed to e-learning. The inherent and potential educational qualities of online technologies are not ‘unpacked’ through proximity alone. In these vignettes, technology supplements existing practices and in one case, it results in increased online feedback.

I use technology in my lectures but the actual teaching has not changed because of Blackboard. The only difference is that now students participate in online discussions and I can post questions. This is a minor change in teaching. In terms of learning the students now can go through the lecture material in Blackboard. (Interviewee A)

Yes it has changed ... it would seem that students have more access to me because of the technology ... they tend to ask questions which require a more involved response ... we help students navigate through the material ... increasingly students are asking me to add another level to the one I am already doing ... I respond with more considered answers. (Interviewee D)

In some cases group work and collaborative tasks are used online. In one case, the VLE is a passive medium for teaching and learning, while another interviewee raised concerns on the right combination of traditional and online tutoring. Widespread opportunities for cross-disciplinary teaching and learning are not evident or limited.

The students use the discussion board ... It is there and if they want to use it they can, but they prefer to ask questions in the tutorials. [Students] re-visit a lecture ... download some material, to follow links. I use Blackboard as a facility to inform ... I don’t use any specific techniques to engage the students ... There is no formal collaborative process. (Interviewee A)

No, there are no [cross-disciplinary] opportunities. (Interviewee C)

We need specific guidelines on what to do and how much of it ... what we will stop doing [face-to-face] and what it [e-learning] will replace. (Interviewee D)

There is lack of awareness of the potential benefits of online technologies.

On the question about whether e-learning assists students to construct and acquire knowledge, one interviewee uses online ‘scaffolding’ discussions and encourages online communities of students to share knowledge, but most admit to poor provision and weak instructional design.

Students can re-visit the notes ... It provides another source of information. Blackboard is an additional resource. It is not a different way of learning. (Interviewee A)

Students constructed their learning through access, socialisation, knowledge sharing ... there was a natural affinity between the participants ... Discussions are about scaffolding. (Interviewee B)
I don’t think the technology is creating any new knowledge ... it is simply more convenient ... I
don’t think there is fundamentally anything different. (Interviewee C)

I don’t think at the moment students are acquiring any additional skills ... we are not there yet ...
we’ve got to think very carefully what we want to do ... it is patchy provision at the moment... it
is left at the discretion of tutors how much you do. (Interviewee D)

The questions on skills and competencies students develop through e-learning attempts to refine
and focus the answers from the previous comments. If teaching staff are not aware of the
educational potential of online learning, they are not likely to identify appropriate skills and
competencies. The majority of respondents listed general IT skills or no new skills. One
noteworthy response refers to the ability of some students to re-organise their social and working
life and to manage their time efficiently so they can undertake distance education studies. The
management of time is an inherent quality not of the technology but rather of the individual who
perceives the technology as empowering and enabling. This reveals more about the intrinsic
quality of student motivation than about technology.

If you are learning at a distance you need to be able to manage and structure your life ... you
need to develop strategic use of time ... I think it is inevitable that e-learning students develop
time management skills. Learning at a distance you face a steep learning curve in organising your
life. (Interviewee B)

Their IT skills ... I don’t think there are any other skills. (Interviewee C)

Some respondents accept the neo-correspondence position on the advent of a lifelong learning
workforce enabled and assisted through the flexible and distributive qualities of ICTs. However, in
a quantitative study by Gorard et al (2003), the authors suggest that the correlation between use of
ICTs and lifelong learning is weak and minimal; barriers to learning are not resolved through
technology. The authors conclude that national policies perceive ICTs as ‘a single variable’ offering
solutions to the demands of massification. The research on the connection between ICTs and
lifelong learning is limited but the appeal and potential is enduring for some staff.

If one learns at a distance online and becomes comfortable with that then perhaps this mode will
allow them periodically to upgrade and facilitate their professional development. But you need
to be comfortable with this mode. (Interviewee B)

I definitely see a connection ... most of my students are in employment and want to better their
employment prospects ... the capability to carry on doing the ‘lifelong learning thing’ very much
depends on their exposure to e-learning ... everybody will need these skills, increasingly.
(Interviewee D)

The interviewees have different reasons for the use of online learning technologies and these do
not include the practice of innovative pedagogies. VLEs are tools to provide lecture notes and
other resources online. Professional and/or institutional pressures can compel their use. In one
case, the interviewee has no motive. Although it is not possible to extrapolate a wider pattern
among HE teaching staff in general from the number of interviews conducted, a common theme is
the lack of pursuing or attempting innovative teaching methods supported by e-learning. Most
interviewees have a teaching and learning theory independent from and irrespective of online
learning technologies. A hypothesis is that the respondents have the foundations (learning theory)
but obstacles exist at other levels not excluding the individual (cultural resistance, lack of
awareness, lack of technical know-how, increased workloads) and including the institutional
(policies, strategies, incentives, lack of professional development).

It has been useful to use Blackboard because it helps me upload my lecture notes ... My model to
enhance learning is to make students do things ...I try to get students to be active.
(Interviewee A)

I keep using it partly because I am in teacher education and I feel I should be using it.
(Interviewee C)
Nicos Souleles

I have to use it. It is not optional. I would actually prefer not to use it… I believe firmly in the socio-cultural view of learning… students have to be active learners, not passive… I have a strong pull towards communities of practice. (Interviewee D)

The interviewees provide different meanings for support and resourcing. Invariably one perspective, which relates to access, is the availability of sufficient and up-to-date hardware/software for both staff and students. Increased workloads and reduced time for professional development is also a resource issue. Another support issue is the complete lack of opportunities to train in pedagogies as they apply to online learning combined with knowledge of current appropriate software, hardware and network technology. Mostly these are institutional obstacles beyond the control of individual staff.

You always wish you had more … there may be an issue of access for students during busy times … (Interviewee A)

Apart from the delivery of computer kit to our offices and fixing it when something goes wrong, I don’t think there is much interaction between academic and technological staff … it is absent … there is a lack of academic staff with experience in teaching and learning using e-learning … there is lack of staff dedicated to the issue of assisting pedagogical uses of e-learning. (Interviewee D)

I need more academic and less technical support … I need more training…I need to think about pedagogy and its aspects more … we develop skills in software, but there have been no discussions on pedagogical issues. (Interviewee D)

Although student motivation is not central to this study, it is a significant factor in all forms and methods of learning. Motivation for e-learning activities ranged from full support and participation to disassociation, lack of interest and fear of engaging with the technology. The difference in levels of motivation between undergraduate and postgraduate is noticeable. It indicates areas for further research, not so much on the difference between the two groups of students but rather on motivation and e-learning in general.

They have positive opinions and like it as an additional facility. The students have expectations from us … I suspect that my students will want me to provide formative assessments online. (Interviewee A)

It depends on the group and there is a range within the groups themselves … at undergraduate level there is fear of IT and this gets in the way. At the post-graduate level it is more accepted … they are more comfortable with it. (Interviewee C)

A summary review identifies staff with previous experience in the use of technologies as possible early adopters of e-learning. Institutional priorities can hasten use of VLEs and increased workloads may reduce available time for training. The use of online learning technologies ranges from ‘document dumping’ to assisting in some cases collaborative tasks and group work. There are no apparent and significant changes in pedagogy attributed to e-learning. In some cases, there are access problems, while in others there is available technical support but limited opportunities for professional development. Some staff consider e-learning does not enhance teaching and learning, and there is mostly lack of awareness about the potential benefits. In this study, students develop and enhance IT skills but do not acquire through e-learning the broad competencies associated with the KE.

Conclusion and Synthesis

This study examines the rhetoric on e-learning and graduate competencies for the KE, against some current practices and uses in humanities and business/accounting programmes. The dominant discourse claims that the KE and new modes of production and work-based practices associated with post-Fordism are the main drivers for change in HE. E-learning can support the desired graduate competencies, but one of the prerequisites is staff awareness and professional development. The aim of this study is to explore the connection between rhetoric and some current e-learning practices, and to elaborate on the misalignment between the two. The desired
Graduate competencies for the Knowledge Economy

graduate skills and competencies include a group of meta-skills, such as intellectual flexibility and adaptability in changing working environments, ability to deal with large amounts of information and to handle team and project work and readiness and aptitude for lifelong learning. There is almost universal agreement that these are congruent with graduate employment and participation in the KE. Neo-correspondence suggests this range of skills as well as new forms and opportunities for teaching and learning are now facilitated through ICTs and are part of the changing role of HE.

Inevitably, the role and attitude of staff is an important consideration in all forms of learning. ‘[N]o lasting curriculum change is possible without a prior change in teachers’ behaviours, attitudes and beliefs’ (Bennett et al, 2000, p. 122). If the mission of HE institutions vis-à-vis the KE is to prepare graduates with appropriate competencies, how staff engage with and apply e-learning is of importance to the process and the outcomes. There is almost a universal claim that staff need to undertake training that provides for technical knowledge and includes pedagogies associated with e-learning. The vignettes confirmed the lack of appropriate professional development and comprehensive awareness of the benefits of e-learning. In most cases in this study, e-learning is a passive medium occasionally supplementing existing practices and rarely used for meta-skills.

The study also indicates that some staff have learning theories that are suitable for e-learning and an enduring belief contrary to research that there are potential benefits at least in terms of lifelong learning.

Issues associated with professional development are not restricted to staff alone, and institute policies and strategies are significant. Staff constitute one part of the equation and the other is organisational structures and practices. New pedagogies are unlikely to develop only ‘bottom-up’ and without organisational support. The lack of availability and/or opportunity for appropriate professional development in e-learning is an institutional issue. The interviewees identified a range of resourcing issues, including access, availability of up-to-date hardware/software, increased workloads and reduced time for professional development.

In this study, the misalignment between rhetoric and practice manifests in some use of e-learning tools but delivery and outcomes do not match expectations claimed by the former. The reasons for this misalignment are attributed to the combination of both staff and institute practices. Prescriptive and empirical studies on the management of technological change do not question the need to address the lack of graduate competencies and comprehensive staff development, nor do they question the significance of ‘enlightened’ senior management. Increasingly, government and funding bodies will confront HE institutions on their policies and strategies on e-learning, and for a brief period, this may shift the focus away from individual staff attitudes and practices. Inevitably a complementary approach to implementing e-learning – that is, one that combines staff development backed by comprehensive policies – is likely to yield better results.

References


Nicos Souleles


APPENDIX

1. How did you start with e-learning?
2. What is your previous experience with learning technologies?
3. How long have you been using e-learning technologies?
4. In what subjects are you using e-learning?
5. Have instructional methods changed and in what ways?
6. What online techniques do you use to engage students?
7. How do you think students construct/acquire knowledge through e-learning?
8. Does your use of e-learning provide opportunities for inter-disciplinary learning?
9. What skills and competencies do your students develop through e-learning?
10. What connections do you make between e-learning, graduate employability and lifelong learning?
11. What are your motives for using e-learning?
12. Do students have responsibility for their own learning?
13. What is your teaching and learning theory?
14. Are there any support or resource issues?
15. Do you have access to professional development?
16. What is the attitude of students towards e-learning?

NICOS SOULELES is the Course Leader for Multimedia Design and Digital Animation at the Cumbria Institute of the Arts in Carlisle, United Kingdom. His main research interests are in the areas of interactivity in teaching and learning (http://www.outofthebox.nu/interactivity), and implementation, management and practice of e-learning in art and design (http://www.elearningartdesign.org). Correspondence: Nicos Souleles, Cumbria Institute of the Arts, Brampton Road, Carlisle CA3 9AY, United Kingdom (nicos@elearningartdesign.org).