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► **To cite this version:**

Chris Jones. Is There a Policy for Networked Learning?. Networked Learning 2002 Conference, 2002, Sheffield, United Kingdom. hal-00190278

HAL Id: hal-00190278

<https://telearn.hal.science/hal-00190278>

Submitted on 23 Nov 2007

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Is there a policy for networked learning?

Chris Jones

Lancaster University
c.r.jones@lancaster.ac.uk

ABSTRACT

Networked learning is part of an emergent networked society. As such networked learning forms part of a wider debate concerning the nature of social processes, power and culture and their relationships with technology. The literature surrounding networked learning still reflects a technological determinist view. This paper takes issue with this view of the relationship between technology and social forms. The context of higher education has been changing alongside the introduction of new technologies into education. The paper looks at the United Kingdom as an example of the way in which political issues impact on networked learning. The paper tries to establish what choices are being made at the level of national governments by examining two large policy initiatives as examples of current policy.

Keywords

Networked learning, higher education, pedagogy, policy, politics.

INTRODUCTION

In 2000 David Blunkett the then British Minister of State for Education delivered a speech setting out his views on the future of higher education (Blunkett 2000). The overarching theme of his paper was globalisation but globalisation itself was presented as a consequence of new forms of communication (Bird and Nicholson 1998, Clegg and Steel 2002). Communication and Information Technologies (C&IT) were central to the vision of change:

"In sum, higher education in this century will need to look very different to the system which evolved in the second half of the twentieth. It will typically be mixed mode - delivering through ICT and other learning at a distance, as well as face to face." (paragraph 78)

Networked learning is in this way portrayed as just one aspect of an emergent networked society (Castells 1996). As such networked learning is not simply discussed in educational terms but forms part of a wider set of debates concerning the nature of social processes, power and culture. With some notable exceptions networked learning is not discussed as a political choice involving issues of power and control. More typically it is debated as a technical issue, a question of efficiency (for exceptions see Noble 1998, Jones and Steeples 2002, Clegg and Steel 2002, Land and Bayne 2001). The literature surrounding networked learning still reflects technological determinist views that argue social change is a necessary consequence of the application of technology (Jones and Steeples 2002). The views of politicians find support from influential authors who continue to describe networked learning in ways that imply the use of networked technology will lead to definite educational outcomes (Bates 1999, Spender 2000). These outcomes include new organisational and management structures, virtual and e-universities, and particular forms of pedagogy that alter traditional relationships between students and staff. This paper takes issue with this view of the relationship between technology and social forms. In particular it questions the idea that there is any technological imperative determining the shape of networked learning.

The context of higher education has been changing alongside the introduction of new technologies into education. The very same technologies that provide the infrastructure of networked learning are implicated in the rapid social changes that have impacted on higher education in recent years. Becher and Trowler (2001) have recently reviewed the changes in academic cultures using the geographic metaphors of landscapes, territories and topography. Mapping networked learning against this changing landscape reveals a strong connection. Higher education is affected by globalisation, massification, changes in the form of state regulation and changing economic relations with industry, the market and a developing managerialism. Networked learning has deep connections to each of these issues. Networked technologies are often the enablers of these changes and the changes are in turn commonly used to justify the further development and use of networked technologies in education. While the connections are indisputable it is at least arguable that the drivers for change are less likely to be the available technologies than the choices made by politicians and policy makers.

The paper looks at the United Kingdom as an example of the way in which political issues impact on networked learning. The UK government has promoted networked technologies using a variety of policy initiatives and since

the Dearing Report in 1997 these initiatives have been informed by a 20 year vision for higher education. This paper raises the question of whether there is a policy for networked learning and how it relates to top level statements by politicians that suggest a determinist relationship between the technology and policy and pedagogical choices. By raising questions about the relationship between government policy and networked or e-learning, the paper tries to establish what choices are being made at the level of national governments. It tries to establish some basic outline of the policy framework for networked learning in the UK and examines some of the key policy initiatives post-Dearing. In particular the paper takes two large policy initiatives, the Learning and Teaching Support Network (LTSN) and the Distributed National Electronic Resource (DNER) as examples of current policy.

THE NETWORKED LEARNING, SOCIETY AND TECHNOLOGY

The networked society suggests itself not simply as a description of the society we live in but also as an aim, a state of society to which we aspire. Networks in some ways hint at a resolution of the cold war bi-polar world that split societies in terms of their allegiance to either market capitalism or bureaucratic state regimes built on the Soviet model (Rhodes 1997). It is fitting that the politics of the Third Way place social inclusion at the heart of the political agenda and that current government priorities reflect that agenda in higher education (Giddens 1998). Speaking at Guildhall University in October 2001 Estelle Morris the current Secretary of State for Education set out the four priorities for Universities:

- Firstly, widening participation and unlocking the potential of the poorer sections of society. We do want to move ahead to achieve our target that half of the population will enter higher education by the time they reach the age of 30.

This key aim was related to changes in teaching later in the speech:

" We want to encourage new forms of teaching and learning. We have together already launched the e-Universities project so that we can make sure the UK is at the centre of high quality higher education over the Internet."

The government agenda of increasing access to higher education implies a change in the nature of Universities. Teaching and learning has to change and C&IT is seen as a key aspect of that change.

Networks have a latent politics that are a politics of consensual change, of movement from active centers of power to scapes and flows in which power is distributed (Castells 1999). In networks it can be difficult to identify whom if anyone has command or control. John Law has noted that the network metaphor has become ubiquitous and that this may simply be a consequence of an emergence of new social forms. However he also noted that it is possible:

"that we are in the process of *uncritically reproducing some kind of dominant ideology*. We are reproducing the ways in which the current orderings of the world like to represent themselves." (Law draft para No 1)

As such networked learning is part of a hegemonic discourse not simply in educational terms but as part of wider debates concerning the nature of social processes, power and culture. John Law notes that when we analyse in terms of networks, we help to perform networks into being. The danger he identifies is that when we write as network analysts we may be buying into and adding strength to a managerialist agenda.

NETWORKED LEARNING AND TECHNOLOGY

The literature surrounding networked learning still reflects technological determinist views that argue social change is a necessary consequence of the application of technology (Jones and Steeples 2002). Influential authors continue to describe networked learning in ways that imply the use of networked technology will lead to definite educational outcomes (Bates 1999, Spender 2000). Writing about the impacts that the technology might have upon organisation and management Bates writes:

"If universities and colleges are successfully to adopt the use of technologies for teaching and learning, much more than minor adjustments in current practice will be required. Indeed the effective use of technology requires a revolution in thinking about teaching and learning" (Bates 1999 pxiii)

At the previous Networked Learning Conference the feminist author Dale Spender said the following when delivering her keynote address:

“One point which needs to be emphasised is that the pressures that are building up in relation to universities, are not driven by any particular ideology (as yet); they are not the agendas of any specific individuals.....The process is technology driven. Just as steam and electricity changed the way we organised society,....we are now caught up in the digital revolution” (Spender 2000)

These two examples illustrate two different varieties of technological determinism but both find their reflection in the outlook of key politicians. The image of education they express indicates revolutionary change, an unusual sentiment for mainstream politics, and it is strongly informed by a technological determinist perspective. A recent example of this can be found in the speech made to the BETT Conference by Estelle Morris. This speech incorporated a vision of the School of the Future. While this speech was concerned largely with school rather than higher education it nonetheless indicated a worrying view of the relationship between technology and education.

"When you look back at the development of our schools it has been very strangely evolutionary. One of the reasons for that is there has not been a development, there has not been an invention which has brought about a transformation which has signalled the revolution and if you look at health it was maybe antibiotics or it was maybe the discovery of DNA. If you look at transport it was maybe the internal combustion engine and once those discoveries were made, once those changes happened nothing was ever the same again. I think ICT is our DNA, it's our internal combustion engine it is the trigger that can introduce a revolution in how we teach and in how we learn" (Morris 2002)

The speech was concerned with 'seizing the time' and made a point of suggesting that this was a once and for all opportunity. In this sense it was a soft technological determinism the technology was portrayed as fixed and choices were constrained by that rather than being the outcome of social interaction or being open to political challenge.

The pedagogy of networked learning

It is not only at the macro level of policy, institutional change and politics that technological determinism applies it also affects the particular forms of pedagogy that alter traditional relationships between students and staff. Communities of practice have become a main point of reference in networked learning. Many of the themes of modern capitalist practice are also themes within the communities of practice approach even though this approach is identified with liberal approaches in education. Little of the critique of modern capital can be found in current educational literature and communities of practice remain largely uncontested (Gee 2000). The perspective that is associated with the term community of practice has become widespread. It has become part of what might be described as a new paradigm, though it is now so established that the word new might be unwarranted. There is evidence that amongst experienced practitioners of networked learning there is evidence of a well defined philosophy informing their practice (Jones et al 2000). A recent example set out in a table of Industrial Age vs. Knowledge Age learning practice can be found in an Open University course reader (Trilling and Hood 2001). The list includes the teacher as facilitator and co-learner, project-based real world learning, collaboration and community. These features are found in most if not all descriptions of a pedagogy that is closely linked to the introduction of C&IT in higher education. There are strong indications that these changes might be overhyped. Elsewhere I have noted how the requirement for assessment and accreditation affects the drive towards facilitation and the adoption of a more equalised role for the teacher in higher education (Jones 1999). Brown and Duguid (2000) go so far as to suggest that the core activity of the University is this feature, which they call warranting and credentialing and that the future shape of the University might be that of a DGB, a Degree Granting Body.

POLICY AND NETWORKED LEARNING IN THE UNITED KINGDOM

Networked learning in Higher Education in the United Kingdom is one part of a set of related policy initiatives. The overall picture to follow the revolution metaphor common to the commentators quoted above might be summed up in Mao's slogan from a speech in 1957 "Let a thousand flowers bloom, a hundred schools of thought contend." The question that I want to ask in this paper is what linkage is there between the evident overall position with regard to higher education policy and the actual working out of policy initiatives in practice. In order to do this I will take two examples from the overall policy landscape, the Learning and Teaching Support Network (LTSN <http://www.ltsn.ac.uk>) and the Distributed National Electronic Resource (DNER <http://www.jisc.ac.uk/dner>). Both are United Kingdom initiatives covering the higher education system in England, Scotland, Wales and Northern Ireland. The funding for the LTSN comes from the funding councils directly, the funding for the DNER through the Joint Information Systems Committee (JISC)

The Learning and Teaching Support Network (LTSN)

The LTSN consists of a series of 24 Subject Centres located in a variety of host institutions in higher education, an Executive and a Generic Centre situated in York in close physical proximity to the Institute for Learning and Teaching. The LTSN was set up following a successful government initiative that was specifically aimed at the introduction of computer technologies into higher education, the Computers in Teaching Initiative (CTI). The LTSN is an example of the linking together of a number of strands of higher education policy. The LTSN is not a separate technology intervention, rather it focuses on the development of an integrated approach to teaching and learning that includes technology. It is distinct from the Institute of Learning and Teaching (ILT) the semi-corporate body set up by government in response to the Dearing Report as a professional body for higher education teachers. The LTSN's place in the overall policy landscape is that of critical friend to the emergent profession of higher education teachers. Explicitly focused on change, the LTSN aims to develop teaching and learning in an area that arguably had a historical focus on the discipline and more specifically on scholarship and research in discipline areas. The LTSN is *built* on a Subject Centred approach and its name explicitly situates it on the terrain of networks. The Learning and Teaching Support Network has a claim to credibility because it is genuinely a product of each Subject Centres' own particular development and the network reflects the structure and concerns of its constituents. In the words of one Subject Centre's Director:

"The constituency thing is superb. I mean you could wipe out Subject Centres completely and just have the LTSN but then you'd find that half the academics on the ground wouldn't bother to get on board because it is not relevant to them, it is not relevant to their direct interests."

There is some supporting evidence for the view that subject and discipline areas have different identities, epistemologies and practices and that:

"the ways in which particular groups of academics organise their professional lives are related in important ways to the intellectual tasks on which they are engaged" (Becher and Trowler 2001 p23).

Perhaps more importantly the same authors note that 'teaching and learning' has not been prominent historically in disciplinary identities, though they note that it is an emerging concern. In recent research for the Networked Learning in HE project I conducted a telephone survey of a sample of teaching staff across different disciplines and types of institutions. The survey showed widespread use of computers by teaching staff for teaching purposes but a lack of pedagogic training.

- 72% had no teaching qualification
- 18.7% had never received any training
- 72% had received some professional support
- Last training (1 day or more) 56.9% in 1998 or before, 25% reported training in 1996 or before and almost ten percent received training prior to 1992.
- 42.1% reported that they had received training that included technologies for teaching

The LTSN addresses this gap in professional development by helping to provide a source of subject specific advice and guidance. It is also claimed that academics will respond more positively to advice on teaching and learning provided by subject specific centres. The LTSN is then a policy initiative that occupies a specific niche that links together the development of pedagogy and technology with the aim of promoting teaching and learning on the terrain of the disciplinary specialist.

Origins of the approach

The system of Subject Centres and the overall policy of a subject based approach arose out of the review of CTI and TLTSN (Teaching and Learning Technology Support Network) (HEFCE 98/47). Appendix A of that report set out the rationale that lay behind the grouping of the 41 QAA subject areas into 23 centres. The final number of centres was 24, the same as the old CTI, but the subject areas were not coincident with CTI subject areas. The LTSN subjects included new subject areas that had not been represented in the CTI, especially in newly developing subject areas such as hospitality and tourism. The new subject areas and the bidding process for the LTSN Centres allowed the perception of 'elitism' that had arisen in relation to the CTI centres and their siting in old Universities to be addressed.

One of the key features of the LTSN is the diversity of the network. In part this arises from the difference between the subject areas. Some Subject Centres are faced by problems of scale. The centre most commonly mentioned in

this regard is Health Sciences and Practice. Originally conceived of as "Subjects Allied to Medicine" this subject area includes nursing, sports medicine, midwifery, pharmacy and physiotherapy. The web site for the Health Sciences and Practice Centre shows 25 lead subject areas supported by the centre. This example illustrates a centre with a large number of subjects covered, a wide diversity of subject types, from 'soft' subjects to 'hard' sciences and a complex set of relationships with other LTSN Subject Centres. Sheer scale impacts upon decisions made about the kind of relationship the Centre can have with its constituency. The Centre, for example, cannot visit all departments as some Centres have chosen to do, as the capacity in terms of staffing and cost is not available.

The Subject Centres were in place before the Executive and Generic Centre and had developed their own distinct styles independently. Policy as a consequence is interpreted at all levels in the network. The Executive is rightly responsive to national policy directions but the Subject Centres whilst dependent upon the funding councils for their continued existence have a relative independence in how to reflect policy initiatives. Management of the network is potentially difficult as the networked nature of the LTSN makes central direction problematic. This developmental history has definite consequences for the overall management of the Subject Centres. The approach of setting a top down set of requirements applying to every Subject Centre in order to establish a degree of uniformity could be applied. It might be thought necessary to do this to ensure particular aims, for example clarifying the LTSN brand and setting network requirements for reporting and standards for interoperability. An example of setting a common approach can be found in the LTSN document *Evidence of Success*:

"The network needs to have common criteria for success which can inform the evaluation and development of individual Subject Centres and the network as a whole." (Point 8 01/20)

On the other hand it could be contrary to the very strengths that are claimed for a Subject Centred approach and the development of a successful network. The very strength of the network is in the claim that subjects and disciplines are more responsive to guidance developing from within the discipline and subject areas themselves. There will be a potential for conflicts between what may be perceived as the pragmatic drive for uniformity and the requirements of network development. This dilemma faced by the management of the LTSN raises questions about the way in which policy however well focused actually translates into day to day practice. The system of policy within the LTSN is necessarily loose coupled to national policy and beyond the network itself the national policy framework involves the interrelationship of several distinct initiatives.

The Distributed National Electronic Resource (DNER)

The DNER is an initiative funded by the Joint Information Systems Committee (JISC) that follows on from a series of interventions that aimed to develop what might be termed primary courseware (Goodyear and Jones forthcoming, Mayes and Neilson, 1996). The DNER is 'a managed environment for accessing quality assured information resources on the Internet which are available from many sources. These resources include scholarly journals, monographs, textbooks, abstracts, manuscripts, maps, music scores, still images, geospatial images and other kinds of vector and numeric data, as well as moving picture and sound collections' (DNER, 2001). The DNER follows from a number of earlier initiatives, the CTI and TLTP (Teaching and Learning Technology Programme) for example that included the aim of the creation of primary resources. The products of TLTP and their impact upon UK HE have been the focus of substantial evaluation studies (Anderson et al 2002, Anderson et al 1999). A conclusion from these studies was that:

" significant barriers to wider uptake of C&IT into learning and teaching still exist. Technical infrastructure is now less important to most staff than the need for pedagogical support " (Anderson et al 1999 Executive Summary)

The implicit pedagogical beliefs of the courseware production teams were embedded in the courseware and this was amongst other factors implicated in the limited use made of the courseware by staff whose pedagogical beliefs and practices may not have been compatible with those of the courseware producers. The DNER aims to produce and/or improve access to primary resources but it is doing so with what appears to be a much more open sense of what might be possible pedagogical usages.

The comments here draw on initial work on the pedagogical evaluation of the DNER. In particular, it focuses on the work of some 35 projects, each of which is concerned with contributing new digital information resources for learning and teaching. Further details of this work can be found in Goodyear and Jones (forthcoming). The extract reproduced below is taken from the original proposal formulated by JISC for additional government funding and captures the core intention:

“Over the past 5 years, the JISC has been successful in developing a portfolio of on-line digital information and data resources that are an important component of the DNER. These resources include bibliographic and research datasets, spatial and mapping data, digital still images and full text electronic journals. Moving images and sound archives will also become available on-line within the next few years.

Although this data has been primarily used for research purposes, it is beginning to find a use in learning and teaching. However, this work has been slow and some additional funding would enable the JISC services to be used in totally different ways than originally envisaged. There is a strong requirement to improve the interaction between the people who are involved in the development of new learning environments and the national information systems and services being developed by the JISC.

It is therefore proposed that an initiative be funded to integrate learning environments with the wider information landscape aimed at increasing the use of on-line electronic information and research datasets in the learning and teaching process." (JISC, 1999, para 8).

Among the criteria to be used in selecting bids for funding was ‘impact on the learning and teaching environment in UK HE’ (ibid., para 97).

The projects were examined using two sources of information. A projects meeting held in London 18th and 19th of June 2001 were asked to complete a short task based on Vanetsky's History of the Future exercise (Nash et al 2000). Secondly the published project outlines were examined for their pedagogical purposes. These two somewhat different sources of information produced a picture that indicated a limited approach to teaching and learning beyond providing access. Our principal distinction was based upon the idea of ‘access’. That is, we divided the responses into (a) those which *only* talked about making new or better resources accessible to students, or about improving their access to such resources and (b) those which, in some way, went ‘beyond access’. In the exercise conducted at the project meeting less than half of the projects said anything which went beyond access. Looking at the project outlines, we found that only two of the projects provide more than a rudimentary account of how students’ learning would improve through use of project outcomes.

What does this outcome say about the DNER initiative and its relationship to the policy agenda in higher education? The DNER is concerned with developing infrastructure in the broadest sense. That is it is not simply concerned with the technical substrate, though indeed it is concerned with that at some levels. It is concerned with building the social standards and protocols that run alongside more technical aspects of infrastructure. The DNER then is at the technological end of a spectrum that is never wholly technical (Bowker 2001). Our interest lies in the fact that it is, if anything is, situated at the technological end of a spectrum and it might be expected to display features that would conform to the idea that technology alone triggers or determines change. The evidence such as it is shows that the features identified as a new paradigm associated with networked learning are almost entirely absent from the DNER teaching and learning projects. This is not to say that they are poor projects, far from it. Rather it is to point out that work concerned with implementing new technologies, explicitly concerned with access, does not lead to a natural adoption or even awareness of the pedagogical framework that is associated elsewhere with the technology.

DISCUSSION AND CONCLUSIONS

What do these examples of public policy tell us about how networked learning relates to wider political concerns. The views of politicians as expressed by senior government figures locate closely with the technological determinism that pervades much educational literature. The politicians as, to some degree at least, masters of the situation emphasise choice and take a soft-technological determinist position. On the other hand the two examples of policy in practice show just how complicated the picture becomes upon closer examination. The agencies that deliver politicians' visions develop policy in an emergent way. The LTSN is a policy initiative that relies upon remaining close to its constituency. To be effective that strand of the initiative is critical. Yet that requirement sets up a tension with the natural desire of the funding bodies and beyond them the government, to make such initiatives responsible for carrying through major items on the policy agenda.

The example of the DNER illustrates just how little technology determines. The pressures on projects funded by initiatives such as the DNER are towards meeting the criteria set for them by the funding bodies. It should be no surprise to find that projects set up to enhance teaching and learning are not fully acquainted with current educational thinking. Yet it contrasts with the rhetoric that informs government policy at the highest level. Teaching and learning in higher education are being pressed to change. In particular the agenda for increasing access will involve continued pressures to change teaching and learning practices in the near future. The mistake is to associate the changes demanded for political reasons related to social equality with those related to technology. Technology doesn't imply

any set of required political outcomes. Social shaping of technology suggests that technologies themselves are subject to social pressures in the way that they are developed (MacKenzie and Wajcman 1999).

I do not wish to imply that technologies have no impact on social developments or public policy. Technologies embody and embed the decisions and practices of those who develop them and they reflect the choices of those who apply them at the point of use. They are tangible resources for action and whilst they can be used in novel and unsuspected ways they have a definite range of capacities. The point I am making is that the range of capacities that technologies have are constituted finally when they are mobilised in use, rather than being a simple list of characteristics that can be predetermined and described. The question that this paper asked was whether there was a policy for networked learning. It appears that there is but that it does not derive from networked learning or the technologies of networks. Rather the policy reflects a set of priorities associated with the politics of the Third Way and an uncritical attitude to modern capitalist practices and managerialism. The conclusion of this paper is that networked technologies are too important to be left in the hands of such a stale agenda. Choices about how to use new technologies need to be infused with a more sharply critical edge. One that begins by asking what social interests are driving the agenda that hides behind the technology and that begins to map out alternative visions of technological possibilities more centred in the needs of education and learning.

ACKNOWLEDGMENTS

The views expressed in this paper are solely those of the author and it should not be assumed that they represent the views of the evaluation teams concerned with either the DNER or LTSN. Nonetheless the author would like to acknowledge the contribution of the other members of the Educational Research Department at Lancaster University engaged in the evaluation of the LTSN and DNER and the assistance of staff and funding bodies concerned in both initiatives. I would particularly like to thank Professor Peter Goodyear for his contribution to the work on the Evaluation of the DNER.

REFERENCES

- Anderson, C, Day, K, Haywood, J, Land, R & Macleod, H (2002). Evaluating Networked Learning: Developing a Multi-Disciplinary, Multi-method approach. In C. Steeples and Jones, C. (Eds) (2002) *Networked Learning: Perspectives and Issues*. Springer-Verlag. London.
- Anderson, C, Day, K, Haywood, J, Land, R & Macleod, H (1999). *Use of TLTP materials in UK Higher Education*, HEFCE Report June 99/39. Higher Education Funding Council for England, Bristol. <http://www.flp.ed.ac.uk/LTRG/TLTP.html> (accessed 14th February 2002).
- Bates, A.W. (1999). *Managing Technological Change: Strategies for Colleges and University Leaders*. San Fransisco: Jossey-Bass Publishers.
- Becher, T., and Trowler, P.R. (2001) *Academic Tribes and Territories* 2nd Edition Buckingham: SRHE and Open University Press
- Bird, D., and Nicholson, B. (1998). A Critique of the Drive Towards the Globalisation of Higher Education. *Association for Learning Technology Journal*. Vol 6 (1) 6 -12
- Blunkett, D. (2000) Greenwich Speech. Department for Education and Employment. Available at: <http://cms1.gre.ac.uk/dfee/#speech> (accessed 14th February 2002).
- Bowker, G.C. (2001) The New Knowledge Economy and Science and Technology Policy. In *Encyclopedia of Life Support Sytems*. Paris: UNESCO.
- Brown, J. S., and Duguid, P. (2000), *The Social Life of Information*. Boston MA: Harvard Business School Press.
- Castells, M. (1996). *The Information Age: Economy, Society and Culture Volume 1. The Rise of the Network Society*. Oxford: Blackwell.
- Castells, M. (1999). Flows, Networks and Identities: A Critical Theory of the Information Society in Castells, M., Flecha, R., Freire, P., Giroux, H.A., Macedo, D and Paul Willis. *Critical Education in the New Information Age*. Lanham, Maryland: Rowman and Littlefield.
- Clegg, S. & Steel, J. (2002) The emperor's new clothes: globalisation and e-learning. *British Journal of Sociology of Education*. Currently under review

- Dearing, R. (1997) NCIHE (National Committee of Inquiry into Higher Education - The Dearing Report (1997) *Higher Education in the learning society*. Norwich : HMSO. Also available at: <http://www.ncl.ac.uk/ncihe/index.htm> (accessed 14th February 2002).
- Gee, J.P. (2000) Communities of Practice in the New Capitalism. *Journal of the Learning Sciences*, 9 (4), 515 -523.
- Goodyear, P and Jones, C (forthcoming) Implicit theories of learning and change: their role in the development of eLearning environments for higher education. In S. Naidu (ed) *E-Learning: Technology and the Development of Learning and Teaching*. London: Kogan Page
- HEFCE (1998) An evaluation of the Computers in Teaching Initiative and Teaching and Learning Technology Support Network . Available at: http://www.hefce.ac.uk/Pubs/hefce/1998/98_47.htm (accessed 14th February 2002).
- JISC. (1999). *Developing the DNER for Learning and Teaching, JISC Circular 5/99*. Available at: http://www.jisc.ac.uk/pub99/c05_99.html (accessed 14th February 2002).
- Jones, C (1999). From the sage on the stage to what exactly? Description and the place of the moderator in co-operative and collaborative learning. *Association for Learning Technology Journal*. Vol 7 (3) 27 -36
- Jones, C., Asensio, M, and Goodyear, P. (2000) Networked learning in higher education: practitioners' perspectives. *Association for Learning Technology Journal*. Vol 8 (2) 18 - 28.
- Jones, C and Steeples, C. (2002) Perspectives and Issues in Networked Learning. In C. Steeples and C. Jones (Eds) (2002) *Networked Learning: Perspectives and Issues*. Springer-Verlag. London.
- Land, R., and Bayne, S. (2001) Screen or Monitor? Issues of surveillance and disciplinary power in online learning environments. *Improving Student Learning Using Learning Technologies The 9th International Improving Student Learning Symposium*. Heriot-Watt University, Edinburgh.
- Law, J. (Draft) 'Networks, Relations, Cyborgs: on the Social Study of Technology', published by the Centre for Science Studies and the Department of Sociology, Lancaster University, at: <http://www.comp.lancs.ac.uk/sociology/soc042jl.html> (accessed 14th February 2002).
- MacKenzie, D., and Wajcman, J.(Eds) (1999). *The Social Shaping of Technology*.2nd Edition. Buckingham: The Open University Press.
- Morris, E. (2002) Speech to BETT Conference. Available at: <http://www.dfes.gov.uk/speeches/index.shtml> (accessed 14th February 2002).
- Morris, E (2001) Speech at London Guildhall University, Available at: <http://www.dfes.gov.uk/speeches/index.shtml> (accessed 14th February 2002).
- Nash, J., Plugge, L., & Eurelings, A. (2000). *Defining and evaluating CSCL projects: managing towards evaluation*. Paper presented at the European Conference on Computer Supported Collaborative Learning (ECSCCL 2000), Maastricht, Netherlands.
- Noble, D.F. (1998) Digital Diploma Mills: The Automation of Higher Education. *FirstMonday* Vol.3 No.1 Available at: http://www.firstmonday.org/issues/issue3_1/index.html (accessed 14th February 2002).
- Rhodes, R.A.W. (1997) *Understanding Governance: Policy Networks, Governance, Reflexivity and Accountability*. Buckingham: Open University Press.
- Spender, D. (2000) The Role of a University in a Dot Com Society: What is it? Available at: <http://collaborate.shef.ac.uk/nl2000.html> (accessed 14th February 2002).
- Trilling , B., and Hood, P. (2001) Learning, Technology and education reform in the Knowledge Age or 'We're wired, webbed and windowed, now what?'. In Paechter, C., Edwards, R., Harrison, R., and Twining, P. *Learning Space and Identity*. London : Paul Chapman Publishing.