Do technologies have politics? The new paradigm and pedagogy in networked learning

Conference or Workshop Item

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Introduction

This paper explores the relationships between the technologies deployed in networked and e-Learning and the pedagogies and politics associated with them. Networked learning and the related move to e-Learning are coincident with the globalisation, commodification and massification of Higher Education. It examines the hard and soft forms of technological determinism (TD) found in the current advocacy of technological futures for Higher Education. Hard TD claims that new technologies bring about changes in the pedagogy found in networked learning and that these changes have a socially equalising or democratic effect. Soft TD claims that these changes are not the inevitable outcomes of technology but goes on to suggest that successful use of the technology rests upon exactly the same changes. These changes have been characterised as a 'new paradigm' in education.

Using findings from recent research in higher education the paper casts doubt on some of the common claims made for the ways in which networked learning is said to be changing. Collaboration is shown to be in some sense the problem for networked learning not an outcome of the new technology or its associated pedagogy. The role of the tutor and the emphasis on learner centred education is shown to be a cloak for a new managerialist agenda that places additional burdens on the student and masks the increasing audit culture in higher education.

Networked learning- society and technological determination

The Networked Society is one of the suggested descriptions of the type of social system that is emerging in the late 1990s (Castells 1996). It is claimed that networks are a different form of organisation neither bureaucratic hierarchies nor the anarchy of the market (Thompson et al 1991). Networks have a latent political promise in that they appear to offer a Third Way between the excesses of previous systems. It is not our intention to explore this wider use of the idea of networks just to alert readers to the synergy that exists between our educational use of the term and much wider debates about the relationship between technology and the social system. Our use of networked learning is related to this wider debate in so far as we claim that networked learning is the contested but available outcome of the deployment of networked technologies.

Networked learning can be considered the outcome of convergence. Convergence both in the sense of the coming together of telecommunications and computer technologies in a digital form and the coming together of distance and place based

learning into a new hybrid form (Mason and Kaye 1990). The Internet and the explosive growth of the Web since its emergence in the early 1990s has been the motor for this change.

> "Networks constitute the new social morphology of our societies, and the diffusion of networking logic substantially modifies the operation and outcomes in processes of production, experience, power, and culture. While the networking form of social organisation has existed in other times and spaces, the new information technology paradigm provides the material basis for its expansion through the entire social structure." (Castells 1996 p468)

The network society impacts on education in a number of ways. For example the debate about the skills required for social development has taken the form of debate about skills deficit. Higher education has come under political pressure to expand and provide students with the particular skills that are presumed to be required for a networked society and an information economy.

The relationship between technology and social change has been much discussed in recent years (MacKenzie and Wajcman 1999). A variety of perspectives have argued against the idea that technology somehow determines the effects that its application will have. The variety of perspectives that argue for the social shaping of technology not only point to the social formation of technologies but also to ways in which users take up and make use of available technologies selectively. Technological determinism, the idea that technology is an independent force, is an unpopular theoretical approach. In networked learning however technological determinism still has a strong influence. In discussion of the organisational and managerial impacts networked technology might have 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)

The feminist author Dale Spender delivered the opening keynote address at a recent conference to discuss networked learning;

> "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)

The first of these two examples is illustrative of a soft technological determinism. The 'revolution' is required in order to adopt technology successfully. The second example is illustrative of a full blown hard technological determinism. The technology simply changes society. Both examples are focused on the University but there is a similar trend at the level of more detailed practice.

> "The asynchronous nature of the interaction leads to new paradigms for teaching and learning, with both unique problems of coordination and unique opportunities to support active, collaborative (group or team-based) learning. Collaborative learning appears to be crucial to the effectiveness of on-line learning environments." (Hiltz and Benbunan-Fich 1997 p1)

Networked technologies are said to require, or at least perform at their best when accompanied by particular social or pedagogical arrangements.

This paper takes the view that the effects of networked learning cannot be read off from the technologies deployed, that to understand networked learning we need to observe the practice of networked learning. For this reason we advocate a research approach that has a strong empirical base. Secondly we do not believe that unreflective practice can by itself optimise our use of networked technologies, we therefore advocate a theoretically informed approach. Our aim is to develop a perspective that emphasises choice and the ways in which human intervention mobilises technologies in a variety of ways rather than being the simple outcome of the technology itself.

The 'new' paradigm and networked learning

Robin Mason has elaborated what has been described as a convergence hypothesis which has been further developed with Tony Kaye as a "New Paradigm" for distance education (Mason and Kaye 1990). The convergence hypothesis argued that the distinctions between distance and mainstream education are blurring. These distinctions were identified as both the methods used in education and the clientele addressed. The teaching and learning systems of place based institutions were said to be coming to increasingly resemble those used in distance education. The students in place based centres were also becoming older and more often working students. These trends were clearly linked to the increasing use of Computer-Mediated Communications (CMC):

> "The breaking down of conceptual distinctions between distance education and place-based education primarily because of the opportunities that CMC provides distance learners for discussion, collaborative work and the development of autonomy in learning and also because of the potential for building a sense of community among the participants in large scale distance education institutions." (Mason and Kaye 1990 p23)

In a more recent consideration of the idea of a new paradigm Tim Koschmann places the idea in the context of a research programme in the use of instructional technologies (Koschmann 1996). Koschmann identifies an 'emerging paradigm', which he calls CSCL. Likening this change to a gestalt shift in view, he claims that the new paradigm draws attention to the social and cultural context of education as the object for research.

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This idea of an emerging paradigm echoes the position of Linda Harasim who described networked learning as a new educational paradigm for the twenty-first century (Harasim et al 1995). Though undoubtedly networked learning opens up opportunities for multiple interaction and breaks down barriers such as location and time, there is an interesting underlying (and often unconscious) sense that the technology is the driver of this educational change. The emergence of what has been called a new paradigm brings our attention to one of the key common elements that might provides an assumption underpinning networked learning: collaborative learning

Collaboration

Computer conferencing in particular is an environment that has been identified as inclined towards collaborative use. Collaboration between students and between educators and students would allow for the peripheral participation envisaged as enabling situated learning. The account of situated learning by Brown, Collins and Duguid (1989) has had particular importance for computer supported collaborative learning. The idea of situation proposed by Brown et al (1989) is summed up in the contrast between 'know what' and 'know how'. The breach between know how and know what is said to be internalised within educational practice in a separation between knowing and doing. Brown et al argue that situations co-produce knowledge so that educational practice would be improved by taking into account the situated nature of learning.

For Brown et al (1989) the idea of situation is a means to distinguish authentic and inauthentic settings. They argue that the primary reason for learning failure is to do with the abstract approach to cognition taken in schooling and advocate a variety of apprenticeship, whereby learning takes place in a 'real world' context as more appropriate and effective. The re-conceptualised educational practice advanced in the work of Brown et al is a variety of cognitive apprenticeship. The account they give rests upon a distinction between authentic activity, "simply defined as the ordinary practices of the culture" and school activity (Brown et al 1989 p 34). Cognitive apprenticeships try to enculture students in 'authentic practices' through activity and social interaction. Authentic practices are ordinary practices as opposed to the 'ersatz' activity found in a school. In a powerful analogy Brown and Duguid (1996) liken learning to theft. The presence of a full context allows students to 'steal' whatever they find appropriate.

> "Cars are socially so well integrated that the learning becomes almost invisible. The success of learner drivers - with or without instruction- should undoubtedly be the envy and object of many who design far less complex consumer or workplace appliances. " (Brown and Duguid 1996 p51)

The use of the idea of 'stolen' knowledge highlights the idea of implicit elements of practice. Brown and Duguid emphasise that a great deal of what comprises a web of practice cannot be made explicit. The idea of learning as apprenticeship and knowledge as learned by peripheral participation, articulated above, has clear implications for the practice of networked learning. In particular it would involve less concentration on explicit knowledge and more focus on the engagement of learners in

collaborative activities that might enable them to draw on implicit as well as explicit elements of authentic practices.

In relation to computer conferencing Robin Mason cites 'Collaborative discussions and peer activities' as features that the 'medium facilitates' and goes on to enumerate a variety of 'social' features that depend upon working together (Mason 1994). The technology of computer conferencing appears with advantages and disadvantages that rely on the capacity of the conference to 'facilitate' students and staff working together. Collaboration is seen as an unproblematic outcome of the use of the technology and the features afforded by the technology relate closely to those identified by Brown and others as intrinsic to situated learning.

The discussion of the technology merges seamlessly with the discussion of learning methods and the technology is taken to involve in particular a co-operative or collaborative approach. Hiltz and Benbunan-Fich note the confusion of the technology with a particular learning style;

> "Most studies have confounded the use of computer-mediated communication as a mode of course delivery, with the use of collaborative learning as a pedagogical technique." (Hiltz and Benbunan-Fich 1997 p3)

In their view computer conferencing has features that enable the use of collaboration and that the use of collaborative pedagogy is essential to ensure effectiveness.

Networked learning in practice

The research reported below comes from two research projects. The first took place from 1994 until 1997 at a large inner city campus university and was doctoral research that used ethnographic methods to study the use of computer conferencing on campus. The second project took place from 1998 - 2000 and involved qualitative data collection from faculty at a number of different locations and students at six universities on a variety of courses. This paper uses a subset of data from this second project: ten faculty from eight universities and student interviews and observations at three universities. The faculty and students all used varieties of computer conferencing normally available over the Web and the courses involved some conscious element of collaborative learning.

"...well let me just emphasise a number of points, computer conferencing is a collaborative activity you have to work together." Tutor's introduction to campus based course.
The type of collaboration that was expected was in the form of group work and peer interaction.
"One of the things that we want is for people to learn from each other, get insights into their own work by hearing about other peoples' work...." (Jack)
This desire for collaboration was accompanied by the need to assess students separately and the work was marked both as a group and individually 'so that effort was rewarded'(Jack)

The comments reported above come from a single course but they were repeated elsewhere. For example:

"Each individual group member will submit a report that will be a mixture of collaborative and individual work…..You will use FirstClass CMC to record all group negotiation and discussion." Assignment Book (Distance course)

Assessment was central to all the courses it stood out as the feature to which both the students and tutors oriented their activity most regularly.

Assessment

Faculty displayed a consistent orientation to assessment. Assessment in terms of course design was used in particular to manage student activity (Jones et al 2000). The comments reported below show how this concern with managing assessment penetrates the detailed day-to-day interactions with students. This tutor's comments throughout the course show him to be concerned with academic standards, a defender of course quality.

5	First and foremost the mark for a particular group has been
6	determined by the quality of the piece submitted. I have looked
7	for originality, evidence of research into the topic and the
8	degree to which the question set has been answered.
9	Secondly I have looked at the way in which group members
10	have worked together in constructing the answer and the
11	efficiency with which material coming from different individuals
12	has been put together into a coherent whole.

(Tutor to Module 2 23/1/96)

Later in the same message a plea was made for analysis 'which goes beyond description' dealing with abstract and conceptual issues. The tutor was advising students both on how to do academic work and how to talk about it. The tutor ends by advising students to read two sub-conferences as examples of good practice.

40	As you move to the end of this unit and prepare for your third year,
41	you should be beginning to produce analytical work which goes
42	beyond description and shows that you can deal with conceptual

43   and abstract issues. We can learn from one another in this unit as

44   all the work is available on the conferencing system. Please have

45   a look at other contributions and see if you can find useful ideas. I

46   recommend everyone to look at the report produced in the BLL

47   group. This was a model of how material should be organised and

48   how a coherent answer can be constructed. I recommend that you

49   look in the xxxxx conference to see a good example of how a group

50   sought to work together and had a good deal of success and some

51   failures in achieving cooperation.

(Tutor to Module 2 23/1/96)

The tutor is making use of two related standards, a common academic standard of intellectual discourse and a more specific injunction as to how to work within the conferencing system. The second exemplar conference is explicitly intended to encourage cooperation, a collaborative approach to learning. The tutor is encouraging the social process of doing conferencing as well as providing academic guidance. In both these roles the tutor is the arbiter of what counts as success. The equalising role claimed for the technology is not in evidence; rather the evidence indicates how the social practices of assessment and accreditation embedded in the university are mobilised by the tutor in day-to-day interactions with students.

What is the task?

This second example is taken from a large Open University (UK) course and involves the understanding that students have of task, in particular how students understood assessment criteria.

The task and marking scheme for the assignment, was given in a separate booklet. Twelve pages in length, it gave detailed instructions on what was expected. The booklet contained sections on the aims of the group project, the activity to be undertaken, report structure, mark allocation and advice on establishing group working. The aims for the assignment were given in six bullet points. These included the integration of course issues and peer group and co-operative work. The mark allocation was as follows:

Group element	**(total 30%)**
Report Summary	10%
Themes discussion in conference	10%
Report conclusion	10%

Individual element	**(total 70%)**

General structure and coherence of argument   30%
Use of supporting evidence and course materials   20%
Contribution to group tasks and discussion in conference   20%

The students interviewed interpreted the aims of the assessment differently. An example of two contrasting interpretations in one group is illustrated in the following quotations (Interviewer in italics):

"*What did you conceive that task to be?*
I would assume that it was more to continue the computer mediated conferencing as an exercise in itself for people to work together to sort of exchange ideas and irrespective of what the particular project was to work on." (Daniel)

"*What do you think the emphasis was?*
Your personal individual um your personal big 500 words or whatever
So the individual submission was ….
Was more important than the group work
And how about content and process if we split it that way?
Content
Rather than process…
Rather than process and yet it's, I would argue the process probably took as much time as writing the content if not more" (Lillian)

The two students were working in the same group to produce a joint project yet they had different views of the task they had been set. This occurred despite the extensive documentary guidance provided in the assessment booklet. When prompted to re-read the booklet Daniel who had identified the task as being to conduct group work revised his view and conceded that content may have been more important.

"*Well does the assessment scheme reflect the view you had …?*
Um probably thinking about it in that way erm probably not. It's more, unless I'm miss-reading it, it's more the content than how it was achieved so it doesn't cover the process therefore really."

This view is closer to that expressed by the course designer and confirms Lillian's interpretation:

"The main part of the resulting report is an individual effort, and focuses on a particular course concept. The summary and conclusion are the result of co-operative endeavour, following group discussion" (Heap 1999 p 208)

Amongst the interviewed students it was Daniel's initial view that was most common. The view expressed by Lillian that emphasised content and individual work was uncommon. Her view was clearly instrumental:

"I'm sorry but I wrote my answers to the marking scheme, absolutely…………"

This student was an experienced student and she contrasted her practice in this course with those studied previously. Her mark was high for the TMA and consistent with

her course average. Her exam mark exceeded her course work average by a full ten points.

Daniel was less focused on the assessment criteria:

"I don't think I actually used the marking scheme to structure my answer, maybe I was wrong"

His marks, one grade below Lillian's, were extremely consistent, his course average, exam and assignment mark varied by only two grade points in total.

The other two students interviewed from this group inclined to the view that the assignment was concerned with how the work was done rather than content. Lillian was the group's co-ordinator and the group exhibited a strongly instrumental or strategic approach that reflected her personal style. Whilst this was commented on, by at least one other student, no one complained that his or her interpretation of the assessment guidance had been ignored or overridden.

There were two reasons offered by students in the group that shed light on why the group process dominated over the intention of the assessment criteria. Firstly the group process was novel and pervasive:

"I couldn't just approach it on my own, it's a TMA (*assignment*) that's impossible to approach as an individual" (Wayne)

Students were expected to cooperate for the project using FirstClass conferencing. They used the conferencing throughout the course but were only expected to work collaboratively using the system for two assessments. The project was only the second occasion that students used FirstClass for collaborative.

Secondly the ability to communicate was a valued and novel element within the Open University (UK) experience:

"it's the isolation I think when you're doing a course like this…..That's the main thing for me it takes away that little bit of isolation." (Frank)

Computer conferencing was experienced as important because it offered a level of communication that is still a relatively unusual experience for an Open University (UK) student.

Both of these reasons point to influences outside of the assessment document taken in isolation. The assessment criteria provided in the booklet were (mis)interpreted by students making sense of a wider course and institutional context. This flexibility of interpretation is in accordance with the aim of networked learning but it also points to the reasonable interpretation by students that the process of collaboration is a key element of the assessment.

Faculty often referred to students as being 'good students', 'compliant students', and 'motivated students'. We found that these students' descriptions were related to the student matching or not matching with the educational philosophy or approach of the

course/programme. Thus for instance when discussing assessment a practitioner said the following:

"This is another issue I find very difficult about assignment marking. Students who feed back the party line about collaborative learning and whatever and I don't mean just feed it back in a sense of hype and stuff but people who have clearly seen the benefits of collaborative learning. It's hard not give them high marks because this is what we are trying to teach people, the value of collaborative learning. However people who don't see it and don't want to and stand out against collaborative learning and say well you know it isn't so (inaudible) and are resistant to it. I would like to see a student like that, that I could still give 90 to but I haven't. I've only seen ones that I could, you know bending over backwards, give 60 to because I'm trying to not be biased against them" Elaine (OU faculty)

Students making sense of the Open University course draw on resources beyond the course documentation itself. Some of these resources relate to the novelty of the process and the technological capacity to enhance course interaction. However there is another aspect to the resources that are mobilized when students define the context for their activity. Students are rightly aware that faculty have a preference for certain patterns of working. Networked learning is replete with requirements for students not only to do the work but also to do the work in certain ways. Collaboration, group work and cooperation are not so much technological requirements they are more moral imperatives. The practitioners we interviewed generally accepted the new paradigm. This may not be true of the wider faculty in universities in the UK who are more likely to see themselves as experts in a particular discipline. The deployment of the technologies that support networked learning is indeed being accompanied by A revolution in teaching and learning but it appears that the revolution is the product of university practices as much as the technology. Assessment regimes are being constructed that embed the notion of collaborative work. It is these assessment criteria that are evidenced in the detailed interactions reported here.

An Exceptional Case

There were several students who found group work difficult. One of these students, Ben, produced work on his own, which presented the tutor with a difficult assessment problem. Early in the course the tutor sent a message clearly setting out his requirements:

> No work will be accepted from individuals in module 2 and this means that anyone not joining a group is effectively opting out of this course unit. (Course message 7/11/95)

Despite these clear guidelines he received a submission from a lone student and faced a number of students who were clearly not cooperating.

"Now my dilemma is what to I should do about this......I want them to work together. The other problem is the anomalies, Ben's a complete anomaly .... Ben's produced a good piece of work but he cannot work with others, so what sort of

moderation can you bring in about being unable to work with others, ... " (Field Notes 16/1/96)

Ben was clearly thought by the tutor to be of an exemplary academic level and his submission was identified as a model showing the required academic standard.

From February the 12th Ben sent one message a week asking for collaborators and suggesting possible topics. On the 18th of March Ben announced:

> I plan to work alone on a project as it looks as if there is little interest
> in collaboration from others in the unit i have not finalised the subject
> area as yet..... (Ben to TIC95 Projects 18/3/95)

This message was followed by another in Projects on the 22nd March, it wasn't until the 16th of April that Ben asked for a sub-conference to work in. "Roadrunner" was set up reflecting a declared interest in the link between road protesters and new technology. No messages were posted to the conference apart from the course tutor until 2/5/96:

> "no road project following a problem finding a focus.....
> attached is my digital audio broadcasting project submission " (Ben to
> Roadrunner 2/5/96)

The tutor had begun with a rule that groups should have a maximum of 5 and a minimum of 3 members. At the end of the unit he had a conference with a lone member who had not posted to the conference and had changed his subject without notification.

When the marking had been completed I discussed assessment again and was told:

"Ben's was the best but he didn't collaborate, for Ben I've penalised him for working on his own. If I was blunt I would say it was mainly his fault....... effectively he refused to collaborate. So his work is reduced from 70% to 65%, because a percentage of the mark was for collaboration the mark for the project was less than the content. Let me be clear it was a notional reduction, I mean how do you decide on the reduction?" (Field Notes 18/6/96)

Within the marks messaging the 'notional' reduction for Ben takes on a formal appearance because a definite proportion of the marks, 30%, are identified as being awarded for the way the work was produced. Ben's case casts light on the way in which course aims are subject to the working out of the contingencies of the course's development. The 'plan' for all students to be in groups is repeatedly unrealised and the tutor has to make ad hoc day to day decisions about whether to allow the situation to continue and then how to assess a student that is so clearly in breach of expressed course criteria.

Discussion and Conclusions

"Millions of words have been written about the technology and its potential, but not much about what the teachers and learners actually do online." (Salmon 2000 p17)

The findings reported here indicate that collaboration is deeply connected to the assessment and accreditation procedure in networked learning. The tutor is active in advising students about how to work together alongside providing the more traditional academic guidance. Tasks that were set for an assignment were (mis)interpreted as consequence of a range of local factors that included the implicit pressure to collaborate built into the course. Throughout the findings there is a pressure to both work collaboratively and to provide evidence for individual assessment. In the final example a student breaks the explicit course rules but the tutor finds it hard to make use of rules he had set for the assessment himself. Instead a student working alone passes a course that was intended to be collaborative. The findings overall show how collaboration is deeply embedded in the practices of assessment. This both hinders collaboration, for example in the emphasis on individual marks, and ensures it. It is the activity of the tutor, who acts in turn as a representative of the universities institutional practices, who sets the criteria upon which collaboration can be measured. This does not guarantee success, as the case of Ben illustrates, but it suggests that collaboration is not a trivial achievement reliant upon the technology. Nor does it suggest that collaborative pedagogy in some simple way could guarantee the successful use of the technology.

This paper has shown how the theoretical ideas that have been developed in the form of the new paradigm are related to a technological determinist view of the relationship between technology and the practices found in education. Other authors have produced significant additions to our knowledge of the role of educational practitioners in these new educational environments (Salmon 2000). There is beginning to emerge a picture of practice that can be generalised and codified for both newcomers and seasoned practitioners. This could be a positive gain and we can welcome the emphasis on moderation or facilitation in networked learning as a skill that requires development. However it remains a fundamental insight that the technology does not determine collaboration or entail any particular model of teaching or learning. It is the educators' timely intervention, the skilful day-to-day activity of a tutor, that is required to ensure the success of both collaboration and networked learning.

The place of accreditation in the role that tutors are adopting in a networked learning environment is also being more fully recognised (Brown and Duguid 2000 Ch8). The moderator's role includes 'credentialing'. Credentialing is the practice of providing the detailed marking and assessment criteria upon which the university rests. Perhaps the distinguishing feature of universities as opposed to other learning organisations is that they provide widely accepted evidences of learning. Brown and Duguid call this function 'warranting' and point out that it entails representing learning to the individual and knowledgeable individuals to society. Warranting and credentialing are shown in this paper to mark the detailed interactions in networked learning and they remain key parts of the tutors' role.

The role of the university is directly connected to the practices of the labour market in advanced capitalist economies. In some ways the university can be reduced to a Degree Granting Body (Brown and Duguid 2000). The networked society and networked learning are parts of the emerging form of twenty-first century capitalism. The case that is presented here is not one that is against collaborative learning rather it

is pointing out that collaboration has a moral status. Collaborative learning is a choice we can make, not something required by the development of new technologies. Secondly collaborative learning is part of a set of university practices that are not external to the interactions of a course but penetrate the detail of the tutor's and students' networked activity. Collaboration takes place as students' and tutors' constitute their educational contexts in their activity and through their activity. Tutors do this by drawing on a range of available resources including the technology, the practices of accountability within the university and the wider labour market. Students orient their activity towards the assessment criteria as they understand them. Collaboration is far from being the outcome of the technology, it is the contingent expression of a moral stance amongst those educators practising and advocating networked learning. It is being played out in universities that are involved in changing practices with a justification that the changes are required by new technologies. We would argue that the changes taking place are closely geared to the labour market. The collaboration that is required by educators and portrayed as equalising the relationship between students and tutors masks the way in which collaboration is related to the needs of employability in the new economy.

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