The Hidden Costs of Networked Learning:
The Consequences for University Administrators

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Abstract

This paper reports on a 6-month study, funded by JISC, on the "hidden" costs of Networked Learning in UK Higher Education Institutions, aimed at producing a suitable planning and financial framework.

Our key conclusion is that educators must use a framework embracing the overall costs of teaching and learning - both networked and "traditional" - within a framework covering the total costs of universities, plus costs falling on other stakeholders - students and staff.

Educators will need to change. They will need to use tools designed originally to solve more general financial and management problems, but imbued with a modern educational viewpoint. They will need to find some acceptable way of recording academic effort on teaching and learning. They will need to engage in a creative dialogue with administrators. These issues will present a considerable challenge to administrators on whom the brunt of such additional work is likely to fall.

Introduction

This paper is based on the work of a 6-month project funded by JISC, the Joint Information Systems Committee of the UK Funding Councils. The main aim of the project was to identify the unrecorded or "hidden" costs involved in Networked Learning and to produce a Planning Document and Financial Schema using which a complete picture of the actual costs of Networked Learning could be reached.

The project activities included:

- a sectoral survey to gain an overview of the extent of Networked Learning in UK Higher Education Institutions (HEIs)
- a collection of in-depth studies based on interviews at seven Institutions
- a detailed literature review of over 100 sources
- a detailed analysis of a survey which focused on the student-perceived costs of Networked Learning.

This paper is divided into four parts - conclusions of the project, recommendations from the project, recommendations for further work, and a summary of the main implications for administrators - followed by a set of key References.

The views expressed in this paper are those of the author and his colleagues on the Study Team. It is expected that a full project report will be issued by JISC in Autumn 1999.

1 Conclusions

1.1 Academic conclusions

The literature search established that the past literature on Networked Learning is containable, with a slow rate of accretion. The sources are diverse, with only a small proportion of direct relevance and high quality. There are some useful bibliographies. We judge that the literature from the training field (Crabb 1990; Hunt & Clarke 1997) is highly relevant - this convergence of aims and methodology could be particularly interesting for those Institutions thinking of major income generation from short courses and perhaps involvement with corporate universities - or a University for Industry?

Earlier UK work on costing innovative learning systems in Higher Education was found to be of limited use. Work on costs of IT in HE was more helpful. Some "whole campus" costing models (Jewett 1998) were intellectually stimulating but of little practical value. However, more general costing work, such as the KPMG Costings Guidelines (KPMG 1997) and the JCPSG tutorial (1999a) has been very helpful. The recently released Flashlight work (Ehrmann 1999) on costing is likely to be of great relevance, even though at present the conceptual structure and vocabulary is very US-based.

The sectoral survey established that the costs of Networked Learning (overt and hidden) are little considered at this point in time. There were problems of scope, such as "What *is* Networked Learning?", and that of inconsistent information - indeed there is too little correlation between the replies to different surveys.

The site visits confirmed that Networked Learning is increasingly prevalent in all types of HEI, but that cost analysis of Networked Learning is not currently on their agendas (although HEIs are aware that cost analysis is firmly on the Funding Councils' agendas). The site visits also proved that student concerns and behaviour are neither well understood nor seen (yet) as being strategic.

Both the survey and site visits confirmed that there are organisational barriers to accurate costing: such as the reluctance (from academics, management and administration) to consider any form of time sheet; reluctance (from management) to acknowledge that staff work "overtime"; and the inconsistency and non-granularity of internal accounting. A general move towards costing activities was thought to be a good idea, although some interviewees suspected that this might inhibit innovation and also that simple methods may have more impact. The larger "cost of costing" issue was raised as the negative side of this issue.

Institutions did identify a useful set of hidden costs to complement those uncovered in the literature: including the hidden cost of innovation; the costs of collaboration; the cost and complexity of monitoring informal (non-scheduled) staff-student learning contact; and the cost of copyright compliance.

Institutions felt that more compelling pedagogical evidence for the benefits of Networked Learning was badly needed before strategic moves towards Networked Learning could be taken. The development of Networked Learning activities needed to be both top-down and bottom-up to succeed. The quality of innovative materials needed to be assessable before academics would trust the innovations; therefore criteria should be established against which material could be

evaluated. Simple, transparent tools, templates and user guides needed to be developed and evaluated.

The study has uncovered the costs being absorbed by academic staff, which were previously hidden. Many academic staff have purchased computers privately for use at home, and increasingly these are being used to counteract the shortfall in the working day. Staff overtime, development time and consumables were highlighted as issues in need of redress.

The student survey showed that there is a disjunct between student beliefs - in essence, students believe that Networked Learning *increases* costs to them - and student behaviour - that coming to campus (and the time and cost it takes) is less and less attractive. Students seem to believe that, and act as if, time has an opportunity cost to them. In particular, students undertake more paid work and own a greater number of personal computers than is generally recognised.

Our survey, supported by the national work in this area (NUS 1999), shows that students feel Networked Learning is having a positive effect on their learning but that it is also raising the cost of learning, mainly because it is at present mostly on an additional and not on a substitutional basis.

1.2 Planning Document and Financial Schema

We propose a Planning Document and Financial Schema as follows:

- It can operate at the level of a whole Institution; a department or faculty; a course; or a unit (module) within a course.

- It takes account of the costs incurred (or saved) by the additional stakeholders in the learning process other than the Institution - in other words, it does not treat the Institution as a closed system. The three Primary Stakeholders are the Institution, Staff and Students.

- It is based on Activity Based Costing, now increasingly common in industry (Cokins 1996). Our approach follows KPMG work, with modifications in the light of Flashlight and the distance education theorists, especially Rumble (1997).

- It takes account of the division of academic time into Research, Teaching and Other (including administration). There are some detailed issues on classification but in general terms we recommend following the guidelines from KPMG (1997) and JCPSG (1999b).

- It takes account of the Activities *within* the course development process and proposes a model for these, the 3-phase model, if there is no existing model relevant. The 3-phase Course Life Cycle model involves all stakeholders - see below for more details.

- It is flexible in terms of allocation of overheads, with an orientation to overheads based on actual usage rather than estimation. We expect this to be an area of controversy especially with central departments used to recharging on a simplistic basis.

- It will require some kind of recording of academic effort spent on activities. JCPSG (1999b) and the results of our survey outline some of the problems with this.

- The planning aspects are based on HEFCE (1999) work, but with the vocabulary changed to reflect course development issues. Adapting the HEFCE text turns out to be quite easy; but

we suspect that the impact on the "typical" course approval process, dominated still by educational not financial and technical issues, will be more complex to handle.

Though it is possible to propose the nucleus of a Planning Document and Financial Schema in six months, much development and testing will be needed to prove its viability and worth. The Study Team foresees a further process of discussion with the sector, but funding agencies may have other ideas.

1.3 The Course Life Cycle model

Where Institutions do not have their own course life cycle model, we recommend the adoption of the following 3-phase model:

- Planning & Development
- Production & Delivery
- Maintenance & Evaluation.

This model evolved after much hard work and discussion on the number and relevance of phases. The model has been checked against the educational literature (including Bates 1995; Daniel 1996) and some test scenarios. The 3-phase model follows classic course planning frameworks from the distance education sector but also incorporates in a more visible way than usual in such literature the need for Quality Assurance and Course Maintenance.

An example of its use is given below. This will increasingly be the kind of course that planners will have to deal with.

Sensing a gap in the market, now that many Arts graduates (e.g. at the BBC) have PCs and are on the Internet, Dr Carter at the University of Rother Bridge has got approval to mount a totally online course on Post-Deconstructionism as part of her new distance learning MA on "Radical Philosophies".

Phase	*Types of task*
Planning & Development	Read the latest works on the topic, listen to a new radio series, create lecture notes, set essay topics. Adapt her own research articles on "deconstructing gender - where next?" to be suitable to final year students. Put all this on the course Web site. Ask the Computing Service to set up a Bulletin Board System. (They want to charge for doing this. She refuses, citing the departmental overhead.)
Production & Delivery	Make more material available on Web, such as topical items on Philosophy, moderate discussion groups online, receive and mark essays sent in by e-mail. Set up "real" office hours for those students who live nearby.
Maintenance & Evaluation	Students want some "synchronous" online events; so must get technician to find out about RealAudio and record some lectures for next year. Also worried about the new OU global course in this area; how can she differentiate her course? (What about her students at the BBC?) Can she write something about this in a journal and count it for the next RAE?

2 Project Recommendations

- A centrally initiated drive towards coherence is needed to counter problems created by the current lack of uniformity in university accounting procedures for Networked Learning.

- Conventional teaching and learning must also be costed by the same methodology as we have proposed, in order for comparisons of the costs and benefits to be drawn.

- Now that many HEIs are thinking of changing their finance systems, and in the light of the recommendations from JCPSG, plus our work; there is a need to locate and evaluate finance software suitable for the "new era" of Activity Based Costing in HEIs.

- There is evidence that the UK HE sector is "tired of surveys" (although the response to our particular survey was very good), and the responses given in national surveys are not consistent or indeed realistic in all cases. A co-ordinated "mega-survey" approach is needed, including recognised procedures by which figures are collected.

3 Recommendations for Further Work

- Now that Further Education is joining JISC, the study should be extended to include FE. The FE report should also include issues relevant to the University for Industry.

- The diversity of the HE sector across the world makes it unlikely that a world-wide study would have much value, but two issues are of immediate interest:

    - Collaboration with Australia may be profitable, especially in the light of the current CVCP/HEFCE research project, "The Business of Borderless Education" and Australian consolidated expertise in the area (e.g. Alexander 1998).

    - An "embryo" EU study team has been formed. Due to the diversity of the HE sector across Europe, an EU study would be likely to focus more on student and staff (own) costs than on proposing a uniform regime on institutional costing.

- Much of the methodology could in theory apply to the UK schools sector, and might have to be acted on if there is to be a uniform post-16 regime. Evidence from Canada and the US suggests that this is feasible, technically if not politically.

- There may be specific issues relevant to the constituent countries of the UK. We included a Scottish and a Welsh HE institution in our 7 site visits.

- We recommend a study into the benefits - overt and hidden, for all stakeholders - of Networked Learning. Without such a study, the cost issues are seen too much in isolation.

4 Implications for Administrators

Some of these will come about anyway, but others will come about faster if our approach is accepted. It may be that most are inevitable in the light of other central initiatives.

- Finance: handling greater co-ordination with Funding Councils and other Institutions over costing issues, including in collaborative projects.

- Planning: change managing the move towards a "finance-aware" model for planning courses which is closer to that for buildings and IT than at present.

- Departments: managing the introduction of academic timesheets, however lightweight and non-threatening (and not forgetting technical staff timesheets...).

- Central services: more sophisticated (more or less controversial?) charging models for usage of IT and Library resources.

- Human Resources: more HR issues of academic workload, working hours, overtime, additional rewards, home working, supply of university equipment for home use.

- Student Services: managing the issues of students paying more, implicitly not just explicitly, towards their own learning - now that they realise and in some cases resent it.

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