Evaluation of the GOLD Project

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Executive Summary

The GOLD Project was funded under the Higher Education Funding Council for England’s Teaching & Learning Technology Programme Phase 3, with the remit to provide an internet-connected PC in their homes to students on the Royal College of Nursing Institute’s MSc in Nursing by distance learning. The participating students were geographically dispersed around the UK and were studying part-time and had a range of professional and carer responsibilities. Once online, the students would be able to use a project Web site of resources and a system of online forums for academic and social interactions. There would be educational and technical support to both students and tutors, some through a CD and workbook.

The evaluation ran concurrently with the major part of the GOLD Project, from Spring 1999 to Summer 2000, and continued to follow through on the output of the student participants in the project until Spring 2001. Information was collected from students in the GOLD cohort and those prior to and immediately following, the tutor-counsellors, the project team and various external agents including the hardware suppliers. Data collection methods were paper-based surveys, telephone, email and face-to-face interviews, focus groups, plus observation of on-line activity. All data gathering was subject to informed consent of providers. The evaluation was primarily formative, and reports and advice were given to the GOLD team and its Steering Committee at regular intervals.

The main findings of the evaluation were that:

1. The students were more ICT-literate and positive than expected, looked forward to studying with ICT, but had few technical skills that proved vital for many in getting them set up with a home PC and Internet connection. Those students who decided not to participate in the ICT (GOLD) components of the course were not all technophobes but mainly had concerns about time and costs. Most students had quite high expectations of the on-line interactions, but in reality many discovered more in the CD and workbooks and in the use of one-to-one email with tutors and peers. All students thought that their learning curves had been steep and that the project had added a substantial amount of extra work to their already busy lives. However, most also were pleased to find that their on-line costs were less than they had feared.

2. The tutors were also mostly quite ICT literate but again did not have technical skills. Many wished to gain on-line tutoring experience but had anxieties about time and costs. In the event, most did not gain sufficient training or experience to support their students, and the ‘bolt-on nature’ of the ICT and on-line forums made this problem more difficult. They had quite high expectations of the on-line interactions that were mainly unfulfilled. The later changes to the use of ICT in the subsequent modules reduced the role of the tutor as support to their students via ICT.

3. The delivery and installation of hardware and Internet access to tutors and students was bedevilled by problems which dominated the time and energies of the GOLD team through the critical period leading up to the start of the project. The problems had multiple origins. Some students had little difficulty with this area, whereas others never successfully overcame them, and it was an important topic of discussion at tutorials, etc. The amount of technical helpdesk required keeping students and tutors on-line caused problems for the staff at RCNI who provided the traditional telephone support.

4. Due to the need to maintain the traditional format of the MSc modules for the DL students registered on the course who did not wish to participate in Project GOLD, there were serious educational design and delivery limitations. These resulted in less favourable circumstances for making the ICT educationally useful.
5. Despite the problems that arose, the majority of students felt that most of the objectives of the project had been achieved for them, and reported positive changes in their attitudes and use of ICT as a consequence. There was some evidence that they used ICT for studying in their research work more than did their colleagues from previous cohorts. The tutors also felt that the project outcomes had been mostly achieved, but felt that more training was needed for both tutors and students. Their levels and types of ICT usage changed little as a consequence of the project.

6. The two main partners in the project, RCNI and University of Bath, both had to make very large inputs of time and energy to make the project a success. The process highlighted some weaknesses in administration and data handling, and the pressures of technical problems detracted from the educational design in the early stages of the project. Only later did this area get serious attention. As a consequence of the project, RCNI took decisions in a major review regarding the place of ICT in its education programmes and of suitable partnerships for the future. The University of Bath gained more knowledge of the problems of ICT-mediated distance education, and of the usability issues of on-line forums and Web sites. The CD and workbook were valuable re-usable outputs.

7. The rather modest effects of the project on student study behaviours in the MSc lead to the conclusion that the effort involved far outweighed the gains. However, the wider impacts on knowledge, skills and attitudes of all players are much greater, and re-useable materials produced will be of value for some time, without requiring significant reworking. The experience of carrying out the cost-effectiveness study was also valuable to the evaluation team.
1. Background

1.1 The Teaching & Learning Technology Programme (TLTP)

In February 1992, the UFC launched Phase 1 of a national Teaching and Learning Technology Programme (TLTP) intended ‘to make teaching and learning more productive and efficient by harnessing modern technology’, and in August 1992, it was announced that 43 projects were to receive funding under this first phase. Around one quarter (11) of these projects addressed problems of implementation within single institutions, with staff development being a major component. The main aim of these institutional projects was to encourage and stimulate a new approach, within their own institutions, to the integration of learning technology into mainstream teaching and learning. The remainder of the projects (32) were concerned with courseware development and involved academics from different institutions working as consortia.

In April 1993, the four new funding bodies agreed jointly to fund a second phase of the programme and in August 1993 the funding councils announced that a further 33 projects were to be funded totalling £3.75 million in their first year, 1993–94.

Both phases of the programme were intended to run for up to three years, subject to review of available funds on an annual basis, and most institutions submitted bids for funding over a two- to three-year period. An independent evaluation of the first two phases of TLTP, jointly commissioned from Coopers & Lybrand, the Institute of Education and the Tavistock Institute, was published in June 1996 (Coopers & Lybrand, 1996).

Several of the recommendations of this report, particularly the requirements for greater central coordination, progress monitoring and both formative and summative project evaluation, have become conditions of the Phase 3 TLTP funding which was announced in May 1998. The HEFCE and the Department of Education, Northern Ireland (DENI) allocated £3.5 million a year for three years to fund 32 projects. Most of these projects are for implementation, to increase the use of technology-based materials in teaching and learning. Four projects are to develop new materials. Guidance On-line for Learners at a Distance (GOLD) was categorised as an implementation project. It was managed by a consortium of the RCN Institute (the higher education arm of the Royal College of Nursing), the University of Bath (through its Continuing Education Department) and the Open Learning Foundation (OLF). It was unusual amongst the TLTP projects in not being targeted towards on-campus undergraduates but towards continuing professional development at Masters level delivered entirely by distance education.

1.2 Developments in nursing education

Nursing education in the UK has been the subject of major change over the past few years. It has moved from a profession that recruited predominantly female school-leavers into a training programme that was largely practical to a diploma-level/graduate profession with an increasingly strong emphasis on high-level knowledge base and skills. The shift of medical education towards evidence-based (and hence research oriented) practice is being mirrored in nursing education and has given rise to courses and qualifications which respond to the need for better educated nurses. The RCN Institute’s MSc in Nursing is a clear example of this development, and there are similar offerings by other UK and international educational establishments.

The trend to more high-level nurse education is general in developed countries, as can be seen by the proliferation of postgraduate and continuing professional development courses. This change sits sensibly alongside developments in medical education, which is seeking a more evidenced-based approach with its requirement for research and information skills.
1.3 Distance education and the use of ICT

Although there is a long and broad history of distance education in professional and postgraduate education, until recently it has been a minority activity, both in terms of the institutions which offered it, and also the numbers and types of individuals who opted to take qualifications by this route. In addition, most of these distance learners were in large specialist organisations, most of them mega-universities (Daniel, 1996). However, since the mid-1990s the interest in distance education has soared to a point where almost no higher or further education institutions in the UK, Australia or the US has not begun to look seriously at the options, and many of them have begun to develop new courses (reviewed in CVCP, 2000).

The radical shake-out of employment in all developed countries in the 1980s and 1990s resulted in an increased demand for lifelong learning in all its various guises. For professional groups it was for continuing professional development (CPD) – adding value to previous qualifications to stay up to date and hence increase employability. For some professions (e.g. Law and Medicine), these were a requirement of continued membership. However, for the professional groups in particular the model of day-release, night-classes, etc. was an increasingly hard burden to bear, and the option of distance education became more favoured as the pressure rose (e.g. New York University’s Virtual School where 90% of intake live within one hour travel of the campus). Institutions offering professional development began to look for new delivery methods to square the circle of increasing demand but decreasing accessibility. That these pressures arose at a time when the educational institutions were increasingly seeking new income streams added impetus to the process.

In many instances, new distance education courses were developed which were based upon existing on-campus offerings, as the most cost-effective approach. The coincident appearance of new technologies based upon microcomputers and networks enabled these new courses to take advantage of opportunities hitherto unavailable – relatively low-cost asynchronous communications world-wide via the WWW. The attraction of information and communications technologies ICT for distance education is enormous, as the exponential growth in courses offered or supported through these media testify. Converting that potential into successful courses is still the challenge (HEFCE, 1999; Laurillard, 1993; Oblinger and Kidwell, 2001).

The MSc in Nursing began as a traditional distance education course alongside a much larger attendance mode offering available only in central London. It provided a modular programme that was essentially text-based, solitary study, supported by tutors at face-to-face group tutorials for those who wished to attend, plus communications via telephone and letter/fax. Students used the text resources mailed to them as their primary study materials with local libraries where necessary and as available. Its students were geographically spread, part-time and mostly in full-time employment. Thus this course was a clear candidate to make the leap to use ICT. However, for the RCN Institute (RCNI), the technical issues involved in such a step were beyond its resources, and hence a collaborative venture with an organisation which could deliver those components, and also the option to receive an injection of funding through TLTP was a timely conjunction.

The wider view that pre- and post-registration education for nurses can be offered by distance education or by use of ICT is evidenced in courses being offered by Open Learning Australia, a postgraduate course for US nurses from University of Dundee, a laptop project in University of Wales Bangor, a web-based MSc from University College, London, nurse education to the remoter parts of Scotland from the University of the Highlands and Islands, and in the Republic of Ireland from the National Distance Education Centre. Studies are now appearing of the effectiveness of some of these developments (Wickham, 2000).

1.4 The evaluation of the GOLD Project

The evaluation team consisted of a group of academic and research staff from the Department of Higher and Further Education, University of Edinburgh, with backgrounds in several academic
subjects including social sciences, sciences and humanities and with substantial experience in the use of ICT in higher education and distance education. The team members are listed in Appendix 7.3.

The objectives of the evaluation of the GOLD project (as set out in the contractual agreement with the evaluation managers, the Open Learning Foundation) were to:

- evaluate and report on those features of the project which are key to its successes and failures in enhancing quality of learning
- identify and describe the main aspects of students’ and tutors’ uses of ICT which enhance or inhibit the quality of learning by students
- provide insights from the experience of students and tutors and others on the project which are of benefit to others wishing to adopt ICT in similar settings in the future
- report on unexpected aspects of the project or innovative work by students and tutors which prove beneficial to the learning experience
- provide a cost-effectiveness analysis of the use of ICT on this course in comparison with previous years
- collect and report both quantitative and qualitative data in support of all comments and conclusions.

The final report should consider educational, technical and cost-effectiveness issues.

After initial discussions with the project team it became clear that two distinct services were required:

- formative evaluation to advise and support the project team during the period of the TLTP funding, by reviewing evaluation findings during the project and identifying options or modifications as the project developed. This would draw on the background expertise of the evaluation team in the area of ICT in education, with particular reference to distance education, as well as on expertise in evaluation of projects involving ICT in education.
- a final summative evaluation of the project which would be part of the project deliverables to TLTP.

Ideally, these two services would be provided by separate agencies, but as this was not realistic within funding and time scales, we agreed to provide both. Thus this report includes information collected during the project and which was used to provide advice to the GOLD team as they implemented the use of ICT in the MSc modules, and as a consequence some alterations were made to their plans. The report is therefore not summative in the strict use of that term, and is in that respect typical of many educational evaluations at the present time (Mathison, 1994).

2. Methodology

2.1 Data gathering methodology and analyses

The original evaluation plan included a balance between several methods to obtain information from individuals – paper surveys, focus groups, face-to-face individual interviews, telephone interviews, email surveys and logs (a multifaceted approach as proposed by Anderson, 2000; Rossi and Freeman, 1993). Although the same range of techniques was used, the balance was shifted somewhat to give a lighter loading on respondents, especially with respect to logging events. Background data on students were obtained from RCNI course databases and the output of students as coursework assignments and dissertations were examined at the RCNI offices in London. The on-line interactions between tutors, students and the course team were taken from archives created by the technical support at Bath. Data were entered into Filemaker Pro databases
and exported for analysis in SPSS. Qualitative data were exported from the database and analysed by thematic methods (Patton, 1990).

### 2.2 Ethical issues

Before starting the evaluation it was necessary to obtain clearance for the study from the RCNI Ethics Committee. Our submission to the Committee consisted of an outline of the GOLD Project, our proposals for the evaluation and examples of the documentation we would use with students and tutors, including consent forms.

The group nature of some of the MSc course activities (tutorials, on-line discussion forums) made lack of consent from some students more problematic than would have been the case if only individual activities were to be under scrutiny. For example, we were unable to conduct focus groups with everyone present in some tutorial groups and were unable to view the discussions taking place on-line where some individuals who had not consented to this were present in those forums. Fortunately, few individuals withheld their full or partial consent.

Students and tutors from all cohorts were given information sheets about the evaluation and offered the opportunity to agree or disagree to participation in a range of surveys and data collections (paper, personal interview, focus group, on-line discussions). We appointed an independent agent within the Medical School to be the contact point for those who had concerns over their participation in the evaluation. In the event, no one requested such help. The overall level of refusal of consent was very low, and the general level of participation in the evaluation by students and tutors was satisfyingly high (generally 100% for interviews, 50–80% for surveys).

### 2.3 Sources of data

We drew on several sources of data during our evaluation. These were mainly:

- the GOLD project team in the RCN Institute (Dr Liz Clark, Bob Price), in the Division of Access and Continuing Studies of the University of Bath (Derek Morrison, Graham Blacker) and at the Open Learning Foundation (Leslie Mapp)
- administrative staff at the RCNI (Michelle Bennett, Jo-Ann Corbett, Wilbur Moser) and OLF (Julia Peart)
- technical staff at the University of Bath
- the past and present students and tutors on the Research Methodology, Research Methods, Leadership and Dissertation modules of the MSc.

We had access (subject to individual consent) to the traditional academic outputs of assignments, dissertations and marks of the students. For those participating in GOLD we were able to see their on-line contributions via the course Web site. The numerical scale of the data collection is outlined in Table 2.1 below.

#### Table 2.1: Sources of data used in the evaluation of the GOLD project

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
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<th>Number</th>
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<tbody>
<tr>
<td>Student ICT surveys</td>
<td>66</td>
<td>Student group interviews</td>
<td>4</td>
</tr>
<tr>
<td>Student profile surveys</td>
<td>42</td>
<td>Tutor group interviews</td>
<td>1</td>
</tr>
<tr>
<td>Student module exit surveys</td>
<td>32</td>
<td>Assignments inspected</td>
<td>46</td>
</tr>
<tr>
<td>Student telephone interviews</td>
<td>15</td>
<td>Dissertations inspected</td>
<td>42</td>
</tr>
<tr>
<td>Tutor telephone and email interviews</td>
<td>28</td>
<td>Tutor weekly logs</td>
<td>30</td>
</tr>
<tr>
<td>Tutor exit surveys</td>
<td>6</td>
<td>Research clinics, etc. reviewed</td>
<td>4</td>
</tr>
<tr>
<td>On-line forum messages</td>
<td>404</td>
<td>Project team member interviews</td>
<td>15</td>
</tr>
<tr>
<td>Project team group interviews</td>
<td>2</td>
<td>PC delivery/installation notes</td>
<td>18</td>
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</table>
Other important stakeholders also provided us with useful information:

- staff at DELL Computers plc who were involved with the provision of PCs with modems and dial-up internet accounts to tutors and students in GOLD
- members of the nursing profession and staff of nursing education institutions.

Finally, we drew on our own knowledge of the introduction of ICT into higher education and distance education courses, which was in a process of continual update through evaluations, reading, conference attendance and regular searches of the internet. Some of our major sources are listed in Appendix 8.

2.4 Timelines of the evaluation

The evaluation was spread across a period of almost two years from April 1999 to February 2001. The sources of data (as described in 2.3) were sampled using the methods described in 2.1. This is shown schematically in Appendix 7.4. These timelines differed slightly from those originally intended to be used due to changes in the project timing and actions, and the need to ‘lighten the touch’ at intervals.

At regular intervals, written reports were presented to the GOLD Steering Group (Appendix 7.2) with discussion of these during Steering Group meetings either face-to-face or by audio-conference. Several informal discussions also took place with individual members of the GOLD project team.

2.5 Issues and challenges

Evaluation generally involves balancing the needs of the evaluators for deep and plentiful data, with the wish of those providing these data to be as little burdened as possible. This wish for ‘light touch’ is no less true for those who commissioned the evaluation. In education it is almost invariably the case that many of the data providers are not directly affected by the changes (hopefully improvements) made as a consequence of an evaluation, as these benefits tend to take effect in subsequent rounds of the course offerings, after the current students have left. The main impact is thus on the course team and tutors, and on subsequent cohorts of students.

For the GOLD evaluation team, several factors combined to make the study quite complex.

**keeping the interest of participants**

The GOLD project was funded for three years, with student involvement likely to be longer than one year if the introduction of ICT was successful. The course team and tutors would be involved over the whole period. The timescale of the evaluation process was two years, a long period over which intense activity would take place and hence provide evaluation data in depth. The evaluation team managed to hold the interest of the majority of the tutors and students during this period, largely as a result of personal contact, both face-to-face and by telephone.

**TLTP 3 was pioneering/ experimental**

The nature of the TLTP Phase 3 funding is that it enables projects to experiment with new methods and new educational arenas. Thus although there was a project plan, this was open to modification, and some changes were made as the project developed.

**‘hard to define’ cohorts**

The students on the modular MSc in Nursing degree programme have flexibility in the order in which they enrol on modules and are able to take a ‘break in studies’ to accommodate pressures in their personal and professional lives. Within the GOLD project itself, students could elect either to take the DELL PC, or use their own PC, or not to take the Research Methods module with any ICT component (i.e. in the traditional mode). As some of these decisions were made quite late, keeping
track of student cohorts and sub-cohorts was challenging. Finally, different levels of consent had been given to the evaluation team and these had to be checked carefully before asking any given student for data.

**timing of decisions within GOLD**

Although when we began the evaluation the project had been running for several months, some major decisions still had to be taken or brought to fruition. The use of an external supplier for the student and tutor PCs had been made, as had the nature of the ICT materials (CD-ROM) and support (web-based discussion), but the exact timing of when students would be informed, what their rights and responsibilities would be, the timing of delivery of PCs to the tutors and students, their training, etc. all had to be determined in a short time period. Thus planning the evaluation events was undertaken at short notice.

**student and tutor diversity**

The project encompassed students and tutors who were spread across the whole of the UK, plus the Republic of Ireland and Iceland. They were all studying or tutoring part-time around a variety of employments and activities. Thus in our contact with the sources of much of our evaluation data we faced the same problems as those providing materials and support for teaching and learning, namely time, distance and cultural differences. In addition, the student cohort was dynamic in location, marital status and enrolment on the course.

**consortium project**

TLTP 3 favours consortia projects, and GOLD was no exception. It involved three partners, each with different roles to play. RCNI provided the distance MSc course, with its students and tutors, and would carry out the main pedagogical developments. The University of Bath, through its Division of Access and Continuing Studies, would provide the technical know-how to develop the CD-ROM, workbook, the Web site and on-line discussion forums, running the last two from a server bought specifically for the project. The Open Learning Foundation has expertise in managing projects to develop open and distance learning materials with a range of higher education institutions, and in the management of evaluations.

**external suppliers**

The hardware (PCs and printers) and the installation of these in student’s and tutor’s homes was carried out by DELL Computers with their agents Wang. DELL was the main supplier of PCs to the RCNI through its health division, and this division was contracted to supply the project hardware. In contrast to the situation at end of the project, at that point in time DELL was not active in the area of sales to single individuals but handled only corporate buyers.

The net result of the factors outlined above was that the evaluation team needed to be flexible to work within the constraints of a rapidly moving and challenging project and still be able to collect data and provide formative evaluation as the project developed.

### 3. Findings

The MSc in Nursing is a flexible, modular programme, in which students are able to take many modules in the order preferred by them, and at a pace that allows for different intensities of study. Tables 3.1 and 3.2 show the routes most commonly taken by students through the programme, but it is not unusual for some students to suspend their studies for one or two semesters, especially immediately prior to the two-semester research project.
Table 3.1: Completion of the programme in the minimum period of two years

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester 1 (January–June)</th>
<th>Semester 2 (September–January)</th>
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<tbody>
<tr>
<td>1</td>
<td>Clarifying Theory for Practice</td>
<td>Consultancy</td>
</tr>
<tr>
<td></td>
<td>Research Methodology</td>
<td>Research Methods</td>
</tr>
<tr>
<td>2</td>
<td>Nursing Leadership</td>
<td>Exploring Expert Practice</td>
</tr>
<tr>
<td></td>
<td>Dissertation</td>
<td>Dissertation</td>
</tr>
</tbody>
</table>

Table 3.2: Completion of the programme in four years

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester 1 (January–June)</th>
<th>Semester 2 (September–January)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clarifying Theory for Practice</td>
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<tr>
<td></td>
<td>Research Methodology</td>
<td>Research Methods</td>
</tr>
<tr>
<td>2</td>
<td>Nursing Leadership</td>
<td>Exploring Expert Practice</td>
</tr>
<tr>
<td>3</td>
<td>Dissertation</td>
<td>Dissertation</td>
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</table>

The module into which ICT was to be introduced first, as part of Project GOLD, was Research Methods. It was subsequently introduced in a modified form into Nursing Leadership and the Dissertation.

As a consequence of the different stakeholder groups, modules, cohorts and methods, the data gathered are quite complex and presenting them to the reader in a form that is useful and digestible has posed challenges. This main section of the report divides the evaluation data chronologically, and then within those periods explores the views and reactions of the main stakeholders. The events surrounding the GOLD cohort (before, during and after the Research Methods module) provide the main body of the data, with comparative data being obtained from the previous and immediately subsequent cohorts.

3.1 GOLD cohort (Research Methods, September 1999)

3.1.1 Period to start of Research Methods module in Sept 1999

The main events of this period are shown in Appendix 7.4. The evaluation team began to collect data from April 1999 onwards, although the project had been running since autumn 1998, and several decisions had been taken and implementation of some of them had started.

The group at the University of Bath had developed a prototype of the CD-ROM that was designed to guide students into the Internet, allowing them to browse on- and off-line, and also a workbook. The CD contained a video clip that required that the PCs were capable of handling this medium. The University of Bath was to create a Web site that would contain information about use of the Internet for research, discussion forums for each of the tutorial groups and a social forum. The time invested in this technology development was substantial. In line with experiences elsewhere in similar projects, several staff were heavily involved, with an estimated total cost of staff time at Bath of around 1–2 person-years to the start of the project.

This work could be split into several parts: design and production of the CD-ROM and the workbook (entitled Computing for the Terrified and the Not So Terrified); design and production of the Web site; choice and installation of the on-line forum software (WebBoard); specification of the PC and internet service provider (ISP) set-up; and the training for tutors.

The RCN Institute had set up the project Steering Group as required under the agreement with TLTP and begun negotiations with DELL computers for the supply of the desktop PCs and ISP. An earlier option of providing laptops rather than desktop PCs had been discounted due to cost.

The OLF had put the evaluation out to tender; the evaluation team was selected at the end of January 1999.
The students who were to be offered participation in the GOLD project in the autumn semester of Research Methods were currently taking the Research Methodology module during the spring semester. The ‘image’ of these students held by the course team was that they were mostly low in ICT skills and usage, mainly nursing career track, predominantly female and married. It was thought that they might find the introduction of ICT challenging or even threatening.

The students were to be delivered PCs by the end of June and given time to practise the use of these on-line prior to the start of the Research Methods module. They would not receive formal training, but would have a paper-based workbook and the CD-ROM to assist them. The terms under which they were offered the PCs were that they could not modify them in any way (including with additional software); the PCs were for use in the GOLD project only; they had to house them reasonably close to a telephone connection; they had to provide insurance cover, and that if they left the project or the course they had to return the PC at their own expense.

As the summer approached, the course team debated the issues surrounding the DELL PCs and project GOLD. All students had begun the MSc course without prior knowledge that ICT was to be introduced into one module (and possibly others) and so they had to be given the chance not to opt for this approach and to take the course as it had been in the past. In addition, not all students might wish to have another PC in their homes – space and the contractual obligations might lead them to prefer to use the PC they already owned. Thus what was originally anticipated to be a single cohort became three sub-cohorts in the early summer, complicating the definition of the order to DELL for delivery and installation.

In contrast to the original expectations, each tutor would now have a mixture of GOLD and non-GOLD students, and the GOLD group could be DELL or non-DELL in PC type. This could pose some difficulties for tutors as they wished to treat everyone equally, both in one-to-one interactions and in tutorials.

Some of the issues about the need for information to students and their subsequent choices might have been foreseen, and the relatively late stage at which some of the necessary decisions were taken and actions ensued could have been avoided. At the Steering Group meeting in July 1999, the evaluation team highlighted the following issues:

that the technical aspects of the project were not being managed by those with the highest skills in that area and hence problems were not as well addressed as might be
that students and tutors were still largely ‘in the dark’ as to what would be expected of them on the module, which was worrying them
that due to the decision to allow students to take the Research Methods module without as well as with the ICT element, it would be extremely difficult to integrate the ICT into the module; integration has been regularly shown to be vital to getting maximum uptake and effect.

The last was a point understood by the project team, some of whose members had strong background in use of ICT in education, but due to the ethical issues of needing to allow students who had signed up for the MSc prior to Project GOLD to take the course ‘as advertised’, it was not possible to oblige them to participate. Indeed, 15 out of 56 eligible students chose not to participate in Project GOLD.

The tutors were a mixture of those who had taught on the MSc and new recruits, spread across all UK regions and also the Republic of Ireland. The Icelandic group were set to one side for the early stages of the project, as they were not included in the GOLD funding of networked PCs, nor easily supported. As the tutors were seen as key to the success of the on-line activities, they were targeted for training at Bath in the early summer (May), with the intention that they would practise their on-line tutoring skills over the summer lead-in to the start of Research Methods module. There was a clear expectation by the course team that tutors would ‘lead’ the on-line activities, providing stimuli to students to engage in academic discourse, and support learning, as well as providing general
advice and assistance. Students would be able to communicate with each other socially in special forums. The experience of other settings where tutors have been trained for on-line tutoring suggests that the extent of formal training for the GOLD project was quite limited (i.e. for most the two-day training session at the University of Bath). Organisations such as the Open University Business School take tutors through prolonged periods of training at considerable cost (Salmon, 2000) and training courses for on-line tutors have emerged to fill the gap for smaller organisation (OTIS, 2000). Given the restricted funding and the short-term nature of the GOLD project, such a training scheme was clearly not realistic, but its absence predisposed the on-line activities to achieve less than might otherwise have been possible, despite the technical problems that arose later.

At this stage, all the tutors were enthusiastic about the introduction of ICT, although several considered that the training event could have had more ‘hands-on’ activities and less talk, to give them a better chance of appreciating what would be involved in being a moderator of on-line events. In general, the tutors’ IT skills were good and they saw this project as a chance to improve and broaden their skill base. They had concerns typical of many about to become involved in on-line tutoring, namely unknown workloads, costs, whether technical questions would be directed to them by students, and whether the ICT would add stress to students and hence to tutors.

All tutors were offered and all accepted DELL PCs, with delivery scheduled for immediately after the training workshop.

Major problems for the project team arose with respect to the DELL PCs and ISPs in the early summer of 1999, and these continued late into the autumn. Individual staff at DELL and its subcontractor (Wang) were generally praised by the students and tutors, and many students had little difficulty getting set up, but in some cases there were very slow deliveries or difficult installations of systems. There was no single source of these problems. Contributory factors were:

- the PC delivered by DELL to the University of Bath to create the disk image to be used later to clone the set-up was different to the machines delivered to tutors and students
- the ISP chosen by DELL proved inadequate and had to be reselected at a late stage by the University of Bath
- promised deliveries to students failed to materialise on time
- PC and printer came in separate shipments, and some were incomplete
- students were ‘difficult to deliver to’, partly due to their work patterns
- some students lacked technical understanding of the requirements of the installation process (e.g. proximity of phone and PC)
- the disk image software had a ‘bug’
- the PCs were set-up and boxed in the factory before the images were loaded and hence this had to be done on-site
- PCs had to be re-addressed due to late student mailing details
- the number of students wanting PCs declined
- not all students had active ISP accounts when engineers called
- DELL helpdesk was very busy and some students thought the calls were incurring long-distance charges.

With hindsight these difficulties might have been minimised by:

- use of the Higher Education section of DELL rather than the Health Services section
- improved information flow to DELL about the likely time scale of delivery of data about students
- earlier information for tutors and students about the whole process
- control of all the technical aspects of the project in the University of Bath and not split between Bath and the RCNI.
The importance of this episode lies not in the specifics, as identical situations are unlikely to arise in future, but in the generic lessons to be learned which could improve future performance.

As a consequence of the delays in delivery or installation of the PCs for the tutors, there was a long lag between the training and the opportunity for tutors to practise their on-line skills (in a few cases, several months). This was very frustrating for them, and in the event very little on-line interaction took place between the training in May and the start of the course in early September. The students were not yet on-line and so student-tutor interaction was negligible. Given what is known from other projects about the importance of tutors in supporting on-line learners, this was an unfortunate slippage. The tutors were not uniform in their views of on-line interactions. All were positive towards the GOLD project, but some were more apprehensive than others about the ease with which they would be able to fulfil their role.

It is interesting to note that the tutors had in many respects been as isolated as the learners they supported, not having had module team meetings prior to the Bath session in May (only six-monthly staff development days with all RCNI DL tutors). The training event was seen by most as an important chance to meet each other - something which had not been built into the tutor programme in the past on a module basis - and this was greatly appreciated by the tutors, despite the difficulties of travel and time involved. This could be considered by the RCNI as an important part of their future support for tutors and their quality enhancement process. A second event scheduled for July was less successful due to the inability of most tutors to attend.

The image of the students held by the course team proved to be inaccurate. The evaluation team at the outset of the project had a portrait painted for them of the cohort as possessing rather low ICT skills and perhaps even presenting some resistance to ICT in general. In contrast to this, the first survey of the students' ICT skills, experience and attitudes (73% response rate) demonstrated that they were mostly regular users of ICT in both their jobs and at home (76% using a PC at home and work more often than once per week), with good skill levels (90% were confident or better with word-processors, and 60% with on-line bibliographies), access to the Internet (63% already had email), and they saw their futures as involving ICT (98% thought that ICT would be important or very important). Although most were starting with a positive attitude, 25% felt apprehensive about use of ICT in the course. Further investigation suggested that an important factor contributing to their ICT skills was that many of the students held posts in nurse education or research settings, rather than being drawn from the majority of ward nurses. Given the nature of this degree programme, this is perhaps not surprising. Data collected from a previous cohort were very similar (Section 3.2).

The students were predominantly female with mean age mid-40s, and less than half were practising nurses (42%). Most were graduates and a quarter had taken a distance education course before.

A better knowledge of the target audience might have modified some of the earlier decisions about technology and the materials designed (e.g. many students had their own PC). This is a classic problem for externally funded projects, which by their nature are often ‘product-led’, rather than ‘consumer-led’.

Despite the level of both tutors’ and students’ general ICT skills, they rarely used email to communicate with each other prior to GOLD, perhaps because this had never been formally ‘approved’ as an acceptable communication channel. Indeed, prior to the introduction of ICT, student-tutor communications appeared to have been generally quite patchy and low in volume.

Of the cohort of 56 students, 31 opted for the DELL PC, 10 chose to use their own PC and 15 decided not to use ICT in the forthcoming Research Methods module. The reasons for these choices were varied. The main reasons for those using their own PC were that they were more technically literate or supported and so happy to continue with their own machines. Some did not want two full-size PCs or were unhappy about the conditions of ownership. The non-GOLD students were generally seeking not to add extra work to their studies, were worried that they could
get ‘sucked in’ as the ICT was intrinsically interesting, wanted to keep their study patterns constant, or had space limitations at home.

During the summer of 1999, the course team brought Bob Price, the Programme Director for the MSc, more actively into play. Prior to this his contribution had been relatively low key, but his skills and interests in on-line learning made him an ideal candidate to head up the student and tutor support from within the RCNI. He was tasked to provide support to tutors, to act as stand-in for absent tutors or those unable to get on-line, and to involve himself with the on-line forums to make them work more effectively but without dominating them. He was the only member of the team to spend all of his time on GOLD working with the academic as opposed to the technical end of the project. Bob’s role was to become more influential as the project progressed, especially in the introduction of ICT into subsequent modules.

The group at Bath also brought Graham Blacker into a more pro-active role, in this case with respect to the ICT system by giving him the task of ‘technical helpdesk’ for students and tutors who ran into difficulties. The original intention of devolving this to DELL and the ISP had not worked out. Some students and tutors clearly had significant problems, and the RCNI staff were unable to provide the kind of fast, technical answers needed. In the original plan, the University of Bath had not been written into this role. The predominance of female students may have created more demand for technical support, as it has been shown elsewhere that they have lower confidence or skills in such areas (Yates, 2001)

The staff at the RCNI had never been trained for a technical support role and there was some degree of stress created for them by the unexpected demands placed upon them by GOLD. They were very much at the ‘sharp edge’ of the project, having to handle many more telephone calls and emails than normal from students, tutors, the project team and the evaluation team. In addition, there was a need for them to supply more and different data, and the tools at their disposal were not well suited to the task. Despite their best efforts, at times they found themselves struggling to cope. They spent around 30% of their time on technically related activities, most of which were clearly frustrating and unrewarding.

The efforts which had had to be spent on the more technical aspects of GOLD probably impacted negatively on other aspects of the project, such as getting timely information to students and tutors, and devising on-line activities for students. This lack of information resulted in some students coming to the evaluation team in attempts to find answers to their queries. Even as late as July 1999, the planning processes were dominated by technical issues, and not with the academic aspects of the coming module and its effective use of ICT.

3.1.2 Period of Research Methods module, September 1999 to January 2000

The Research Methods module began in early September 1999, using the same module structure and documentation as in previous offerings, but with the addition of the ICT enhancements developed during the spring and summer for those opting to use them.

Not all students had received their PCs from DELL or had had successful installation of them and connection to the ISP - these cases proved to be the most difficult to resolve. Most were in the Republic of Ireland. Despite these problems, the majority of students and tutors went on-line early in the module and maintained that throughout. The extent of use of the two main components of the ICT provision varied greatly between individual students.

The CD-ROM generally installed easily on non-DELL as well as DELL PCs, although some had problems with sound and video. Where installation had been successful, users found it useful and commented on its ease of use. The workbook (Computing for the Terrified and Not So Terrified) was widely commented on as excellent. Most students appreciated the workbook and CD and some found them very useful. There was evidence that, as with all manuals, they were not as well used as they might have been. This was largely due to lack of time to make use of them before the module
began, and time was too limited later. The most IT-literate students found them of least value, as one might expect.

**GOLD Web site**
This was to be a key element in the provision of structured access to ICT for the module. The CD provided off-line simulation of Internet access and activities (to minimise student telephone charges during initial learning), whereas the Web site was to be their gateway to the Internet for the module. The Web site contained tutorials and links and led to the WebBoard forums through a login/password gate. Some students and tutors found the navigation a bit complex and would have appreciated ‘shortcuts’ or a simpler site-map/navigation bar, and a few students appear (for unknown reasons) never to have been able to log in to the forums.

**On-line forums**
The intention and hope of the GOLD project team when it set up the on-line discussion forums was that tutors and students would use them for purposeful activities associated with the Research Methods module. To this end, the WebBoard system was populated with 30 empty forums, 9 for the tutor groups (separate UK and overseas), 8 for subject-specific topics (e.g. statistical analysis, interviewing), 11 for information and 2 for more social discussions. Clearly, several problems might arise with any on-line forum structure, for example:

- most of the postings on the boards might be social in nature
- there might be too little activity to make the system viable
- there might be domination by a minority
- inappropriate postings might be made.

In the event, the system had almost 400 postings in the period 1/9/99 to 14/1/00, with some 30 of these being read over 100 times. One measure of the main purposes to which the system was put can be taken by assigning categories to messages according to their content. We used a four-category scale (A - substantive academic content; I - information for others; P - problem or problem-solving and S - social) to analyse the messages. It should be noted that about half the information and problem-solving messages related to academic issues and the rest to arranging tutorials, queries about dissertations, etc. and were often difficult to assign. For this reason, we have pooled the I and P categories.

The academic content messages were clustered into a few forums - four tutorial groups (96 messages) and two subject groups (64 messages), with few academic messages elsewhere. This is in accord with comments by some students about the lack of interactions in their own tutorial group forum, and tutors occasionally posted into other tutor groups. However, where a series of messages with mainly academic content did occur, these had good content that addressed real issues for the students planning their dissertations. For the students and tutors involved in these exchanges, there was evidence of good academic work being done on-line. Two-thirds of these messages were posted in the subject-specific forums, with half contributed by tutors or Bob Price (the Programme Director) and half by students.

In common with findings from all other on-line settings, many more students logged in to the forum than posted messages (so-called 'lurking'). These students often quoted lack of confidence as their reason for not engaging, but felt that 'just seeing others on-line' made them feel less isolated and they learned by watching ('vicarious learning'). For the active students and tutors, this was somewhat annoying or unsatisfactory, as many felt that everyone should join in to make the system work better. The rather unstructured design of the on-line forums also left some students uncertain as to what they should be doing with them, and they would have welcomed more focussed academic activities and clearer guidance as to how best to use the forums. More structure was introduced into the ICT component of the Nursing Leadership and Dissertation modules that began in January 2000 (see Section 3.1.4).
However, comments by students and tutors on the complexity of the system and difficulties with use of the on-line forums find support in the numbers of individuals with multiple identities, due to repeated ‘unsuccessful’ self-registrations (there were 8 of these, one with 10 different IDs). Better introduction to the conferencing system with a simpler precursor would probably have removed the occurrence of the problem experienced by several students of only finding important features by accident or too late to be of value to them (the ‘More’ option, for example).

Although we have not attempted such an analysis here, there is evidence from other studies that on-line discussions are viewed and used differently by males and females, and that gender-dependent factors can shape the sorts of interactions or, indeed, the success of the system (Yates, 2001). The predominantly female student group on this course with a 50-50 female–male tutor distribution might warrant consideration.

Important time points in the module are the three tutorials, held by the tutors in six study centres across the UK and the Republic of Ireland. (Outside these regions different rules applied.) Although not all students are able to attend all of them (they are held on Saturdays), these were opportunities for the evaluation team to meet some students in groups and also talk to the tutors.

At the first tutorial, GOLD was a major topic (mostly concerning problems) for all groups. The tutors had not been given information about which of their students were taking the module with GOLD, on their own PC or DELL, and which were non-GOLD. Some tutors commented that this information would have helped them to manage their groups better. This was compounded by the fact that at the first tutorial quite a few students were not yet connected. Many students stated that they were unsure how to behave on-line. Some were migrating from doing their ICT activities at work to doing them at home, with consequent problems and sometimes appreciation of the speed and cost differentials. All said that they felt that they should have had access to the GOLD Web site before the module began to allow them some learning time. This had not been possible due to the late delivery of equipment.

By the second tutorial the tutors were now using email more regularly to communicate with students (including many of those who were non-GOLD). Those students in the Republic of Ireland who were still not on-line were ‘giving up’ and talk of solutions to technical problems was evident in all tutorials sampled (‘Who to call to fix what’). Time and costs were also still an issue. Some tutors felt unhappy that there was little on-line activity in the forums, and were now looking there less. They felt that email was more private and more comfortable to use. The students were feeling unsure about the level and quality of debate expected from them, and worried that they may not have been coming up to the standard expected. However, seeing other students on-line was felt to be of real value – lurking for comfort!

At this stage, many students felt that getting to grips with GOLD was like doing another module, but all could see the advantages at the end of the process. A few students were discovering new ways to use the ICT – for example, scanning documents and using email attachments, and some could see that there might be value in using desktop VC, etc. Thus ideas were coming through from the students as to how to use the forums to solve their needs.

The third tutorial for the Research Methods module was in January and the assignment was almost due, and so time was the issue. The low level of interactions on-line meant that those students who posted messages got little or no response. Some students were feeling that the use of ICT had been satisfactory as it was, whereas others would have valued more integration: ‘play to learn’ vs. ‘get something of serious educational value’. There was a view still that there should be technical support and a defined contact person for this.

The pattern of interactions between tutors and students was shown by the tutors’ logs which 6 of the 7 completed. These detailed their communications with students, other tutors and the project team, and showed that of the communications in the one-month period from the end of September to the end of October, 68% were by email, 23% by telephone and 9% by letter. When compared
with their verbal reports of their communications in previous modules or years, this was a significant shift to the use of electronic media: ‘last year I emailed my whole group and only one replied’.

However, during the module the role of the tutors had shifted. In the original plan, they were to be the main focus of on-line and face-to-face activity, but the role taken by Bob Price had by its nature turned out to be more shaping and dominant in the on-line forums. As not all tutors had been successful in providing leadership in the setting of the on-line forums, the central RCNI presence was all the more evident. This was a confusing time for some tutors, because they had been given (limited) training to help them be their students’ support, yet were now being somewhat side-lined by a more experienced tutor. Some students were also unhappy about this process, since they felt that what they really needed was to be able to interact with their tutor, and many were in reality using one-to-one email to continue this, and perhaps thereby reducing their need for interactions through the forums. More confident students, and most tutors, felt disappointed with the lack of on-line activity. In reality, the level of activity had been quite good when the small total number of students and tutors and the dilution effect of a large number forums are taken into account. Some commentators have proposed that over 100 participants are needed to achieve a regular and dynamic on-line discussion.

In November, prior to the December Steering Group meeting, the team met for an ‘away day’ to reflect on the project to date and to decide which directions to take after the end of the Research Methods module in January 2000. These discussions were set in a context in which RCNI had been undertaking a major review of how best to proceed with its distance and attendance mode higher education programmes. This included choice of higher education partners, location of face-to-face provision, staff development and the use of ICT. The evaluation team provided the team with a short report on findings to date and recommendations.

The key issues discussed were the plans for use of ICT in modules scheduled to start in January 2000, the access and participation offered to non-GOLD students, helpdesk functions, and the roles of part-time tutors with respect to the central role of the Programme Director. As a consequence of this meeting, significant changes were made to the ICT component of the next modules where a move towards more central and professional on-line tutoring was initiated.

At the end of the Research Methods module, the students submit a research proposal as their summative assessment for the module. Typically, this research proposal becomes the project that the students carry out and write up as their dissertation in the last double module of the degree course. Thus this piece of work should contain evidence of the impact of the introduction of ICT on student behaviour, although a comparison of GOLD vs. non-GOLD students as to use of ICT in their work cannot be applied as a simple measure of the impact of GOLD, because some students who elected not to participate in GOLD were quite ICT literate and competent.

Analysis of 45 of the assignments showed that all were word-processed, most with good modern layout and design, including use of tables and varied fonts and styles. Most research proposals were concerned with the collection of qualitative as opposed to quantitative data. Five mentioned that they would use specific items of software (e.g. SPSS, Nudist). Reference lists were substantial, but there was little direct evidence as to whether on-line bibliographic databases had been used to compile these, and only three assignments cited URLs. Seven students mentioned that they used the services of others for such things as typing, statistics or literature research. The non-GOLD students were more likely to use others for typing and research. However, one student commented that it would have been good to have had ICT within the course to avoid the need to use others for these tasks.

A further measure of impact on the students was taken by asking them to comment on the extent to which GOLD had achieved its aims. These questions were only relevant to the 41 students participating in GOLD, with either the DELL or their own PC. With the exception of one aim related to on-line forums, around half the students thought that GOLD had completely achieved its aims, and most of the rest of the students felt that it had achieved them partially. The aims (with the
percentage of students who thought that this aim was completely or partially achieved and the comments by these students in parentheses) were:

‘to provide a scattered population of distance learning students... with a PC which is already connected to the Internet and the software needed to participate in on-line discussion’
(Completely 56%, partially 31% - many students found the experience very enjoyable, but difficulties with navigating on-line forums was a negative.)

‘to develop a Web-based conferencing system and a multimedia CD to provide guidance on how to access information on the WWW’
(53%, 28% - many students appreciated the CD and the help it provided, although some felt that more guidance on sources of information would have been useful)

‘to prepare students to become effective participants in asynchronous on-line discussion and dialogue...’
(13%, 38% - most students thought that this failed to take off, generally because they were under-prepared for the experience and also because it needed more structure and integration.)

‘to prepare students to make effective use of the project’s resources’ (‘Digging for GOLD’ CD, ‘Computing for the Terrified’ workbook, email, PC)
(47%, 44% - most found the workbook good, whether novices or experienced, but many thought that they needed more time before the module to read and use it - some problems were experienced with the CD.)

‘to provide reliable and accessible support, appropriate to user’s needs, irrespective of their initial level of competence and confidence’
(59%, 25% - most students felt well provided for, although again some thought that they needed more time to make use of the system and the help provided; more experienced users did not gain as much as novices.)

‘to provide ongoing support to enable tutors and students to embrace the opportunities that the project offers to support the learning of home-based students through improved communication, discussion and information access’
(47%, 38% - many students thought that email had opened up new channels of communication, whereas the on-line forums had not yet. This did vary by tutor though and some clearly felt less well supported. Again, and unsurprisingly, it appeared that novices had a greater sense of gain than did those with experience of ICT.)

Another question for the students asked them whether they thought that GOLD had had an influence on their learning and academic work. The majority of students responded that they had gained a wider range of information sources than they had previously had easy access to, and that email and the forums had provided them with ideas and feedback. More inexperienced students commented that they felt that they had produced better assignments (more information, improved presentation). As before, some of the more ICT-experienced students felt that they had gained little, and they were also most disappointed with the lack of activity in the on-line forums, perhaps because these were the only novel elements for them which came with the introduction of ICT.

Students offered suggestions for changes which would be of value if the module were to be re-run with ICT or if ICT were to be introduced into other modules. They mostly agreed that: allowing plenty of time for students to accustomise themselves before the module was vital, as time was short during it, especially for those taking two modules; having better structure for the use of IT, e.g. integration; and more formal training for those who felt insecure about their technical skills. This latter is an important point, for although many students were ICT-literate they were not technically confident, and it was this part of GOLD that generated most worrying problems for students (cf. Section 4.1 and Yates, 2001).
An additional view of the extent to which GOLD had achieved its aims was gained by asking the tutors similar questions to those asked of the students. It is important to bear in mind that the tutors varied considerably in their experience of tutoring (including on this module), and in their prior use of ICT. The six tutors who responded to the survey were in good agreement with their students as to the extent to which GOLD had achieved its aims. They too thought that the preparation of students for on-line discussions and dialogue was largely not successful, and in general were a little more sceptical of the effectiveness of the support procedures. This stemmed in their view partly from technical difficulties, partly from lack of training and structure, and partly from the effectiveness of one-to-one email which opened up new opportunities for communication between tutors and students which might have distracted them from conferencing.

Tutors thought that the effect of the introduction of ICT had made them more able to interact with students, to think more clearly about communications, but for some took up more time. They considered that if ICT were to be introduced to other modules or re-offered in Research Methods next session, time for tutors and students to become more familiar with it, plus better training were vital, and that the forums needed simplifying and structuring in order to be successful.

The tutor experience of GOLD was perhaps the least positive. Although brought into the process in early summer 1999 for training in on-line forum moderation, and expecting PCs soon thereafter, they found themselves unable to practise these skills until just before the module began in September 1999. They reported a decrease in their confidence over this period, despite an initial enthusiasm.

For most tutors their actual experience during the module did not improve this situation. They found that most students did not engage readily with the forums, and that making them work was difficult, compounded by continuing problems with hardware and the complexity of the forum structure. For half the tutors, this was disappointing, although given the experiences of others in similar settings, this should not have been surprising and the tutors could have been better prepared for the likely reality.

The course team’s view had been that with time and a consequent gain in confidence the tutors would take more control of the on-line forums and shape the way the ICT was used. In reality this did not come to fruition. The decision by the project team to bring Bob Price into a prominent position to provide expertise and enthusiasm created some confusion over the role of the tutors in the minds of both students and tutors, and some students resented this change. Instead of the tutor being the on-line and face-to-face support for the students, a third academic element had been added. This may have reduced the extent to which some tutors felt it necessary to involve themselves fully in the forums.

### 3.1.3 The period from January 2000 onwards

At this point, the student cohort split into several parts. Seventeen began their research projects, six opted to take a break in their studies, and 29 took other modules (e.g. Nursing Leadership). Many did two modules simultaneously. This made tracking students much more complex and so only light contact was maintained by the evaluation team by means of a final survey in May 2000.

An outcome of the November 1999 away day had been the decision to implement a major revision of the use of ICT. The intention was to achieve improved structuring of the activities and real integration into the modules, with activities that were closely tailored to the style and content of the modules. There was debate as to whether these activities should be available to all students or only to those who had been participants in the GOLD project in the previous semester. There were to be clearer ‘rules of engagement’, and the events were paced throughout the modules. Bob Price constructed the designs for these activities and the evaluation team provided comments on them in January 2000. The forums were to continue in WebBoard as the students and tutors were accustomed to it, and this would make best use of the time and knowledge of the team at the University of Bath.
The rebuild of the system for the new modules was substantially easier than had been the case for the first round in summer 1999, demonstrating the need to consider likely costs of repeats, as well as of first offerings when costing courses. WebBoard provides the option to archive materials and so this was done for the on-line forum materials from Research Methods; the evaluation team used the archive to analyse the transactions over the autumn semester. Minor changes were also made to the GOLD Web site.

Those students who had proceeded to their research projects (the Dissertation module) were provided with ICT support in the form of Research Clinics. These consisted of three formats - an expert ‘talking’ about their subject, question and answer sessions and case studies. Eight Research Clinics were run between February and June 2000.

Participants who were taking the Nursing Leadership module were offered four ‘Topical Issues’ sessions using the on-line forums. Two were linked directly to the module materials, two were case studies and two had ‘question and answer’ sessions (one forum included all three of these types within one session).

In the new module structure, the tutors took an even lower on-line profile than in Research Methods module. The on-line sessions were organised and conducted by Bob Price, and tutors rarely participated despite being invited to do so, or even logged on to watch. This was particularly the case for the Dissertation supervisors. A small core of students participated, and these were mainly (but not entirely) the ones who had been most active in the discussion forums of Research Methods. A small number of students ‘watched’ each session without participating.

Although the sessions were intended to support and stimulate academic discourse about the content of the module, and alongside that provide access to new information sources, much of the interaction proved to be centred on student problems or anxieties. This was disappointing to the team in terms of the design of the system, but it brought into focus the need for some more extensive support for students than they felt they had access to. It is clear that students were interacting directly with tutors by email, telephone and face-to-face; those who entered the ‘chat’ events were a minority, perhaps those with more time, more interest in discourse, or a wish to take their learning to a deeper level, or a greater need to feel that they ‘belonged’. Tutors had little formal role written into the new system and this reflected a shift in the view within RCNI about the future shape of tutoring.

The design of these sessions had been largely provider-driven, as the time to consult students had been too limited, with just one weekend between the end of the Research Methods module and the start of the Nursing Leadership and Dissertation modules. They were expensive in time and energies to provide and the return in terms of the student cohort was very small. For busy students, the effort may have been too great for the predicted return. Greater consultation with the students as to what educational opportunities and support mechanisms they would wish to have available both on- and off-line might lead to a more cost-effective balance.

In summer 2000, the 1999 cohort were contacted by the evaluation team and asked to reflect on their experiences with ICT in the MSc in the preceding year. The questions for all students related to their use of various communications channels, sources of information for their studies and their attitudes to ICT in their studies and in general. They were asked to indicate whether these had changed over the past year and if so why. The GOLD students were also asked to reflect on what had gone well and what could have been improved with respect to on-line activities in their most recent modules.

The responses of 23 of the original 41 GOLD students and 5 of the original 15 non-GOLD students were analysed separately.

The GOLD students found the new format for on-line forums and their use for ‘research clinics’ very much better than the unstructured forums of the Research Methods module. There were still
some ‘connection’ difficulties and as expected synchronous events were not scheduled so that everyone could participate. For those who could not be there, the posting of summaries was appreciated, as were the pre-event notes.

The communication channels and information sources used had altered for the majority of GOLD students (65% and 70% respectively). Almost without exception, they attributed these changes to GOLD, and in a few cases to parallel changes at work too.

Table 3.3: Use of different media by GOLD students for communication with other MSc participants

<table>
<thead>
<tr>
<th>Medium</th>
<th>% frequently or sometimes using</th>
</tr>
</thead>
<tbody>
<tr>
<td>with whom</td>
<td>email</td>
</tr>
<tr>
<td>tutor</td>
<td>74</td>
</tr>
<tr>
<td>students</td>
<td>35</td>
</tr>
<tr>
<td>RCNI</td>
<td>70</td>
</tr>
</tbody>
</table>

The RCNI component could refer either to the Programme Director, Bob Price, or the RCNI administration, and we were not able to distinguish these from each other.

It is clear (Table 3.3) that patterns of communications between students and their tutors plus RCNI and their peers differ markedly, with much more one-to-one email being used to talk to the former as the latter. The forums were the main location for student–student interchange.

The response rate for the non-GOLD students was low (5 out of 15 original students) and so great care has to be taken with interpretation of their data. All (100%) used email to talk with tutors, 75% other students and 50% for contact with RCNI. For telephone communications, their levels were also high (50% with students, 75% for RCNI and tutors). None could use the on-line forums. It would appear to be the case that the most IT-literate students, and perhaps a generally communicative group, were responding to the survey. We have no knowledge of the behaviour of the other 10 non-GOLD students in this respect.

The five non-GOLD students also reported changes in their behaviour over the preceding year, attributing the communication changes in use of email and information sources to increased use of email and on-line information at home and work. The percentage of non-GOLD students reporting changes in information sources was much smaller than that for GOLD students (50% reported a change), although care must be taken here due to the small number in the non-GOLD group (5).

Thus even without participation in Project GOLD, student behaviour might well have altered somewhat over this period, and the general attitude towards ICT of 80% of them became more positive.

However, the change in attitude to ICT of the GOLD cohort was even more markedly shifted to the positive. Many considered that they were now much more positive towards ICT for studies (65%) than they had been a year previously, with 26% being more positive. This is an impressive reported change in attitude, especially when set alongside the difficulties which many of them had faced, and had not always completely overcome. Not all these students with positive attitude changes had begun with feelings of confidence in their abilities.

The final component of the MSc course is the dissertation that results from the research project. Examination of these dissertations was scheduled to take place in March 2001. Seventeen dissertations were due from the students in this cohort, but only 10 were available for analysis, along with 11 from students in previous cohorts who had taken one year out of study or had paced their studies more slowly. This presented us with a rather small number of dissertations to read from the
GOLD cohort, but did allow us to compare them with dissertations from earlier students who were preparing their dissertations at the same time, but without the aid of the GOLD ICT.

We scored each dissertation ‘blind’ for references to ‘hard’ use of ICT (which we defined as use of on-line databases or use of spreadsheets or mention of the option of use of statistics packages/qualitative data analysis packages). The latter are particularly important here, as the great majority of projects are qualitative in nature, reflecting both the orientation of the course/subject/tutors and also the scale of research that the students could sensibly undertake. As all dissertations were word-processed (and we knew from previous investigation that this was sometimes secretarial work - see 3.2), this was ignored as a ‘hard’ ICT use.

The results were interesting, even allowing for the problem of small numbers. Of the 11 pre-GOLD dissertations, 5 had positive scores for ICT (i.e. 45%) whereas of the 10 GOLD cohort (we pooled GOLD PC, GOLD+own PC and non-GOLD together), 8 had scores for ICT use (i.e. 80%). Of the 8 GOLD group, 5 had been participants in the GOLD project and 3 were non-GOLD students. This is suggestive of an effect on the behaviour of students exposed to GOLD as compared to those not so exposed, but who were all working on projects and dissertations through the same period of time. One compounding problem for this analysis is that the role of the tutor cannot be dissected out, and the tutors who support each student could clearly be crucial in their choice of activities and approaches.

A follow-up study of the dissertations from the rest of the GOLD cohort in Spring 2002 would be of value.

### 3.2 Previous cohorts (Research Methodology module, February 1999 or earlier)

The lack of opportunity to collect baseline data on the student cohort involved in the GOLD project resulted from the delays in the early stage of our work due to the need for RCNI Ethics Committee clearance of the project and its evaluation, which were not complete until April 1999. By this time, the students in the Research Methodology module were aware of the introduction of ICT into the course and of the choices which they would have to make, and the evaluation team was concerned about the effects this knowledge might have on any data gathered. Ideally, these baseline data would have been collected early in 1999 or before. Information about the knowledge, skills and attitudes of the GOLD cohort was actually collected in early summer 1999.

To obtain more representative baseline data, the same instruments were used to collect data from the cohort prior to the GOLD cohort (i.e. taking Research Methods in Spring 1998 or earlier) and from the succeeding cohort (i.e. taking Research Methods in Spring 2000) so that a three-year dataset could be analysed and any major differences between them identified.

The cohort prior to the GOLD cohort were mostly undertaking their research projects through the 1999 calendar year, with a few suspending their studies or taking other modules. This pre-GOLD cohort had presented assignments at the end of the Research Methods module in February 1999, and even earlier cohorts had also submitted their dissertations at this time. Some of the pre-GOLD cohort produced dissertations in Spring 2001. The data gathered from these students (14 respondents from 36) showed that, like the GOLD cohort, they were ICT literate and aware (>70% using PC at home and work, 64% with email, 93% confident with word-processors and on-line bibliographies, and 92% perceiving ICT to be important for their careers). In response to questions about what opportunities they would have liked in their course, some responded that ICT would have been helpful.

The 20 dissertations showed that most students did dissertations based upon qualitative data gathering and there was certainly much greater preference for this over quantitative methods, even to the point of not giving numbers of respondents in any given ‘theme’, but citing large and
numerous quotations instead. To some degree, this preference might be due to the dominant influences in current research in the field, but perhaps more critically the workplace settings in which the students carried out project work. Time and money would be very rate limiting, thus making large-scale surveys impossible to perform.

Presentation was generally of high quality, but clearly was often not the students’ own work; some stated that secretaries or family helped them with typing and presentation. The references were often quite wide-ranging (from magazines to UK and US health care journals) and were substantial in number, but it was difficult to ascertain how many of these had been obtained as there was little evidence of specified starting sources for literature searches although some did. Like the GOLD students, these students may have had access to librarians to assist with this aspect of their studies.

In addition, the views of the tutors in the GOLD project who had taught on the MSc programme in earlier years were collected by personal and group interviews. In general, they considered that students prior to the GOLD project had been not generally inclined to use email to communicate and that they talked to each other little outwith tutorials. Most communications had been by phone or letter. This is reinforced by the evidence from GOLD students of changes in their communications patterns.

3.3 Subsequent cohort (Research Methodology module February 2000)

The students entering the Research Methodology module in February 2000 were offered no formal ICT components in that module, and did not receive the CD, PC or web-based communications and resources in their Research Methods module which began in September 2000. This was not due to a view from within RCNI that the GOLD project had been a failure, but to the need to review what form the ICT provision should take, and to establish a robust and future-proof partnership with three higher education institutions. The funding from HEFCE was not destined for subsequent cohorts and so the system as piloted in 1999 could not be simply re-run without additional finance.

The new students were all invited to contribute data to the project and 11 of 45 did so. These respondents were found to differ very little from the GOLD cohort in their ICT experiences, skills and expectations. They were generally active ICT users at home and at work, most had email and skills in word-processing and on-line bibliographies, and almost all saw ICT as being ‘important’ or ‘very important’ to their careers. They were almost all graduates, mean age 40 years and all were female. Eight of the group were practising nurses and the rest were educators or administrators. Albeit drawn from a rather small sample, these data suggest that the GOLD cohort was not atypical of the general entry to the MSc.

In addition, this cohort provided information about their sources of study information, methods of communication on the course and the general level of support for their studies. The questions asked were very similar or identical to those asked of the GOLD and non-GOLD students at around the same time.

These students (14 ex 45 – Table 3.4) were less active than GOLD students by email and used telephone and letter more frequently (cf. Table 3.3), although their use of email was still higher than we estimate that it had been for students in previous years (based on information from tutors). Thus it may be that we are here observing a general trend by professionals towards greater use of email, perhaps now encouraged more by RCNI and tutors following the experiences of GOLD, but that the very high level of email use by the GOLD cohort was a direct result of the project.

Table 3.4: Use of different media by post-GOLD cohort students for communication with other MSc participants

<table>
<thead>
<tr>
<th>Medium</th>
<th>% frequently or sometimes using</th>
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As with previous cohorts, the end-of-module assignments for the post-GOLD cohort were submitted in late January (i.e. 2001). Unfortunately, due to the transfer of the RCNI from one headquarters location to another, it was not possible to analyse these assignments for use of ICT.

### 3.4 Summary of findings

- Student profile different to expectations – more ICT-literate than the image.
- Negotiation of supply of hardware required more technical input from project team than provided.
- Students more ICT than technically capable and technical support was initially unable to cope - helpdesk function probably needed to be in-house.
- Participating students and tutors generally looked forward to the experience, albeit with some understandable anxiety.
- Non-participating students were not technophobes (some were very ICT skilled), but mainly were concerned about the impact of a technological project on their precious time available for their studies.
- Participating tutors and students generally expressed some disappointment at the relatively low use of the interactive and communicative parts of the project.
- The main reasons for this low use were: the non-embedding of the on-line forums and resources into the Research Methods module, lack of sufficient tutor training in facilitating on-line interactions, over-complexity of the forum system.
- The interactive sessions in later modules overcame some of these problems, but with the loss of the asynchronous nature of the forums.
- The lack of interaction in the forums was offset for many students and tutors by the ‘liberation’ of email as an acceptable medium of communication and many 1:1 exchanges to take place.
- Most students, and especially the least ICT experienced, valued the on-line resources that GOLD opened up for them.
- There was some evidence that the GOLD cohort students used on-line resources more than earlier cohort students in their dissertations, i.e. there was an impact on study behaviours.
- All participants reported that the learning curve had been steep and the process had taken up precious time from their studies and their non-academic lives.
- Most students who were successful in getting on-line enjoyed the experience despite the difficulties.
4. Wider impact of GOLD

The introduction of ICT into educational courses can be expected to produce effects which go beyond the narrow confines of the course in question. Indeed, it has become common practice at all levels of education to set out to achieve exactly these wider changes in ICT skills of learners under the general heading of ‘personal transferable skills’ and ‘key skills’. Much of this is driven by a political agenda of upskilling the population towards satisfying the needs of the ‘knowledge economy’ (DfEE, 1998; DTI, 1999; EC 1998). Inevitably, those educational organisations which seek to engender new skills in their learners must also require that these be present in their teaching, support and administrative staff, and the presence of these re-skilled staff may itself impact more widely on the nature and operations of the teaching organisation itself. These wider impacts may be of greater magnitude than the direct educational benefits that accrue to the students on the module, which are often quite limited.

It is therefore of interest to explore to what extent such wider impacts resulted from the GOLD project.

4.1 Impact on students

Four likely wider impacts on students of the introduction of ICT into the MSc in Nursing are:

- use of ICT in other studies
- use of ICT at work
- use of ICT in general lifestyle
- greater confidence in handling innovative situations.

Evidence for such impacts can be found in the final survey of the students in May 2000 and telephone interviews throughout the GOLD period. Twenty-one out of 23 GOLD students stated that they were more or much more positive about ICT in general than they had been one year previously. Non-GOLD students also reported positive shifts (3 out of 4 were more positive, but none said that they were much more positive). This shift was largely independent of the degree to which any of these students were ‘looking forward to using’ or ‘apprehensive about’ ICT before the Research Methods module began.

There was also a change in the sources of information that the students were using for their studies that had taken place over the past year. Many more of the students used Internet access to on-line databases, etc. from home - a shift that is very likely to be generalised to other activities or studies. It is hard to imagine someone who has discovered on-line searching at home for one module, not using that skill more widely. The same arguments are likely to apply to communications with others, as most students reported a lessening of feelings of isolation due to use of email, etc. Their patterns of communications had changed along with their patterns of access to information, and they now relied much more heavily on email to contact tutors, RCNI and fellow students.

Finally, most students reported that although getting to grips with ICT in the Research Methods module had been very challenging, especially as it ran concurrently with the module, they had not found this an impossible task and felt that they had gained greatly in the process. Thus another generalisable impact might be greater self-confidence in new situations, especially those involving technology. It was clear that many students were using ICT more at work, although it was not possible to distinguish directly the positive effect that GOLD might have had on this behaviour from the converse influence of changes at work resulting in more use in their studies. The marked difference between the later cohort (who had not received ICT in their modules) and the GOLD cohort in terms of their use of email to communicate with tutors and RCNI provides some evidence to support the impact of GOLD on the group.
The development of ICT skills may have been significantly aided by the level of technical support which students claimed to have at home and at work (>70% on average had some support outside the course). It would be important to know for other groups being offered ICT in their distance education courses to what extent this access to technical support applied to them, for marked divergence from the characteristics of the students taking the MSc in Nursing might lead to quite different problems. The apparent differences between males and females in technical confidence and competence are also more likely to impact strongly on course such as this (Yates, 2001).

Had the students been less ICT literate at the start, there might have been more impact of the workbook and CD-ROM materials, and increased use of word processors, spreadsheets, etc. As most students used ICT regularly at work, this element of the project, although appreciated, probably had relatively little influence on their skills or knowledge in these areas.

4.2 Impact on GOLD Project partners

It was to be expected that the introduction of ICT into the MSc in Nursing would have wider impacts on the organisations involved, for example with regard to:

- use of these forms of ICT in other courses
- introduction of other forms of ICT into courses
- changes in administrative systems
- changes in skills and working practices of staff
- changes in staff attitudes
- changes in their views of tutors and students
- enhanced status of the organisations in their own educational spheres.

Several pieces of evidence point to wider impacts of GOLD on the RCNI. These are:

- modification of the shape of their future distance education provision in the form of a major review and selection of partner HEIs
- extension of the ICT component, with a major revision in its form, to succeeding modules of the MSc programme
- reconsideration of the nature of the role of part-time tutors in modules with on-line components
- strain on the central administration within RCNI, due to the need for faster and more complex data about students; these were requested by both tutors and external groups (e.g. the evaluation team) and the database was inadequate for this purpose
- recognition that student skills and attitudes needed to be better researched prior to the introduction of course modifications
- greater use of email and other digital media for communication with students and tutors.

In the Division of Access and Continuing Studies, University of Bath, wider impacts would appear to be:

- further use of ICT in local courses, with technologies based upon experiences with GOLD
- deeper appreciation of vital position of helpdesk function
- useful support materials which can be applied elsewhere.

The OLF was least involved in the educational process and thus less likely to be influenced in its activities by the GOLD project. As an experienced source of project management, it might perhaps have been able to play a stronger role in the debugging of the early PC supply and installation problems, but instead played a relatively minor role in this area.
However, given its growing role in distance education provision through on-line methods, the lessons from the project have direct value for OLF. Many of the lessons are generic and directly portable to other settings where technology is being introduced. Some internal publications about OLF projects exist (Bashir, 1998; Richardson, 1998). The departure of the OLF staff member responsible for the GOLD project restricted our investigations of this area.

4.3 Impact on tutors

There are likely to be at least three wider impacts on tutors of the introduction of ICT into the MSc in Nursing:

- changes in use of or views about ICT in tutoring on other courses
- changes in use of or views about ICT at work
- changes in use of or views about ICT in general lifestyle.

The tutors were perhaps least likely to have experienced wider, positive effects of GOLD. As described above, despite their general lack of prior experience of on-line courses and tutoring, they received relatively little training and time to practise their on-line moderating skills. They had not originally been recruited to carry out this role but to be traditional distance education tutors, with monthly tutorials and telephone/letter communications. Most experienced some disillusionment with the on-line activities, although this could be viewed as a greater sense of realism as to the difficulties involved and hence a portable knowledge to other settings in their workplaces. It is easy to underestimate the challenges of supporting and maintaining on-line activities with students.

Opportunities were missed for generating wider impacts for the tutors. If they had been involved in some formal tasks with the students which required use of ICT - for example, on-line literature searching with comparison of outcomes, or design of the on-line activities for the module, they would have had a greater sense of ownership and their knowledge of the educational opportunities would have been improved. They would also have been able to transfer this knowledge and experience into their other professional activities.

From the evidence available to us in summer 2000, it would not appear to be the case that the tutors have greatly altered their work or lifestyle activities as a result of GOLD, over and above changes which would probably have taken place without it. However, one should exercise caution in this respect, as it is a common observation amongst those supporting the introduction of ICT into education that there can be long gestation periods (often longer than one year) between first exposure of staff to the opportunities that exist and their adoption and implementation.

5. Cost effectiveness

Assessing the cost-effectiveness of innovations in education is one of the most important challenges facing any organisation introducing change, and also arguably the issue which is least satisfactorily addressed (ITATL, 1997; Rumble, 1997 and 1999). Many of the earlier investigations of the introduction of technology into education focussed on the creation of ‘courseware’ or multimedia software, which can be very expensive to produce. It is worth noting here that the GOLD project did not have these aims, and created an ICT system which was supplementary to the existing course (indeed, there were students taking the modules with and without ICT concurrently). If full integration were to be selected, a significant extra effort might still be needed to re-design the learning materials. More recent studies have focussed on the use of less content-rich tools (e.g. CNL, 2000; RCICT, 2001).

Ideally, the sorts of measures of costs and effectiveness that would be obtained are:
• time and money spent (costs) in creating and delivering the new module/course by all involved in the provision
• time and money spent (costs) in taking the new module/course by all students
• educational effectiveness of the new module/course (easier and/or better learning?) in achieving desired educational outcomes
• value-added for staff and students of the new course over the old – for example, new generic skills acquired that were not developed previously.

However, very often measures of costs are difficult to obtain for several reasons:

• during a development project there are start-up costs, as well as delivery costs, and a ‘steady-state’ condition may not be reached for a few iterations of the course, if ever
• ‘Hawthorne effect’ – the positive influence on the innovation of the active interest in the success of the project of (some of) the teaching staff
• providing detailed information about human costs requires significant additional work on the part of those key players at a time when they are busiest designing and delivering the project
• few projects are entirely stand-alone. For instance, they take place in a context where staff are multi-tasking, and services are intermingled with those on offer to other courses
• changing (up or down) monetary value or ease of use of the physical equipment or services during the lifetime of the study
• the opportunity costs of the project for all those involved
• the ‘missed opportunity’ costs if this strategic step is not taken.

In addition, the information of most interest to those delivering and receiving the education is the change in cost between the original course and the new course. However, it is unusual for true costs of previous methods of delivering/receiving education to be available for comparison, especially those where conventional teaching methods are in use.

The presence of project funding may perturb the costs of an innovation because the funding has to be applied in the manner agreed by the fund provider (in this case TLTP), and it is often not matched by institutional commitment as might be more likely in the case of an innovation which has arisen purely internally. Some issues might be handled differently when external funding carries the direct costs – for instance, additional payments for tutors. The project often focuses attention on the development of the materials or the system and reduces the importance of the longer-term maintenance phase. However, cost of ownership is often greatest in the maintenance component than in the purchase or development component. Offset against this is that with experience, the ease of use of the system will increase (e.g. some day all academic staff and tutors may have on-line skills as routine and this will cease to be an issue), and so those costs will reduce or will become internalised.

Measures of effectiveness are equally problematic with costs. Indicators which might be used include:

• changed use of ICT by students in/for tangible academic outputs (assignments, dissertations)
• changed use of ICT by tutors and students in/for intangible academic outputs (discussions in tutorials, on-line)
• changed use of ICT for course delivery by RCNI
• changed use of ICT for communications between students, tutors and RCNI on a module/course
• changed attitude to ICT in the course by tutors, students and RCNI
• scale of wider impacts on all players.
The extent to which changes in these features can be attributed to the innovation under question is generally difficult to determine, as the innovation rarely takes place in an isolated 'laboratory setting', but in a world rich with confounding influences. These include:

- changes at work, home, etc. – typical here would be introduction of a PC into the home by other family members, wider use of ICT at work, general increased social importance of ICT
- changes in versions of tools/equipment during the innovation, making some tasks easier (or harder) with time.

Again, the effectiveness of the original course is generally not measured and hence the gain or loss of effectiveness cannot be measured. This is usually compounded by the changes in the course which take place when innovation is introduced, so that the desired course outcomes are no longer the same – that is one cannot compare like with like. In this particular instance, the original modules (text-based learning materials, face-to-face group tutorials, plus assignments) was still being offered, with the ICT component provided through GOLD being an additional feature. Thus the costs involved for RCNI, its tutors and students to deliver and take the essential components of the MSc were approximately constant.

For the evaluation team in this instance, all of these difficulties applied and hence we have not tried to create a formal 'balance sheet'. Instead, we have presented a series of case studies for some of the different 'stakeholders' involved in the GOLD project, to draw out general issues for them of costs and benefits in this innovation (Appendix 7.1).

For the GOLD project, in common with many other projects with a technology component, it is valuable to try to separate the costs of the new technology from the costs of the educational component of the course. This is because it might be expected that the latter may be somewhat generic, whereas the former is very situation-specific and changes as rapidly as does the technology. If this could be done then it would be possible to compare the cost of developing this particular on-line course component with that process in other settings where the technology was already in place, for instance in a campus setting. In the case of GOLD, there are several categories to which costs associated with providing the ICT component of the modules can be assigned. As the technology cost is very time and type dependent, we have excluded this and concentrated on effort and staff time. Time estimates have been derived from retrospective estimates during interviews and log sheets (these being incomplete due to the pressures on staff during the project). However, it is worth noting that although we are estimating 'time spent on', there was clearly a much larger amount of 'time spent thinking or worrying about' which it is impossible to define, but which impacted negatively on other activities for each individual.

<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>COST</th>
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<tbody>
<tr>
<td>PC supply, installation and support</td>
<td>Several days of work in the early part of the project to define the PC system, and equal amount of time to debug problems prior to shipment, many days of effort during shipment and installation, rising sharply as technical helpdesk activities were needed post-delivery.</td>
</tr>
<tr>
<td>University of Bath</td>
<td></td>
</tr>
<tr>
<td>RCN Institute</td>
<td>Several person-weeks of direct effort during the negotiations with the suppliers – unknown impact of uncertainty on other activities – several person-weeks during period of installation and debug problems.</td>
</tr>
<tr>
<td>Student and tutor recipients of DELL</td>
<td>Range from a small number of hours in successful cases to tens of hours over 2–3 months.</td>
</tr>
<tr>
<td>PCs</td>
<td>'Legendary effort' involved in debugging deliveries and installations that amounted to several person-months of time and resulted in significant financial loss.</td>
</tr>
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</table>

DELL and agents
Educational design
University of Bath – CD, workbook, training workshops
RCN Institute – module redesign

About 6–9 person-months to generate and revise materials (a re-usable output).
Low cost of several person-days for first module, rising to several person-weeks for subsequent modules.

Educational delivery (above normal course delivery)
Tutors
Several days work per tutor to master on-line forums and Web site + training sessions.

Students
Many days work per student – this varied markedly depending upon ICT skill level and confidence – use of CD, workbook, Web site and forums.

RCN Institute
Low cost – several person-days for the first module, rising to several person-weeks for subsequent modules.

Hardware/software (design, installation and maintenance) for course ICT delivery
University of Bath – CD, Web site, forums, server, etc.

Approximately one person-year.

Project management and administration
RCN Institute
Steering groups, reports, ethical clearance, project meetings accounted for several person-months.

University of Bath
Steering groups, reports and project meetings accounted for several person-weeks.

OLF
Due to departure of two key staff at OLF, we have been unable to give sound estimates of the management time involved – probably of the order of a small number of person-weeks work.

Some of the main conclusions that can be drawn about the cost-effectiveness of this particular innovation in the RCNI MSc in Nursing are:

Costs
- steep learning curve for students and tutors – much lower for subsequent modules
- steep learning curve for RCNI course team – much lower for subsequent modules
- uncertainty increased for tutors (i.e. teaching staff in general) with respect to their roles
- high cost of designing and introducing some ICT software components with respect to their subsequent maintenance costs
- ownership costs (i.e. as ‘real money’) were generally less than expected/feared by students and tutors
- partnerships and collaborations (e.g. between educational and commercial organisations) have real overheads
- strain on RCNI administration – helpdesk function increased load, pressure for better much data management
- for some individual students and tutors, the time and effort cost of getting their PC installed and networked was very high (and some abandoned the task)
- for some individual students and tutors, the time and effort cost of getting into the GOLD on-line activities was very high (and some abandoned the task)
- for the project team, high cost of technology implementation.

Effectiveness
- high value of the skills acquired by those students and tutors who were successful
- significant wider impacts on RCNI distance education
• wider impact on University of Bath team
• positive changes in student study behaviours
• for a small number of students, opportunities for useful on-line interactions on academic subjects
• much improved communications between students, tutors and RCNI
• greater use of ICT by students of ICT in their dissertations in comparison to other students
• adoption of ICT by most students beyond the modules of the MSc programme
• many students were successfully brought on-line with an internet-ready home PC
• gain in knowledge within the RCNI and the University of Bath of the outcomes of a series of educational ‘experiments’ as a result of testing different on-line techniques
• a degree of culture change within the RCNI.

An important point here is that the above need to be viewed as *generic* costs and benefits, which can be applied to other innovations of this type. Technology changes - indeed, during this project it changed markedly as it did during earlier TLTP projects - and hence the specific experience of the cost of setting up on-line forums or familiarising students with them may not re-emerge for this group of players. However, subsequent changes in novel technologies, software, or educational methods will regenerate these generic issues. Thus for the teams at the University of Bath and RCNI, the challenge is to internalise the lessons of GOLD so that the introductions of future innovations are informed by this experience.

A simple answer to the question: 'Were the academic gains by the students in this MSc course sufficient to offset the costs of the whole process, or would they be in a second, less expensive, iteration using the same technology and educational design?’ would appear to be ‘probably not’. There was rather limited evidence that students using GOLD’s ICT made significantly more use of ICT in their academic outputs than did other students. The changes that did take place might well have happened anyway as most were exposed to and used ICT at work and elsewhere. However, it is probably asking too much to see a dramatic shift in their study behaviours in such a short period of time, given the other pressures upon them. There is some evidence that the GOLD Project did affect student study behaviour through increased use of on-line literature sources in research for their final dissertations. The attitudinal shifts were such as to support these changes in behaviour, and their importance should not be underestimated.

There was evidence of limited use of the on-line opportunities for academic interactions, but as there was no real evidence that students felt a need for such, perhaps it was the case that the opportunity was not one which enough of them actually sought. Many students had other sources of academic support in their homes and workplaces. Much of the on-line postings were problems or problem-solving, or were straight information transfer, suggesting that this in fact was one area of need for them. The clinics and workshops of the later modules had more academic content as this was planned into them from the start, although again the number of students who participated was not large. The synchronous nature of these events was part of the reason for low involvement.

The outcome of short-term cost-effectiveness measurements should not be allowed to obscure the essential nature of the introduction of change, which is a strategic step for the providing organisation. In the short term, the most efficient stance for an organisation such as RCNI might be ‘no change’, but the strategic view of the medium and long term is that educated guesses have to be made about the potential benefits of the change and estimates of the cost and the likelihood of success.
6. Conclusions

The GOLD project has been valuable, both for its main academic partners the Royal College of Nursing Institute and the University of Bath, and for the wider higher education community. It is one amongst a number of similar ‘experiments’ in the use of ICT in distance education which are being carried out by small- to medium-sized providers of mixed mode higher education. These sit alongside the studies taking place inside large mono-mode distance education organisations such as the Open Universities of several countries. The outcomes and experiences of these experiments will lay the groundwork for much of the later activity of others, as the UK HE and FE sectors move towards wider use of ICT, especially for distance or mixed-mode provision in continuing professional development and continuing education.

The project shows the scale of the effort which is needed to provide scattered learners with educational materials and support via ICT, in terms of educational design, technical support and in tutor support. The impacts are on both student behaviours and on the provider organisations, and in the latter a significant re-think of the modus operandi may be required for effective tooling up and scaling up. Finance is required, plus a lot of dedication from all players, but even with the GOLD project shows that the ‘first pass’ may well still need reworking to improve the fit between the use of the technology and the module/ course objectives.

Some key lessons emerged:

- understand the skills, knowledge, attitudes and needs of students and staff
- good educational design and support need to be coupled with good technological design and support
- robust and frank channels of information between all players are essential.

Easy to say, but a lot harder to put into practice on the ground!
7. Appendices

7.1 Case studies

In these case studies we have created short accounts of the GOLD project as seen through the eyes of different ‘players’. Each brings together information collected by a variety of methods and combines data from several individuals into a ‘typical experience’. We hope that these studies provide a flavour of the GOLD project and also give the reader a clearer view of the impacts, costs and benefits of the project.

Case Study 1: Administration

Over the 24-week period of June to December 1999, the two administrators responsible for the management of the Research Methods Course, were asked to keep weekly logs documenting their experiences of managing the operational activities of Project GOLD. This is their account.

'We were providing the administrative support for the Research Methods Course and were asked to implement changes that Project GOLD would require on the ground. As a first step for the Research Methods students, we liaised with the RCNI Systems Manager and downloaded information from the central database and used this to send out information. So this led to our involvement with general database management which was constantly in the background. However, the student database was not designed to support the new patterns of use of data and the demands made by having to share information with outside partners. We find it difficult to comment on the internal technical support that we were offered at this stage.

Using these data and also information from DELL and Wang, we mailed the students from time to time, arranging their computer loans, giving them their ISP account details, sending out the workbook and CD-ROM. When the students all had email accounts, we were able to communicate in this way too. For example we sent an email welcome letter when they signed up to GOLD.

Then there were tasks that we did for the GOLD project team, which included organising team meetings, preparing agendas, taking notes and keeping minutes, making arrangements for steering committee meetings – keeping everyone informed. We organised an Away Day in November where the team could brainstorm ideas and think about the next modules to include in GOLD.

Our tasks also included activities related to the GOLD Web site. For example, organising and contributing to the on-line conferencing and encouraging participants to post messages.

Over the first six months of the project, these administrative tasks followed the natural progression of the project that mirrored the module, with meetings and mailings at intervals. Between us we worked 82 hours on Project GOLD and reckoned 64 of these hours to be outside our normal working week. That included blocks of time spent on the Away Day or Steering Group meetings.

Although we considered we were quite computer literate in the sense that we used PCs, email and applications software quite regularly, we were not very computer technical. We couldn’t set up hardware, debug problems or identify the locus of errors such as student inability to log on to a Web site. It was this that made life very difficult for us over the next six months. These technical operational tasks included liaison with DELL and Wang who were contracted to supply and install the student and tutor PCs, and advising on technical issues because the students could not find the information on the Web site. This came to dominate our time and thoughts.

Everything seemed most hectic over weeks 8–16, that was August through to September, particularly week 15 when between us we put in nine extra hours.
Week 15: ‘Usual DELL and Wang frustrations which are not getting any better. Most of my work seems to involve trying to liaise between students and engineers - a bit like banging your head against a brick wall.’

Case Study 2: Seven students

Student 1: ‘I’m a sociable person so doing a distance course was a challenge!’
I decided to sign up to GOLD using my own computer because I am familiar with my own PC. It took two hours to get up and running without difficulties - all very straightforward.

I thought GOLD would give me better access to my tutor and the experience with the conferencing facility has let me see other groups and a wider spread of activities than were open to me in the past.

I know my way round the on-line system and advise others when asked - part of the attraction for me is that it’s like a maze and I’m a bit of a puzzler! I’ve used it a lot and know about all the interactions, who’s a heavy user and whether for academic or social purposes. I’m always willing to join in the social support element, I’m not at all worried about being exposed, but I think that the tutors are sometimes slow to respond on the open forum. Being able to use video conferencing would be good, you can get a little camera to put on your PC and then you can join in even if you are up in Shetland, with video conferencing you soon forget that you are not really there.

Personally, it’s opened up a different world for me and I’ve become really switched on - maybe I’ll become a computer person rather than a nurse - the whole thing feels pioneering, exciting and I can’t go back after this.’

Student 2: ‘I like to feel in charge!’
I have strong views about euthanasia and after watching what I considered was a very one-sided television documentary I found myself emailing my MP. That’s something I would never have done in the past. In general, I find it easier to keep myself informed about nursing issues now by using the Internet. I also used email to contact my brother in overseas - we never write, but email often now. I also find the Internet useful to help the children with their homework. It’s good to know that I’m no longer competing with the family over our own computer - that’s why I accepted the DELL computer.

I certainly saved money on transport to libraries and I could choose the time when I worked as I wasn’t so dependent on libraries being open. And the free registration with BNI (British Nursing Index) was a bonus. But I had to have a phone line installed, there are printing costs and I did buy a computer table but that’s just part of the ‘home–office culture’. I wasted a lot of time when the computer was first installed, phoning the wrong person for advice. I needed technical support and it was difficult to know where to turn. It was the kids’ holidays and the poor childminder had to stay at home for days waiting for the engineer to turn up - I was in everybody’s bad books that summer. I worried a bit that I might have to pay for the return of the machine so I kept on practising.

In the past, I had to pay someone to do my typing, I got the librarian to do bibliographic searches for me and the technician at work to help with technical glitches. But now I feel quite empowered to try things out and it’s given me a lot of independence. I think that in the future I will look on challenges in a different way!

Last year, I rarely phoned my tutors, as I didn’t want to bother them, but now I email them a lot and I also email some of the students.

I made a couple of friends from different regions through the conferencing groups and we bounce ideas around. I also like the idea of having other tutors to speak to because it gives you a different perspective. I am looking forward to being able to pass on my skills as an educator and to sharing my knowledge at work.
Having this knowledge is important to my future career and I can see a long-term financial gain. I certainly cultivated supportive technical contacts at work, in fact I’m looked on with some respect in the IT department!

When I was on night duty the flexibility was useful and I could compose a message at my leisure anytime. I enjoyed making contacts outside the group and emailing people either individually or as a group.

My typing improved which was important for me because my handwriting is so poor – that’s why I never write to my brother!

Without a doubt, I felt more connected, and when one of our group members failed the module, the support was tremendous. And we were all very good about sharing URLs that we discovered. I had to learn how to interact in online conferences – I discovered that I liked to take a lead role by initiating messages and I enjoyed speaking to the different tutors.

Student 3: ‘I like to know where I stand!’

‘I chose not to use GOLD, even though I use IT in my work. I didn’t really like the offer on which the project was based, the small print. Like the restrictions about when the computer was to be returned. I was not sure what skills I would need and I didn’t have time to learn something new. I am enrolled on two modules, have a full-time job, as well as a young family to manage. I decided not to participate in GOLD because I felt I couldn’t afford the time that I knew it would take if I got ‘sucked into’ interacting with other students by email or conferencing.

I wouldn’t be able to manage if the course notes weren’t in print because I take them to my sons’ football matches at the weekends and sit in the car park working through them. I even work through my notes whilst in the bath. I’m an experienced distance learner and I’ve learned how to be by myself whilst studying and I contact people when I need to by phone.

Although I don’t use GOLD, I’ve emailed the RCN as well as my tutor and I know it’s safer than phone for ‘high-ups’. It’s also quicker for contacting several people at one time, but then you have to wait ages for a reply, so if you are desperate for the information you need, then you have to phone other people and run around and see other people who might help as well.’

Student 4: ‘My husband tells me I complain a lot!’

‘I have been home with a medical problem for the last few weeks and so I spent a lot of time finding out what was in GOLD instead of getting on with the real work of the module. I’m now regretting that because I’m a bit behind with the real work.

I had to go into work or the library to get access to a computer previously, but then my husband bought one, so space has become a bit tight. A laptop would have suited me better if I’d been asked.

I find that when you go into conferencing it’s not a natural way of socialising. The help that other students give you in relation to the course is only at a superficial level.

I really needed all the equipment before I started the module and it has taken eight weeks to get it sorted out. We had eight weeks break before we started the module, why couldn’t we have had it over that time?

Getting materials would take more time if it was only available by download and I would worry about the cost, but if it was all on CD then that would be cheaper for the RCNI because it would be cheaper to remake new ones and send out new versions each year. I might not look at my email for three days. Sometimes I only read it because my daughter pester me to get online so that she can use it too. But I do get a sense of people being there with me whilst I am at the computer. My daughter uses chat-lines continually at home and I should have got a second phone line put in at the start.
Another issue for me was lack of study time given me from work (only five days per year) which left me feeling that my employer was unsupportive of my studies.

I had heard reports that online conferences are time consuming and difficult to join, and for me reading all the messages is time consuming and stressful and they always seemed to come at the wrong time.

The online instructions were complicated for those not used to computers and you can easily get lost and not arrive at all.’

Student 5: ‘Time was a factor for me’
‘I spent time reading the manual, waiting for DELL, getting used to the system, and changes in my new study patterns had to be accommodated at work and at home. Sometimes the time I spent seemed to be experimental when it could have been more constructive. Initially I spent more time on the computer finding out how to use the email and Internet than I did on the research proposal [the summative assignment]. I worried about this, but being able to use GOLD 24 hours a day has been beneficial.

After my computer crashed and had to be fixed, I didn’t have it for two months and it took time to get back into the swing of using the Web site and especially contributing again to certain issues.

I did think there was a lot of rubbish on the Internet, so for me it was not a lot of use. I also found I wasted a lot of time trying to have a reasonable conversation with anyone. Much was of little interest to me and others were not particularly interested in the contributions I made. It was difficult to know whether joining individual exchanges would turn out to be worth the time and effort invested.

I must admit that I used GOLD rather than going to the tutorials – it was one or the other! Before I got on-line, I would always make a trip to the RCN library to undertake a literature search.’

Student 6: ‘I did feel rather stressed over this period’
‘I felt I lost time with my family because I was using GOLD and I had to persuade my ‘non-computer’ husband that it was a good idea. I think an occasional contact from the Helpline would have reassured my feelings of isolation and helped sort out some of the ambiguities. In the end, I do consider that my family were unsupportive and at times my son was positively obstructive!

The conferences made me feel that I was exposing my inadequacies and I was unsure whether this was a safe environment, but when I couldn’t participate (and there was no compulsion, of course) I thought I’d missed out on something!

One impact I felt at work was that I had higher expectations, I found myself less willing to share a pooled computer. I know some others were ‘having’ to do this course and felt overburdened because the learning curve was steep.

I definitely felt unprepared to join in when I initially started using the online discussions. I was stressed trying to join in and felt I might damage the system by doing something wrong. I had this feeling that I didn’t want to expose my ignorance to other students and the tutors, particularly the tutors because they were assessing me. Although I was terrified, I did find seeing other people’s ideas was helpful.

I was disappointed that I couldn’t take two modules at the end so that I could finish off this course. But my boss insisted that I spread the course over three years because she could see that I was under pressure.’

Student 7: ‘I wanted GOLD for academic purposes and the tutor contact’
'I have used it heavily but only for module and research-related work. At the beginning, I wanted even more - to go into libraries and fire off email requests and have offprints emailed back on demand, to scan documents that I found which might be useful to others and circulate them around. Scanners only cost £50 these days.

I don’t want student gossip. I only want stuff that’s pertinent to the course. I do a lot of Internet searching and was pleased that the phone bills haven’t been as bad as I thought they might be. People ought to be more aware of how to keep costs down by working off-line and switching the machine off. Also being aware of covering all the costs of consumables, like the paper and printer cartridge and not just the telephone.

The bibliographic searching that I’ve been doing has added to my skills and I’ve found some new ways of doing things. So I feel I’ve gained in confidence and felt quite smug that I knew about most of the material in the handbook. I’ve gained skills that I took forward into the Dissertation module. However, it would have made life easier if we had had a learning study course before the start of the course, which included other study skills in the package.

I felt that it was difficult to integrate a new style of accessing information when I’m used to traditional library work. For example, glancing through an article to see if it was useful before photocopying – it was more difficult to decide on the content on-line.

Initially, I think there were too many activity streams in the Web site and I was not always clear what happened where and who the audiences were. There was not enough of a central point, someone who knew the score.

But the information obtained from the online events has been especially useful - full of rich information, and I’ve appreciated being able to download pre-online material. Being able to access good databases quickly online was excellent.

I think GOLD was probably ‘premature’ as it was not integrated with the course proper so hasn’t gained anything in terms of having an impact on learning outcomes - it needs definite activities to be required of participants such as the ‘research strings’ - although this seems to have been introduced by chance and should have been more integrated.

I am very concerned about the lack of control and privacy and we all felt very sorry for the student who asked anonymously for additional material and was then strongly obliged by a tutor to reveal her identity. It took a while for her to participate again. We thought that this kind of pressure was inappropriate and may well have affected general traffic flows adversely and bolstered one-to-one direct email communication.

This public aspect could also have been intimidating for the tutors as well as for the students. We all had to figure out the ‘etiquette’ of being online and looked to RCN and the tutors to set good examples. We found it confusing when central figures pretended to be each other and maybe there should have been better guidelines for everybody about etiquette.’

Case Study 3: Tutors

May-June 1999
We were invited to a workshop about tutoring on-line in Bath when GOLD was first starting up. One of the best things was meeting the other tutors all together, which was something that hadn’t happened before, and it gave us the chance to network and share ideas. Sometimes it is lonely being a distance tutor, so this felt like a supportive venture. I remember thinking that I was going to gain a computer and a set of skills that would be useful and looked forward to practising over the summer.
I had some concerns at the start because I was afraid that we might be seen as technical experts for all the students’ problems. Although I’m a confident computer user, I don’t have those technical skills and I was not convinced that the Web site would give them all the answers. I also wondered whether the course materials would be adapted and rewritten to accommodate GOLD. There were a lot of unknowns at the early stages and my feeling was that if the students were under stress that would create stress for the tutors too, because there might be an atmosphere of tension and worry. I wondered about some of the details - How often to go online? Would I leave it up to the students to contact me? Could I connect from work? I felt some concern about the time that might be involved, how much extra work it would involve, and even if I would get paid more!

November 1999
By the second tutorial, I was still enthusiastic about GOLD, but the students seemed to use it rather less than I would have hoped or imagined. I couldn’t say that the interchanges I had had through the medium of GOLD made an enormous contribution to their understanding of research methods, and the records may well show that the frequency with which I logged on declined a little around then. However it was a resource available to them if they chose to use it, but actually it seemed to me that they more readily used email or telephone as these media are a little more private.

I thought GOLD was excellent but so much more time consuming than I had expected. Many of my contacts are now by email, including with those students not part of GOLD and the conferences are interesting too. I was learning from other tutor-counsellors how to respond to queries. Students generally found it interesting to read forum messages, but were discouraged from taking part because of what they perceived as a high level of knowledge displayed in the messages. Two or three reported that they preferred to use email because this was private and so they could check out ideas with me. It was felt that as their ideas for their projects became more refined, they would feel less hesitant about taking part.

December 1999
At the third tutorial, I spoke to a student who logs on most nights and had posted an academic question under ‘research strings’, but nobody had offered any help. She said that the person she expected to give advice to her had not logged on that week and she thought that no one was talking to her because her message was rubbish. I reassured her, jokingly, that they were probably not up to such a complex task! Another student had a similar experience with her message remaining unanswered. It is disconcerting for students when they pose what they see as a thought-provoking question and get no response. We need to consider how we can encourage people with expertise to share it with others.

One student contacted me by email and said that she had put some work on the GOLD system and would I kindly have a look at it. After 20 minutes of looking late at night but being unable to find where she had posted it, I gave up as a bad job. I looked again the next evening and eventually located it and then spent ages constructing a response which I posted. The student then rang me to say she was unable to find it - it turned out I had pressed the wrong button, I assume, although I still don’t know exactly what happened. I had to do all of that work again. We chatted on the phone and reached the conclusion that we were investing a lot of time, not in communicating with the goals of her sending me drafts of her work and me responding to it, but in trying to make GOLD work. We reverted to email, which she used to send me a further draft of her work, and the
telephone, which I used to give her feedback. This proved to be much more convenient, simple and satisfactory all round.

So, it takes students time and confidence to post messages in a public place like GOLD. With only a small number of students in my group, there is no real chance of a group identity developing – especially with installation problems and occasional absences due to illness. I am not really convinced that GOLD offers any advantages over email and telephone.

January 2000
I looked back at the Research Methods Module and asked myself what had been achieved. I thought that there was very little online discussion because some of the students lost heart in the early stages when there was a delay in getting connected. They were busy with the module and didn’t have time to test out the GOLD project. I certainly got more of a response in the classroom at tutorials than I did on-line. But it was a great system and you are forced to learn new material. It’s a good resource to have. It was good for accessing information. Those students who were initially keen lost interest and I noticed a superficial quality of discussion within our own group. On-line discussion of methodology just did not happen, but there were brief flashes of good discussion. My students depended on email and although I tried to encourage them to put their ideas on GOLD, they were very reluctant. A hands-on workshop for students would have given initial guidance with this. Tutors and RCNI needed a much more structured approach to posting questions and initiating dialogue and I suspect this is a skill in itself, but it also needed miles more preparation at RCN, i.e. the tutors needed a structure. A dedicated project leader was lacking in the early days. It needed more preparation in content rather than process.

I thought about the effects it had on my role as a tutor and the way I tutored during this Research Methods module compared to other modules that I’ve tutored on this MSc programme. It allowed me more contact with the students and them with me. I could offer guidance online to multiple students at the same time, so it was a more efficient use of time. I am looking forward to having more structured debates in the next modules. I think more about my responses to students’ queries due to the public nature of forums. It has enhanced my support role, but is more time-consuming. I became more aware of my written communication skills so necessary to ensure clarity and also to inject a human touch. I was actually surprised to find this mode of communication just as effective as verbal and I enjoyed talking to students in this way. The information that I find on the Internet I now use both in tutorials and at work.

The telephone discussion groups helped to foster a sense of working together amongst tutors and maybe these could be held on a regular basis.

### 7.2 Project GOLD Steering Group

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<tr>
<th>Name</th>
<th>Institution</th>
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<tr>
<td>Professor Alison Kitson (Chair)</td>
<td>Director, RCN Institute</td>
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<td>Dr Liz Clark</td>
<td>Director, RCN Institute</td>
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<tr>
<td>Simon Fitzpatrick</td>
<td>RCN Institute</td>
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<td>John Lambert</td>
<td>University of Newcastle</td>
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<td>Di Marks-Maran</td>
<td>University for Industry</td>
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<td>Dr Peter Orton</td>
<td>Thames Valley University</td>
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<tr>
<td>Gill Tucker</td>
<td>University of Exeter and Royal College of General Practitioners</td>
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<td>University of East London</td>
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7.3 Project GOLD evaluation team

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Ms Denise Haywood | Scotland, UK
Ms Jean Wood * | Department of Rural Medicine. University of Melbourne
## Project GOLD evaluation timelines

### 1999

**MSc Modules**
- Research Methodology 99
- Research Methods 99
- Dissertation 00-01
- Leadership 00

**GOLD events**
- Engagement evaluation team
- Tutor training
- PC delivery tutors
- PC delivery students
- CD ROM finalised
- Web site established
- GOLD team Away Day
- Manuals and CDs mailed
- “Reflections on GOLD tutoring”
- On-line Research Clinics for Dissertation module
- On-line Topical Issues for Leadership module

**Evaluation actions**
- GOLD students ICT survey
- Post cohort ICT survey
- Post cohort profile survey
- Nurse educator interview
- Tutor group interview Bath
- Telephone interviews tutors
- Tutor email post tutorial 1
- Tutor email post tutorial 2
- Tutor email post tutorial 3
- DELL interviews
- PC delivery survey
- Summer contacts survey
- Telephone interviews students
- Tutorial 2 group interviews 2 of 3
- Tutorial 3 group interviews 2 of 3
- Course team logs
- Tutor logs
- GOLD team interviews
- Tutor interview Eire
- Student interview Eire
- Background interview Eire
- Review assignments & dissertations
- Final survey students
- Exit survey students
- Exit survey tutors
- On-line participation analysis
- Non-GOLD participant interviews
- Student post-tutorial 1 interviews
- Steering group reports
- Ethics

### 2000

**MSc Modules**
- Research Methodology 99
- Research Methods 99
- Dissertation 00-01
- Leadership 00

**GOLD events**
- Engagement evaluation team
tutor training
PC delivery tutors
PC delivery students
CD ROM finalised
Web site established
GOLD team Away Day
Manuals and CDs mailed
"Reflections on GOLD tutoring"
On-line Research Clinics for Dissertation module
On-line Topical Issues for Leadership module

**Evaluation actions**
- GOLD students ICT survey
- previous cohort ICT survey
- post cohort ICT survey
- post cohort profile survey
- nurse educator interview
- tutor group interview Bath
- telephone interviews tutors
- tutor email post tutorial 1
- tutor email post tutorial 2
- tutor email post tutorial 3
- DELL interviews
- PC delivery survey
- summer contacts survey
- telephone interviews students
- tutorial 2 group interviews 2 of
tutorial 3 group interviews 2 of
course team logs
- tutor logs
- GOLD team interviews
- tutor interview Eire
- student interview Eire
- background interview Eire
- review assignments & dissertations
- final survey students
- exit survey students
- exit survey tutors
- on-line participation analysis
- non-GOLD participant interviews
- student post-tutorial 1 interviews
- steering group reports
- ethics

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