Evaluation of the Use of Information & Communications Technology (ICT) in the University of Edinburgh Scottish Qualification for Headship (SQH) - Postgraduate Diploma in Educational Leadership & Management (PDELM)

Final Report

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1 Executive Summary

The Scottish Qualification for Headship (SQH) course is offered to experienced teachers in the East of Scotland by the University of Edinburgh in partnership with LEAs. The course is based on reflection on practice and requires students to develop a portfolio with evidence of professional competences (matching those of the Standard for Headship) demonstrated in the delivery of a developmental project based within their school setting.

In 2000, the course was enhanced by the creation of on-line materials and communication tools using the virtual learning environment, WebCT. The first students used the system in 2000-1 and after revision in early 2001 it was used in 2001-2 by a second cohort alongside some of the first cohort. The website provided general course information, downloadable forms and readings (e-reserve), chat and on-line forums (bulletin boards) and links to email. The face-to-face and printed text elements of the course remained and so this is an example of mixed-mode delivery of continuing professional development (CPD), which combines traditional and electronic components.

The ICT component of the course was evaluated during this period by members of the Higher & Community Education Department at the University of Edinburgh, who provided formative elements through interim reports and a summative report at the end of the 2 year period (this report). Data were collected by paper surveys, interviews and observation from students, part-time tutors, staff dedicated to the course (the course leader and a tutor), and the staff of the Media & Learning Technology Service who built the course website and provided training for tutors and students. Students either provided their own internet-ready PC or had one supplied by their LEA sponsors.

The students in both cohorts were mostly frequent users of ICT both at work and at home. They owned PCs, and rated themselves as reasonably skilled both with common applications and in comparison to their colleagues. They saw ICT as important to their careers and were looking forward to using it in the SQH course. However, there was a small proportion of students who regarded themselves as less skilled, who were not confident and who were somewhat apprehensive about having to use ICT in the course.

Some of the ICT components of the course worked particularly well for many students, especially the e-reserve and downloadable forms. However, there were some who never managed to get the download of the articles and forms to work well for some reason. The other major feature, the on-line forums (bulletin boards) was used very differently between the two years, apparently due to the lack of clear purpose and technical problems in the first year and a defined relationship to the course units and far fewer technical hitches in the second year. The system was very useful for some students who contributed substantially, and was moderately useful to many. Even those students who read rather than contributed felt that the postings were useful by reducing their sense of isolation. For a few students, either they could not access or use the forums for technical reasons or they felt too uncomfortable using them, and some of these students felt that they were missing out. The number of students using the system was much higher in the second year than in the first.
The postings to the forums in the second year showed that the most frequent posters of messages were the SQH course leader and dedicated tutor, which is not uncommon. The students posted around 60% of the 520 messages, and many of these were academic in nature in addition to the usual social topics and requests for information, and their use of the time-place flexibility could be seen in the high frequency of postings in the evenings and at weekends. These staff members were able to keep most of their on-line activities within normal working hours.

In contrast to the course leader and dedicated tutor, the part-time tutors never used the forums to post messages in either year, although they did communicate with students via 1-to-1 email and personally. There was evidence that they were concerned about possible additional teaching loads out of normal hours, there was some resistance to change and technical problems in accessing the system in the first year lead to a lack of confidence in it.

It was clear that the introduction of ICT into CPD courses has implications for the technical skills and resources of both providers and learners. Use of the course website and on-line tools provided through WebCT required some degree of technical competence and confidence for non-IT staff to maintain and update, and the more interactive parts of the website such as the forums and downloading of materials were problematic for some learners. Face-to-face training in the use of the system had 'glitches' that created a poor impression. As learners become more reliant on on-line support and as course scheduled events start to take place on-line system accessibility and resilience become more critical. A clearly-identified student helpdesk is needed from the outset.

In addition to the value to the learners and the staff of the on-line activities and materials, there were wider impacts of the introduction of ICT beyond the course. The main impacts were: an increased use by students of a broader range of ICT skills that can now be employed more widely; a generally positive student view of ICT in education despite problems that occurred, and an appreciation by the providers of the broad technical issues involved in delivery of on-line courses.

The main messages from this evaluation were comparable to those from previous evaluations of the introduction of ICT into professional development courses.
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3 Acknowledgments

We should like to acknowledge the generous input of time by the students and staff of the PDELM/SQH course and staff of the Media & Learning Technology Service during this evaluation.

We should also like to thank Denise Chalmers and Margaret Gardner at the University of Queensland, Australia for their help in providing the research facilities that we used during the preparation of this report.
4 Background

4.1 Wider context for the course – lifelong learning & technology

Over the past decade much attention has been given to the changing face of education in the light of the emergence of the ‘information society’ and its consequence, the requirement for lifelong learning as opposed to ‘once-and-for-all’ learning which had previously formed the majority of formal educational provision [1,2,3]. For the professions, this new view has been reflected in the importance attached to continuing professional development (CPD) and more recently the use of information and communications technology (ICT) in CPD (eCPD) to reach wider and harder-to-reach audiences [4]. These developments have not passed the teaching profession by, and for both new and practising teachers, ICT has entered the arena of initial teacher training and in-service training [5,6,7].

However, the rapidly expanding volume of literature about learning and teaching on-line demonstrates that, despite the ‘hype’ current in some quarters, this is not an area in which all the problems and difficulties, conceptual or practical, have been resolved. There are several key issues current in the field of use of ICT in education, now often called ‘eLearning’. These include: access/equity; learner vs. teacher control; quality of service; staff development for teachers and return on investment/cost-effectiveness.

4.2 Training for Headship

Although much of the focus on training for the teaching profession has been on junior ranks, attention is increasingly being paid to the challenge of leadership - how best to train and subsequently support school and college heads - and national programmes have been designed which address these issues. Bundrett compares these programmes in the UK and the US [8].

In 1998, the Teacher Training Agency, in collaboration with the Hay/McBer management consultants, the National Association of Headteachers and the Open University, developed the Leadership Programme for Serving Headteachers (LPSH) to serve the continuing professional development needs of English headteachers. The programme adopted the use of ICT to provide online communication between participants on the course within a course website. Now the responsibility of the National College for School Leadership, it continues to provide an on-line forum called ‘Talking Heads’ with over 7000 registered members [9].

The course for intending heads, which leads to the National Professional Qualification for Headship (NPQH) also has much of its provision on-line, including access modules. However, as Crawford states ‘…it is now taken for granted that any programme for school leaders will have some kind of online component, although there are few evaluations yet available to show the benefits or disadvantages to school leaders’ [10,11].
In Scotland, with an education system which is distinct in many aspects from the rest of the UK, provision has also been made for preparation of new heads and support of existing heads. The Scottish equivalent of NPQH is the Scottish Qualification for Headship (SQH), an award that is given for achieving a level of professional practice, The Standard for Headship [12], and is usually coupled to a postgraduate diploma awarded by a higher education institution. Various aspects of the Scottish SQH courses have been evaluated recently [13,14,15].

Based on reflection on practice the course requires students to develop a portfolio with evidence of professional competences (matching those of the Standard for Headship) demonstrated in the delivery of a developmental project based within their school setting. Process not content dominates the SQH programme. It is targeted at experienced teachers (who therefore know about the learning process) and is very challenging for them, especially as it stands alongside their busy working lives.

Three consortia (of education authorities and HEIs) jointly deliver programmes leading to SQH in the different geographical areas of Scotland – East, North and West. Local education authorities provide support to their candidates through coordinators (who act to form networks, give pastoral care etc) and in equipment (for example laptops). The headteachers of the candidates’ schools are also closely involved as much of the study activity is school-based.

### 4.3 ICT in the University of Edinburgh PDELM/SQH course

The University of Edinburgh’s Faculty of Education provides a postgraduate course named the Professional Diploma in Educational Leadership & Management (PDELM) and which leads also to the Scottish Qualification for Headship (SQH). It can be taken in two modes – an accelerated route (AR), for those who feel that they have already reached the Standard, and which does not lead to the award of a Diploma, and a standard route (SR) which offers wider work-based learning, over a longer timescale. The course is mainly workplace based with a small number of face-to-face sessions and visits. The course is modular and consists of 4 units of work which together are equivalent to 120 Scottish Masters level credits or 8 of the modules of the conventional Masters programmes of the School of Education. It is organised by the SQH Unit, which consists of a full-time academic and an administrator. Teaching input comes from the SQH Unit and a small number of academic staff of the Faculty who between them created the written materials and also tutor on the course. The non-SQH staff have many other responsibilities in addition to their tutoring role in SQH. In 2001, a dedicated tutor was appointed with greater responsibility towards the course.

In 2000, funding was obtained from the University Development Fund to support the creation of a course website to provide both information and interaction/communication to staff and students. This was built using one of the university-wide virtual learning environments (VLEs), WebCT, which has built-in authentication, course management tools such as a calendar and student homepages, a discussion forum (bulletin board) and email. In close consultation with the SQH course leader, the website was designed and built by the University of Edinburgh central eLearning service, the Media & Learning Technology Service (MALTS). Technical administration and training was to be provided by MALTS but minor updating and day-to-day help to students was to be provided by the SQH Unit administrator.

The introduction of ICT into the course was seen as having the potential to provide access to digital materials for learners with little time to travel to libraries, to enable group and 1:1
communications, access to forms and up-to-date course information for students and tutors. It was not intended to replace the face-to-face elements of the course but to enable a wider range of materials and communications to be available. Some of these features had been mentioned as desirable in the evaluation of the SQH pilot in 1999 [13]. In addition, from the wider perspective it was seen as a useful way to explore the development of eCPD for the Faculty and the University. Of course, as for all higher education providers at the start of the 21st century, there is a strong element of ‘can’t afford not to do it’ in all introductions of ICT into courses [16, chapter 2].

Because of the importance to the University of the SQH course and its use of ICT as an example of eCPD, and also its interest to external educational agencies, an evaluation was established, provided by the Department of Higher & Community Education.

In early 2001, the website and forums were re-designed taking into account feedback from staff and students which had been partly collected by the evaluators, and using the interim evaluation reports. The latter gave recommendations for changes, using a formative model which had proved useful in earlier evaluation of similar initiative [17,18].

The course now had an open, public-domain informational website [http://www.sqh.ed.ac.uk/] and the WebCT area was reached through this using the login-password protocol. The integration into the course of the forums was strengthened, linking them directly to content and the different cohorts (eg SR01 Study Session 1 – ‘What is teaching for?’). The e-reserve was continually enhanced.

As we write this report, the course is entering its third iteration using ICT.
5 Methodology

The evaluation of the ICT component of the University of Edinburgh PDELM/SQH course was conducted over the period spring 2000 to summer 2002, which covered two complete entry cohorts, arriving in Spring 2000 and 2001. In common with many evaluations of educational innovations [18], this evaluation was both formative and summative in nature, providing interim reports with findings and recommendations as well as a final report (this document) which looks back over the whole process and draws lessons.

5.1 Data collection

Data were collected from students (within the course called ‘participants’ but the term student is clearer here to distinguish from staff and other contributors), tutors, LEA coordinators, the course leader and administrator, and the technical team in the Media & Learning Technology Service (MALTS).

The data collection methods used were:

- paper surveys – at entry to the course and at the end of the year, based substantially on surveys used and validated with other groups of learners. They contained qualitative and quantitative questions. The latest student entry and exit surveys may be found in the Appendix.

- face-to-face and telephone interviews – these were mainly used to collect additional information from students and to enable them to comment on our conclusions, and were the main sources of information from staff

- informal discussions & meetings – again these were used with staff, especially the course leader and staff in MALTS, and revolved around critical periods and events

- observations of activities – these took place at training sessions for staff and students, and, as some of the outcomes of student activities (discussions) could be viewed on-line within the forum section of the course website, these were also analysed in terms of contributors and content.

We have indicated the main sources of data at appropriate points in the text. This is a classical mixed method approach [19]

Quantitative data were analysed in SPSS software (Statistics Package for the Social Sciences), and qualitative data by ‘theming’ [20] after transcription.

All contributors to the evaluation were treated according to ethical good practice, modelled on our experiences with other professional groups in a similar setting. Each potential contributor was given an information sheet describing the evaluation and a consent form that allowed them to indicate in which (if any) data-gathering methods they were prepared
to participate. The majority were prepared to contribute through all methods, but where this was not the case, we excluded individuals from our data-gathering. All data were treated confidentially and are used in a non-attributable manner wherever possible.

Finally, to seat our evaluation in the wider context of CPD and eLearning developments worldwide, we have drawn on our knowledge of the literature and also sought out conference presentations at which relevant material was being discussed.

5.2 Evaluation challenges

Evaluations of innovations in continuing professional development courses such as the PDELM/SQH offer a set of challenges to evaluators.

Evaluation load
Students and staff are involved with the course, and hence the evaluation, for a period of over one year. There is a tension between collecting robust data from participants for an in-depth evaluation and avoidance of overload on the rather small number of participants. A variety of data-collection methods which include personal contact through short telephone interviews with rotating samples of respondents enabled us to hold the interest of most of our contacts and keep a ‘light touch’.

Unpredictability of critical events
As with all innovations, there is a degree of uncertainty as to ‘what will happen when’ and hence strict timetabling of the evaluation is difficult. A degree of flexibility to enable one to be there when the action takes place is important.

Fluidity in cohorts
In professional, post-experience courses the stability of student cohorts is generally lower than in school or undergraduate classes. Students change status on-course, for example transfer from accelerated to standard route, drop-out or put studies on hold, change their names through marriage, and so tracking and taking account of these changes can pose problems.

This evaluation report is addressed to several stakeholders: the course team, the Faculty (now School) of Education, the University as a whole, the Scottish Executive Education Department, the wider academic community, and our colleagues in eLearning research. It addresses issues of interest to all these groups and hence may cover some ground not of direct concern to all readers. We hope that this does not detract too much from the usefulness to all of this report.
6 Findings

6.1 The students

<table>
<thead>
<tr>
<th>Student Participants – data collected by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper surveys of ICT skills</td>
</tr>
<tr>
<td>Paper ‘exit’ surveys</td>
</tr>
<tr>
<td>Paper ‘entry’ surveys</td>
</tr>
<tr>
<td>Telephone Interviews</td>
</tr>
<tr>
<td>Analysis of on-line activities</td>
</tr>
</tbody>
</table>

6.1.1 Student views at the start of the sessions

The following tables show comparisons of information collected from students by paper surveys over the period of two years during which the course has been using ICT.

Throughout, values are percentages of all respondents to that survey. Not all respondents answered all questions, and so cohort responses do not all total 100%.

N=44 ex 65 for 1999+2000 (named Cohort 2000-1 below) and N=45 ex 53 for 2001-2 cohorts respectively.

The composition of the cohorts with respect to gender and school type at the start of the session are shown in Table 1.

<table>
<thead>
<tr>
<th>Table 1 gender &amp; school type of SQH students</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Cohort 2000-1</td>
</tr>
<tr>
<td>Cohort 2001-2</td>
</tr>
</tbody>
</table>

Clearly, one attribute of the SQH students which would significantly influence the value to them of the ICT component of the course is their overall competence with and attitudes towards ICT. Although students were aware that ICT would be a component of the course and hence one might expect that any students with very low skills or a negative view of ICT would not choose to participate, nevertheless the extent of their skills and their general confidence about ICT are important predictors of later success. In addition, mature professional students sometimes ‘volunteer’ for courses which use ICT to improve their skills and knowledge.
At the beginning of the course in each of the two years, students were asked about their ICT skills, knowledge and attitudes using a modification of a survey which has been tested by us on several different types of student over almost 10 years.

SQH students in both cohorts mainly used ICT at work and this on a daily basis, with greater than 90% making at least weekly use both at home and at work (Table 2). Few students made little use of ICT. This is now a common feature of most professional groups.

Table 2  Student frequency of use of ICT at home and work.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Cohort 2000-1</th>
<th>Cohort 2001-2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>at work</td>
<td>at home</td>
</tr>
<tr>
<td>never/rarely</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>less than weekly</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>weekly</td>
<td>5</td>
<td>46</td>
</tr>
<tr>
<td>daily</td>
<td>90</td>
<td>46</td>
</tr>
</tbody>
</table>

The majority of students of both cohorts rated themselves as at least as skilled overall with ICT as their colleagues, with only a few self-rating lower than colleagues (Table 3). There is a general recognition that females tend to self-rate their ICT skills less than do males, even when their actual observed skills are equal [21]. In this case, across the two combined cohorts of SQH students, 61% of males as compared to 46% of females self-rated as higher or much higher in ICT skills than their colleagues.

The group with lower self-rated skills may need particular attention (either to improve their skills or their view of these) as the more skilled or confident group can set a standard that is hard for them to reach without help.

Table 3  Student self-rating of ICT skills in comparison to work colleagues.

<table>
<thead>
<tr>
<th>Self-rating of ICT skills</th>
<th>Cohort 2000-1</th>
<th>Cohort 2001-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>much higher</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Higher</td>
<td>41</td>
<td>33</td>
</tr>
<tr>
<td>Same</td>
<td>41</td>
<td>44</td>
</tr>
<tr>
<td>Lower</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

The students were likely to use the ICT component of the course from home as well as from work, indeed this kind of time/place flexibility is one of the major advantages cited for ICT in education. However, unlike the workplace setting where professional IT help is generally on call (even if in many small school settings this may not yet be at corporate speeds or competence levels), home use of ICT mainly relies on the user to provide their own technical support. In other settings we have found that technical competence is a significant barrier to trouble-free home use, and so it was of interest to us to determine the sources of assistance on which the SQH students could call [17].

Both years stated that they had good support from friends, family and colleagues with respect to ICT (Table 4), but again, as ICT expectations rise, those 10% or so with low support levels may be at risk if good ICT support is not available to them from the course or central services. There was no gender difference in reported accessibility of help.
The great majority of students (both male and female) had good access to computers that they could use for the SQH course (Table 5), and the level of home ownership implied is in line with data from other sources for professional groups and earlier findings on the SQH Pilot [13, 22]. They also reported that they had good access to email in both locations (Table 6), because at the start of the course a high percentage of both cohorts of students said that they had an email address. However, this information has to be viewed with some caution, for when attempts were made by us to contact them through these addresses, several emails ‘bounced’ back as non-existent.

More specific measures of the students’ confidence with common applications are useful indicators of the reliability of the data, for they can be compared with the tasks that students have reported they do at work and home with ICT, and also with the activities which they are going to be asked to carry out in the course.

The students reported a high level of confidence with word processing, and less so for other common ‘office applications’ such as spreadsheets and databases (Table 7). These data are similar to those from other studies of both undergraduate and postgraduate/post-experience students at Edinburgh and elsewhere [21] and correlate well with the students’ own reports of their actual use of applications.

However, as noted above, there are significant numbers of students on this course whose skills beyond the word-processor are quite low. Notable items here are on-line bibliographies and on-line forums, that we shall return to later. However, of more importance and more easily overlooked is that not all students feel confident with email (19% and 16%), which is turned out to be a key tool for communication between students and staff, or a web browser (27% and 11%) which is the core tool to access the on-line web-based system.

Again, males self-rated substantially higher on individual applications than did females. For example, of those who reported little or no confidence in use of WWW, email or on-line forums, >80% were female.
Table 7  Confidence of students with various ICT applications at start of course.

<table>
<thead>
<tr>
<th>ICT Application</th>
<th>Cohort 2000-1</th>
<th>Cohort 2001-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wordprocessor</td>
<td>64 36 0 56</td>
<td>62 42 2</td>
</tr>
<tr>
<td>Graphics software</td>
<td>9 48 43 20</td>
<td>40 38 16</td>
</tr>
<tr>
<td>WWW browser</td>
<td>16 61 23 42</td>
<td>47 11</td>
</tr>
<tr>
<td>Email</td>
<td>25 57 18 47</td>
<td>38 16</td>
</tr>
<tr>
<td>Spreadsheet</td>
<td>18 50 32 20</td>
<td>42 38</td>
</tr>
<tr>
<td>Database</td>
<td>9 43 48 20 40</td>
<td>40</td>
</tr>
<tr>
<td>School records database</td>
<td>16 52 30 24</td>
<td>49 27</td>
</tr>
<tr>
<td>On-line bibliography</td>
<td>0 25 71 9</td>
<td>33 58</td>
</tr>
<tr>
<td>On-line forum</td>
<td>9 46 55 4</td>
<td>20 76</td>
</tr>
<tr>
<td>Powerpoint</td>
<td>- - - 13</td>
<td>31 56</td>
</tr>
</tbody>
</table>

Finally, we asked students about their views of the importance of ICT to them in their careers and how they felt about ICT in this SQH course.

Most students from both years saw ICT in their future careers as important or very important (Table 8), with absolutely no difference between females and males. As before, professional groups now routinely report this, and it tallies with their reportage of daily to weekly use themselves at present. Thus the majority of students have a strong interest in gaining greater skills and confidence with ICT, especially as it relates to their future professional activities.

Table 8  View of students of importance of ICT in their future careers

<table>
<thead>
<tr>
<th>Importance</th>
<th>Cohort 2000-1</th>
<th>Cohort 2001-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>v important</td>
<td>66</td>
<td>80</td>
</tr>
<tr>
<td>important</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>useful</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>little importance</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>no importance</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Although most students felt fairly confident or were quite looking forward to using ICT in the SQH course, a small group felt apprehensive (Table 9). Almost all the respondents in the apprehensive and very apprehensive groups were female. This group should not be ignored for they may over-contribute to the call on the helpdesk. We have noted that in the undergraduate population the percentage of apprehensive individuals has levelled out at around 10%, and so they may also remain a feature of all professional courses with on-line provision for some time [21].

Table 9  Feelings of students towards use of ICT on SQH course

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Cohort 2000-1</th>
<th>Cohort 2001-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>quite looking forward</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>fairly confident</td>
<td>52</td>
<td>44</td>
</tr>
<tr>
<td>apprehensive</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>v apprehensive</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>
6.1.2 Student on-line activities and views during the sessions

In the first year (April 2000-2001) the website was built using WebCT and offered downloadable digital readings (e-reserve provided by the University Library), synchronous chat, email, forums (bulletin board), on-line forms (eg for extensions on submission dates) and general course information and contacts.

There were only 55 posting to the forums between May 2000 and April 2001, and of these 22 were from the course leader, 8 were from the administrator, and 8 from the webdeveloper. The emails from students were generally queries or social in nature. No tutors posted messages of encouragement or academic content. Within some messages could be seen the sorts of problems that were occurring - ‘I got the message "access forbidden or authentication method not supported. HTTP/1.0 403 Forbidden". The course administrator acted as helpdesk for some of these problems, as did the developer in MALTS, but some of the difficulties were due to new systems (WebCT) and some to home PC/internet connections for which no technical helpdesk was available. The e-reserve and forms were well-used although some students had problems downloading them.

The revision of the course website in WebCT at the beginning of the next year took into account the major problems and comments from the first year group, and also the experiences of others working in this area for example Salmon and Mason [23,24]. As a consequence the structuring of the forums made them more useful to the students and the course team, and resulted in much more data for us to analyse.

Forums (bulletin board)

The re-think of the role and use of the on-line forum (bulletin board) took it to a more structured system, less reliant on the ideas that might (or might not!) emerge from individual participants to a clearer relationship with the course modules and the assignments that were associated with these.

We analysed the postings to the forum over the period April 2001 – February 2002, which covers the majority of one session. To simplify the analysis we decided to ask these questions:

- How much was posted?
- Who posted?
- When did they post?

But not (due to time constraints) to produce a comprehensive answer to:

- What were the purposes of the postings?

How much was posted?

In the period April 2001 – Feb 2002 there were 520 messages posted, into 155 different ‘threads’ (i.e. new topics), an average of 3.35 messages per thread. In reality, some threads contained single postings and others contained 10 or more. This is a substantial number of messages, and represents very successful use of the forums. The expansion in use from the first to the second year represents the payoff for the revision of the purpose of the forums and their better integration into the course. Even so, some students felt that there could be more activity - “not enough people contributing to
discussions” – and others that they would have but found problems – “I still cannot navigate my way around i.e. join bulletin board, reply to messages”.

Who posted?
The most prolific posters of messages were two staff with most responsibility for the course, the course leader and dedicated tutor. They posted 113 and 65 messages respectively. A few students accounted for many of the remaining 342 messages, posting between 10 and 20 each. The majority of students posted either a very small number of times or never. We have no data as to how many times these individuals viewed the messages without posting (what is commonly called ‘lurking’ but might be better named ‘browsing’). Some of the students who did post messages felt that there could have been greater involvement by others ("probably more needed as it tended to be same people") and some who did not post or did so marginally, felt that they too could have been more active if compelled to be so ("if some had been compulsory I would have been forced to become involved").

The tutors other than the course leader and the dedicated tutor were absent from the on-line forum postings in this period. Interestingly, there were a small number of messages posted on their behalf by the administrator.

In the session 2001-2, both cohorts of students were able to access the on-line forums, and activities directly relevant to their studies were present for both. The patterns of participation differ between the 2 years (Fig 1). In the 2000-1 cohort, a small number of students were active, some very active, but the majority made no postings at all. In the second 2001-2 cohort, again a few students were very active, some moderately active, but far fewer made no postings than in the previous cohort. Instead we see the largest category of student postings is in the 1-5 range, including many of those who cited barriers of various kinds, such as time, discomfort with medium and technical problems.

These data appear to confirm our findings from interviews and end of 2000-1 session surveys, that the students in this first year of ICT were either discouraged from its use by technical problems, lack of direct relationship to the course and lack of structure or for whom it had come too late as they had already established alternative ways of working. Those few who found, for whatever reason, that it was a medium they were attracted to engaged as much as the 2001-2 group. The major impact was on those who could or would participate a little, who appear not to have done so.

In the second cohort, of the six students who described themselves at the start as ‘apprehensive’ or ‘very apprehensive’ about use of ICT in the course, two made a small number of postings, three made no postings but one posted >10 messages. In the first cohort, three made no postings but one made >10. Thus lack of initial confidence does not wholly predict the uptake of the opportunity to converse with colleagues.
When did they post?
One purpose of the ICT component of the SQH course was to provide students (and perhaps to a lesser extent staff) with access to services and communications on an anytime-anyplace basis. As for all working professionals, their time during the day is limited and finding time to study can be a challenge [25]. One measure of the extent to which this opportunity was taken up can be analysed from the timedate stamps on the forum postings. We decided that before 0800hr, after 1800hr and all of Saturday and Sunday would be counted as normally non-working time. Analysis of the postings shows that 50% messages were in this non-working period, mostly mid-late evenings and weekends. Of these, 15% were contributed by staff members. Some sequential postings (i.e. messages and replies very close to each other in time) took place at these times, showing that students were logged on almost simultaneously.

This is a substantial use of the flexibility of the on-line system, and reinforces comments by some students that “the discussion forum worked well – it allowed you to give a considered response at a time best suited to your work schedule”. We assume that most of this use of the website outside normal working hours was done from home, a view reinforced by comments made in some interviews.

What were the purposes of the postings?
To answer this question fully requires analysis of all the postings for content, for example in a previous similar evaluation we looked for Academic, Information-giving, Problem-solving and Social messages. It is clear from some of the thread titles that their purpose is Problem-solving or Informational (e.g. ‘Where are the bulletin messages?’, ‘SQH secretary on leave’). However, some threads were clearly directly related to the course (e.g. ‘Delegation Case Studies - Curriculum SR01 Topic’) and so we have examined a sample of the large threads to assess whether Academic purposes were present in these postings. Generally, the main purpose of most postings in these threads was Academic, with a smaller number of Informational (related to the assignment) or Social. Problem-solving was generally dealt with in separate threads.

Some topics spanned a long time period of activity, for example September through to February, whilst others were completed much more quickly, within 1 to 2 weeks.
Overall, many students commented on the value of the forums, even if they had only used them to browse and gain a sense of the ‘presence’ of other learners. This is a common observation in research into on-line discussions (see section 6.6).

**E-reserve, downloadable forms & other static resources**

The use of the other components of the website were less amenable to remote observation, for example the on-line forms and the e-reserve. Repeated technical problems in the first session made the reliability seem low in students’ eyes and few reported good use of the on-line resources. By the second session when most of the problems had been ironed out, there were regular comments during interviews that students valued the on-line forms and e-reserve, and these views were reinforced in the end of session qualitative comments on the paper surveys (section 6.1.3). Even those who reported problems (for whatever reason) with the forums appeared to value these other provisions.

We also found evidence in the forums for use of e-reserve and forms: ‘Just thought I’d share my enthusiasm with you! I’ve just downloaded Acrobat Reader 5 from the e reserve site and have finally got my head round how to use it. It is great! I can even copy quotes directly on to my notes!’ and a reply: ‘Thanks [name]. I hadn’t realised you could do this...’. A learning experience is being shared with colleagues.

This comment about the value of on-line materials in the digital library is directly relevant to the issues raised in the 1999 evaluation of the SQH pilot [13], where Morris comments that ‘although HE libraries will, in future, be more readily available to candidates, they will not necessarily be accessible to candidates in rural areas’.

By summer 2002, there were 164 e-reserve items available.

One student reported that: ‘the calendar reminded me about dates’, and several others mentioned this too, although some also commented that it was too ‘Edinburgh-centric’!!

6.1.3 **Student views at the end of the sessions**

At the end of the sessions (April 2001 and 2002) the students were sent a survey which asked them about their experiences on the course. There are several noteworthy points which emerge from their responses, and some important differences between the two cohorts which can be related to their experiences during the course.

**Online - what went well and what could have been improved??**

The major sources of qualitative data were the open-ended questions on the ‘exit surveys’ given to each cohort, which asked students for aspects of the on-line component of the course that ‘went well’ and that ‘could have been improved’. The majority of respondents gave some feedback in these questions.

The students who started in 1999 and who were able to use the WebCT on-line resources in their second year did not generally regard using on-line resources for learning as ‘for them’ and ‘did not feel there was a need.’ They had already established more traditional ways of working, had bought books etc.

In the 2000-1 cohort, 16 students said that they had not used the website, whereas no students made this comment in the 2001-2 cohort. Moreover, one noticeable difference
between the 2000-1 and 2001-2 cohorts in their ‘could be improved’ comments were that the detail in the second cohort’s comments were such that most could only have been made after appreciable use of the system.

Of those who itemised aspects that had gone well, the majority viewed the e-reserve (20 mentions summed across the 2 cohorts) and the discussion forums (21 mentions) as the best features, with on-line forms coming third (10 mentions). The first cohort mentioned email as a positive feature (8), something that the second cohort did not mention at all, perhaps because for them it was taken for granted as a medium of communication on the course due to the way it was treated by the staff in the opening sessions. There were also comments that the site was well-designed, that it made easy access to materials and the course team’s evident interest in using it was recognised. One student commented: ‘it was a home-base, a lifeline’, and 12 others also mentioned the role of the on-line systems as helping to reduce isolation and loneliness.

Regarding things that could have been improved, both cohorts mentioned a list of technical problems that they had experienced (server downtime, passwords, downloading problems), of features that they felt should have been present (private areas for groups, area for chit-chat away from academic materials), of ways that it should have been used (more integration into course to ‘force’ its use by all students), and a range of miscellaneous problems that made it less-than-ideal for them personally (no internet at home and at school no time, need for more training). Of all these comments, the major comments were about WebCT problems of various kinds (10), including the timing of the server changeover – ‘changing the server could not have happened at a more inconvenient time’, but the second most common were problems that appear to have been technical problems experienced by a number of individuals that were probably due to their PC/internet setups or lack of experience/training (10) – ‘I had great difficulty downloading electronic papers with the adobe acrobat’.

Not all of those who used the system a lot were positive, nor did all the criticisms come from those who didn’t use it. These comments came from two students who made no postings to the forums: ‘Using website was easy, esp for those who lacked confidence – it was well-designed’, ‘I enjoy browsing (note!!) through the website and the contact with other SQH participants’. And from a student who posted at least 10 messages: ‘The fact that the website seemed to be down in April totally and utterly made me less favourable to using it in future’.

Another open-ended question gave us information showing that, for some students, the ICT component of the SQH course had changed what they did with ICT in general (Table 10).

<table>
<thead>
<tr>
<th>item</th>
<th>Number of mentions both cohorts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Going on-line generally</td>
<td>11</td>
</tr>
<tr>
<td>Using a word-processor ‘better’</td>
<td>7</td>
</tr>
<tr>
<td>Using a spreadsheet/data-handling</td>
<td>3</td>
</tr>
<tr>
<td>Getting information off the internet/digital texts</td>
<td>11</td>
</tr>
<tr>
<td>Contacting others on-line/email</td>
<td>4</td>
</tr>
<tr>
<td>On-line forms</td>
<td>2</td>
</tr>
</tbody>
</table>

Using on-line forums was mentioned only by second cohort students, and that 6 times.
And the most extreme comment on change: ‘I now need a laptop to function.’

**Communication patterns**

Firstly, although email is an important medium of communication, face-to-face and telephone were also commonly used by this group (Table 11). Secondly, the very low levels of reported use of the on-line forums as a communication tool shows its low value in student eyes for this purpose, and reflects technical difficulties during the year with the WebCT system. Thirdly, there was very little communication with IT support within the University of Edinburgh (i.e. MALTS), despite many ICT technical problems during the course.

Table 11 Communication patterns of 2000-1 student cohort during SQH course

<table>
<thead>
<tr>
<th></th>
<th>letter</th>
<th>phone</th>
<th>fax</th>
<th>Email</th>
<th>on-line forum</th>
<th>face-to-face</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communicating with...</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tutor</td>
<td>16</td>
<td>59</td>
<td>11</td>
<td>65</td>
<td>0</td>
<td>78</td>
</tr>
<tr>
<td>Other students</td>
<td>0</td>
<td>78</td>
<td>5</td>
<td>57</td>
<td>3</td>
<td>92</td>
</tr>
<tr>
<td>Course leader</td>
<td>22</td>
<td>51</td>
<td>11</td>
<td>57</td>
<td>5</td>
<td>65</td>
</tr>
<tr>
<td>Course administrator</td>
<td>11</td>
<td>38</td>
<td>3</td>
<td>30</td>
<td>5</td>
<td>46</td>
</tr>
<tr>
<td>IT support</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

In the second iteration of the course, ICT was less problematic and used more systematically in the mainstream of the course. As before, letter, telephone and face-to-face contacts still played an important role, but major changes had taken place in two areas, use of email and on-line forums (Table 12). In both cases, and especially for the forums, there was a substantial increase in use. Also significant were the reports of greater contact with ICT support, especially by email. (In reality, rather few reports were made of ‘frequent’ use, most were ‘sometimes’, although in a course of this type for working professionals, this is not a surprising result.)

Table 12 Communication patterns of 2001-2 cohort during SQH course

<table>
<thead>
<tr>
<th></th>
<th>letter</th>
<th>phone</th>
<th>fax</th>
<th>email</th>
<th>on-line forum</th>
<th>face-to-face</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communicating with...</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tutor</td>
<td>31</td>
<td>45</td>
<td>9</td>
<td>81</td>
<td>33</td>
<td>80</td>
</tr>
<tr>
<td>Other students</td>
<td>4</td>
<td>66</td>
<td>4</td>
<td>83</td>
<td>58</td>
<td>93</td>
</tr>
<tr>
<td>Course leader</td>
<td>17</td>
<td>32</td>
<td>5</td>
<td>63</td>
<td>44</td>
<td>62</td>
</tr>
<tr>
<td>Course administrator</td>
<td>19</td>
<td>40</td>
<td>4</td>
<td>32</td>
<td>25</td>
<td>32</td>
</tr>
<tr>
<td>IT support</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>27</td>
<td>9</td>
<td>13</td>
</tr>
</tbody>
</table>

Thus the students’ communications became more digital alongside a fairly constant use of traditional media. The students were talking to each other more than they were talking to staff or support. The tutors’ use of email is an important factor, but it is hard to analyse given the different types of tutors present in the system (course leader, dedicated tutor and part-time tutors) and needs greater analysis than we have been able to do to understand these data. However, these communication patterns do show the importance of the way the course is structured on the media chosen by students to communicate and...
are similar to our findings in another professional course, discussed in Section 6.6. In the 2001-2 cohort, some students also commented in interviews that their use of email both on and off the course had increased.

Sources of support
A well-researched feature of all non-campus based courses is the extent to which they are reliant on explicit support to learners that often comes from outwith the course itself. We therefore investigated this area by asking students about the sources of three discrete types of help, and six likely groups of supporters (Tables 13 & 14). Our prime interest was in the sources of technical help, but embedding this in a wider question enables us to reduce over-focus on this item alone, and gives us other reference points for reliability.

It is clear that, as expected, friends and family are major sources of support to the SQH students, and of particular importance here, provided technical help to ~30% of the students. This type of support is often faster and closer than technical helpdesk support, and for these students may have been the only home-based help they could obtain. The importance of intra-family support has been noted by others [17, 26]. The presence of ‘informal supporters’ (family and/or friends) may explain the report of a significant proportion of those who were ‘unsure’ if the assigned SQH Supporters were important to their success on the SQH course [15]. We have noted elsewhere the extent of support given to mature learners by family and/or friends, especially in technical areas (section 6.6). On the other hand, some mature learners are very self-sufficient and appear to need very little external help for successful study.

Table 13 Sources of support for 2000-1 cohort students during SQH course

<table>
<thead>
<tr>
<th>Support area</th>
<th>Study skills</th>
<th>Academic discussion</th>
<th>Technical help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>27</td>
<td>43</td>
<td>24</td>
</tr>
<tr>
<td>Friends</td>
<td>14</td>
<td>43</td>
<td>11</td>
</tr>
<tr>
<td>Colleagues at school</td>
<td>3</td>
<td>68</td>
<td>5</td>
</tr>
<tr>
<td>Headteacher at own school</td>
<td>27</td>
<td>84</td>
<td>5</td>
</tr>
<tr>
<td>Headteacher at other school</td>
<td>5</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>LEA staff</td>
<td>19</td>
<td>30</td>
<td>14</td>
</tr>
</tbody>
</table>

Table 14 Sources of support for 2001-2 cohort students during SQH course

<table>
<thead>
<tr>
<th>Support area</th>
<th>Study skills</th>
<th>Academic discussion</th>
<th>Technical help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>24</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>Friends</td>
<td>15</td>
<td>39</td>
<td>24</td>
</tr>
<tr>
<td>Colleagues at school</td>
<td>12</td>
<td>73</td>
<td>18</td>
</tr>
<tr>
<td>Headteacher at own school</td>
<td>12</td>
<td>67</td>
<td>6</td>
</tr>
<tr>
<td>Headteacher at other school</td>
<td>0</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>LEA staff</td>
<td>15</td>
<td>24</td>
<td>21</td>
</tr>
</tbody>
</table>

Options for future
Finally, to assess the views of the students about different options for the course structure, we asked the 2001-2 cohort to indicate the balance of four features they would like to see in a course such as SQH. These features were: face-to-face vs. electronic communications; physical vs. digital library provision; studying in groups or alone, and studying as one person per school or as a school ‘team’.
The students all wished to see a ‘mixed mode’ delivery of face-to-face plus ICT, and no-one expressed the view that they wished to have fully distance education mode with no face-to-face contact. When questioned in interviews, the reason they gave for this choice was that they thought a professional course like SQH is based upon process rather than content and that this could only be achieved by some significant amount of personal contact. This corresponds to some of the comments by the tutors as mentioned in Section 6.2. The fact that the SQH courses cater to regions of Scotland so that geographical isolation is minimised may well influence the views of participants. There is no evidence of a relationship between distance from home and the university campus, although significant confounding factors would be personal commitments and access private vs. public transport and we have no information about these.

The balance between personal and electronic communications varied between students, with just over 50% preferring around 1:1 electronic:personal (Fig 2). No students wished for purely electronic communications (RH end of scale) although a small number wished for mainly face-to-face (LH end of scale). However, there is evidence of two populations of students with somewhat different preferences for the proportion of digital to face-to-face interactions.

**Figure 2**
Opinions were more evenly and widely spread on the need for physical as opposed to digital library provision (Fig 3), with some students favouring physical libraries (LH end of scale) and some preferring greater digital provision (RH end of scale).

![Figure 3](image)

When asked about study in groups versus working alone, the general view is similar to that on face-to-face versus electronic communications and favoured group working for most students (LH end of scale), but a few students preferred solo working (Fig 4).

![Figure 4](image)
Views were very evenly and widely spread on the value of being the only member of a school doing the SQH course (LH end of scale) versus having a group made up of the senior team (RH end of scale - Fig 5). In written comments on this question, strong opinions were expressed by some as to the impossibility of having so much school time taken up on study for the course and horror at the prospect of studying with colleagues, but also from others that they would welcome such a supportive development.

![Figure 5](image.png)

**preference for single vs team of learners per school**

### 6.2 Tutors and co-ordinators (excludes course leader)

<table>
<thead>
<tr>
<th>Tutors – data collected by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
</tr>
<tr>
<td>Analysis of on-line activities</td>
</tr>
<tr>
<td>Paper survey</td>
</tr>
</tbody>
</table>

The tutors and coordinators are key individuals in the course. They provide the face-to-face components of the course and support for the learners. The role of the LEA coordinators has been the subject of a recent report [14].

In practice, in the SQH as in most other university courses, the course leader played two roles (leader and tutor), but as his leadership role was dominant for the purposes of this evaluation, we have excluded him from the tutor group. In the 2001-2 session, a dedicated tutor post was created, and this individual was involved in the course in a manner distinct from the other tutors and has been identified separately in our analysis.
The role involved face-to-face and on-line activities but, unlike the part-time tutors, the SQH course was the dedicated tutor's main academic activity.

As a ‘people person’ the dedicated tutor was initially uncertain about the technical aspects of the ICT element and was uncertain how it would work out in practice. Face-to-face support was provided by the course leader and administrator and this suited the tutor’s learning style and was more effective than ‘training from manuals’. In the end, the tutor found that managing the forums was ‘like running a tutorial.’

At the start of the year, the 8 tutors and coordinators were given a paper survey with most of the questions asked of students, to assess their ICT skills, knowledge and attitudes. Most were daily users of ICT and all described themselves as having good word-processing skills but a few felt that their skill with email was low, and surprisingly 50% were not confident with WWW. Only 2 (both tutors) answered the question about skills with on-line forums, and self-rated as ‘very confident’.

The part-time tutors did not ever really use the ICT facilities provided through the website. In the second year they used it even less than in the first. Some had lost login details, or had changed their minds about its usefulness/value in education, and the technical difficulties affected them as much as the students.

There was evidence of considerable resistance to change - ‘We felt marginalized and were not enabled to come together as it’s not what we are used to or currently use’. Some part-time tutors felt that there might be better (and pre-existing) systems - ‘why can’t we use FirstClass?’ These comments and associated stance by some towards the training sessions were present from the earliest days of the course.

As for students, different tutors have different learning styles and so their training must be sensitive to these. For example, tutors can overcome ‘technology fear’ by being trained in a one-to-one setting with someone they trust and who can put them at their ease. On the other hand, there was evidence that some tutors who originally described themselves as ‘very confident about on-line tutoring’ and hence had had ‘little or nothing to learn’ had not been involved on-line to any appreciable extent. There is some general evidence that asking for help is a gender-related issue, with males (as all the original part-time tutors were) less likely to say ‘It’s OK to feel puzzled by the technology’. Being sensitive to this is important for training and support.

There may be a price to be paid for increased flexibility in courses gained from use of on-line activities and support. Some tutors viewed themselves as paying the price ‘for the Faculty adopting a cheap way to run courses’. There was a general unwillingness to put in extra hours, especially if it meant an extension of the working day. Paradoxically, some stated that they ‘would prefer weekend residential or a summer course’ even though this itself would also cost them time. Perhaps in this case that extra time would be apparent in ways which on-line activities would not, and would correspond more with their skill-sets. However, in practice it proved possible for at least the dedicated tutor to manage her time on the on-line forums within normal working hours (and to a lesser but still substantial extent the course leader too). Thus fears of on-line tutoring dominating personal time need not be well-founded.

The on-line forums were not generally seen by the part-time tutors as part of the learning process but more for administration and support. This was reflected in comments such as ‘the bulletin board is being used largely as an information resource’ and ‘the on-line facility needs to be brought from social to academic postings’. However, despite this view, these part-time tutors were not driving the use of the forums as foci for academic interaction.
Interestingly, in the second year the forums had in fact been re-designed as course-related academic activities and this view of the part-time tutors may reflect their lack of awareness of what was actually taking place in the WebCT space.

Their lack of engagement may have been because some of the part-time tutors were uncomfortable and lacked confidence using new communications media and preferred traditional approaches. ‘This is not a substitute for face-to-face group discussion as it does not generate the same thinking & discussion, it’s not the same quality’, ‘it takes nerve to interact other than face-to-face’ and ‘it does not allow for the complexity of cues’. This is neatly summed up in the statement by one tutor: ‘I don’t know if my students are using the website, I shall have to ask them when we meet at the next tutorial.’

Effective inclusion of tutors within the on-line course elements was not really achieved. This can be seen in both their low level of participation on-line, and in the feedback that they gave. Inclusion is ‘designed into’ conventional courses, although due to custom and practice and shared values it may not be apparent that this design is actually being done. The same ‘design in’ is needed in on-line courses. This is easy to say but is not easy to do effectively.

Given the scale of involvement of the two dedicated SQH staff (course leader and dedicated tutor), the ‘space’ in the on-line forums for the part-time staff would have been limited or else staff would have taken up so much of the posting ‘space’ that students might have felt crowded out. One solution might be to divide up the on-line forum sessions between the tutors to give them clearer roles. We have noted in other settings that the presence of ‘experts’ in on-line forums may inhibit or exclude less confident tutors.

6.3 SQH Unit

The SQH Unit had to provide the driving force for the course, to bring together a set of skills – technical, administrative, educational, course design, social - not easily found in a single individual. The major lacks for the Unit was technical ICT skills related to the virtual learning environment WebCT (and webpage construction generally) and experience in design of on-line learning activities.

Over the first year the course leader had learned more about the experiences of others running on-line courses and had redesigned the academic content of the course to take advantage of this knowledge. This was a steep learning curve for him and he was more typical of an ‘early mainstream adopter’ of technology than a ‘pioneer’ in his need for help from central services and expert guidance [16].

The Unit administrator acquired better web skills, partly through her own efforts with assistance from MALTS and also through attendance at a Netskills course on WebCT. The combination of setting up a new course and its innovative use of eLearning prevented her from getting to grips with some of the ICT skills she needed, despite her interest in them. MALTS did not have a dedicated trainer and so she often found herself out of her depth when asked to alter the website or support students.
The SQH Unit and MALTS worked together through regular meetings to substantially reshape the SQH website for early summer 2001, with improvements to the front-end for visitors and in the WebCT environment for participants. The on-line forums (bulletin board) were given better structure and were re-designed to be used for academic activities directly related to the course for the Standard Route students (SR00 and SR01), as well as providing a social area. These were to be orchestrated by the two staff who were dedicated to the course – the course organiser and the dedicated tutor. We have discussed the outcome in terms of student and staff use of the forums in more depth in Section 6.1.2 above.

A change of staff offered the Unit the opportunity to identify key qualities in replacement staff. If central services are not to be the major source of updating/maintenance of on-line materials and information, then staff in local departments and units will need to be trained and comfortable in this role. They may well find themselves as the key players in staff and student support, at least as contact points, and so some aptitude for this role will be essential. The administrator told us that ‘Some rang up 6 times in two days and she helped one to log on over the phone’ but also that ‘there were technophobes – people felt happier having a shot if they were being supported by a face they could see’. The importance of a helpdesk was due to the fact that ‘On top of the course this [ICT] added a daunting dimension and they needed support.’ To handle this role, the general ICT skills of the administrator must be well developed. Defining the key qualities for such staff would enable other course organisers to ensure that they are making appropriate appointments. As the helpdesk is a vital feature for students, continuity is needed, for example by covering absences due to holidays etc.

6.4 Developers (MALTS) & other central services

<table>
<thead>
<tr>
<th>Developers – data collected by:</th>
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<tr>
<td>Informal discussions</td>
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<td>Interviews</td>
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The ICT element of the SQH course using WebCT is very dependent on University central services i.e. MALTS, Library & Computing Services. For example, it requires robust and reliable backup of the WebCT virtual learning environment by the Computing Service and development of the “e-reserve” by the Library. The website design created by MALTS was generally found to be easy to use by students, particularly by the second year when the site was redesigned to have an open front-end and WebCT was not the primary interface.

The SQH site was one of the early uses of WebCT for the MALTS developers, and was initially mounted on the WebCT.com server in Canada until the latest version could be implemented in Edinburgh. The transfer of the materials to the Edinburgh server, and the later upgrade to a new server, both suffered some problems which challenged the MALTS team, all of whom were learning about WebCT as they ran the service. Some of the technical problems proved difficult even for the WebCT specialists in Canada!

MALTS is a relatively small unit and had only one member of staff who could be committed to the SQH WebCT course after the initial design was done. Thus this developer had to provide technical support, user administration and training for the SQH Unit administrator and, in specific sessions, for tutors and students. There was also support from the section leader, especially with the training aspects, but this was given
from an already very busy schedule. There were as yet no established protocols to follow, and largely everyone was ‘learning on the job’. In the first year there was little time to devote to making sure that the educational aspects of the course were informed by current knowledge, although by the second year there was greater effort put into this aspect by MALTS with the course leader. The level of direct interaction by the developer with the students through the forums was also higher in the second year, and students noted much greater communications with her, particularly through email (Tables 13 & 14).

There were problems with training sessions for course participants in ensuring that the facilities in the computer labs were all in place. For example, on two occasions the login/passwords failed in the computer lab which was being used for training. The ‘chain’ connecting users to the SQH Unit to MALTS to the central/local computing service broke and let down the users at their point of need. This problem reinforced the negative views of the part-time tutors.

6.5 Wider impacts of the use of ICT in the SQH course

The range of potential impacts of an educational innovation is surprisingly large, and for this introduction of ICT into the University of Edinburgh PDELM/SQH includes:

- Students
- Course leader/unit
- Tutors
- LEAs
- University central services (MALTS/Library/Computing Service)
- Faculty & University

Wider impacts on students

The feedback we collected from students about changes in the ways they use ICT as a consequence of its use in SQH (section 6.1.3) suggests that there was a significant impact on their actual behaviour. As we commented in an earlier evaluation, it seems very unlikely that once begun such activities as using the Web for information searching, email to contact tutors and the course leader, or applications such as spreadsheets will not continue to be used in all areas of personal and professional life where they are relevant. For a coherent professional groups such as ‘budding Scottish headteachers’, the digital network that they have experienced could continue to provide a support to them, and some students commented on the value of this in their wish for a ‘life of the website after the course’.

Despite the challenges that many students had had to face with technical problems with the WebCT course website, they generally were positive with respect to ICT in both their studies and in general (Table 15). Of course, there were many other influences on these students beyond the SQH course, in both their schools and their homes, however the respondents clearly had not been ‘put off’ by any problems they faced. Many of those students who reported that there had been no change in their feelings towards ICT commented that they had already been positive and their views had not altered as a consequence of the SQH course.
Table 15  Feelings of students in 2000-1 & 2001-2 cohorts about ICT at end of SQH course

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<tr>
<th>Feelings towards use of ICT...</th>
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<tr>
<td>in studies</td>
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<td>43</td>
<td>38</td>
<td>0</td>
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<tr>
<td>in general</td>
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<td>in studies</td>
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<td>42</td>
<td>33</td>
<td>3</td>
<td>0</td>
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<tr>
<td>in general</td>
<td>21</td>
<td>33</td>
<td>46</td>
<td>0</td>
<td>0</td>
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>> = much more favourable; > = more favourable; 0 = no change; < = less favourable; << = much less favourable

Wider impacts on LEAs
At this point we have collected no evidence on feedback from the use of ICT into the LEA system, for example through co-ordinators, but such an evaluation would be useful. LEAs provided their candidates with equipment, both for home use and through the IT infrastructure in schools, and so one gain for the school system might be changes that these senior teachers make as a particular consequence of the ICT component of the course.
Moreover, as the LEAs put candidates forward for SQH and similar professional educational opportunities, in which flexibility is gained by studying/working from home, it makes sense for them to consider how best to support this use of technology in home settings, for example by provision of laptops or technical backup.

Wider impacts on SQH course leader/unit
The changes made between the two years of use of ICT in the course, demonstrate that the course leader learned about on-line course design and was successfully able to convert this into practice. The level of his participation in the on-line forums was high and was appreciated by the students, and he supported them in academic activities on-line. He is also now aware of the need for technical and pastoral support to new learners in an on-line setting.

Wider impacts on dedicated and part-time tutors
There were two quite distinct impacts for the tutors, those for the dedicated tutor and those for the part-timers.
Dedicated tutor: the impacts were largely positive and similar to those on the course leader – understanding and experience in design and use of on-line activities in courses.
Part-time tutors: for this group the impacts appear to be either negative or neutral. Their views about the use of ICT in this course appear to be unchanged. They gained no new experiences in on-line tutoring. Finally, the critical role of high quality and reliable training facilities is on the agenda.

Wider impacts on central university services (MALTS, Library, Computing Service)
MALTS improved its skills with implementation of on-line learning using WebCT, and gained a successful exemplar. As a consequence it has positioned itself to better support subsequent courses. The developer’s attendance at WebCT training courses has
introduced MALTS to a network of other developers at similar stages of development of institutional use. There is greater appreciation of the technical issues for off-campus learners and the need for helpdesk support, and of the complexities of training new users and new departmental/course staff.

The Library has also gained an exemplar of the successful implementation of off-campus use of its e-reserve and the challenge of seeking to meet further expectations of such learners in an unfunded setting.

The Computing Service has played a role of provider of the infrastructure that underpins the delivery of the course, and so although single staff in the service are aware of the importance of the server to MALTS and to the learners, at the level of the whole service the critical role of WebCT to learners and staff at the weekends and in the evenings may not yet be apparent. The scale of this potential impact is significant, and will have real cost implications.

**Wider impacts on Faculty & University**

As the messages from this evaluation have not yet been made public (and this report will contribute to that dissemination) the impact is so far quite limited. If a significant expansion of eCPD is planned and it is to become mainstream, then appropriate training will be required for staff and a robust, reliable infrastructure will be needed. A model will need to be developed for full cost recovery costing.

6.6 **Comparison with other professional courses using ICT**

We felt that it would be instructive to compare the SQH course to other courses with roughly similar aims, which adopted ICT to support learners who were mostly off-campus and studying whilst working in professional settings. One is the English Leadership Programme for Serving Headteachers (LPSH) course, the ICT component of which was evaluated by Crawford [10]. The other course is for mid-career health professionals which is taken by mature learners of both sexes as a post-experience/post-graduate qualification, and is offered by a well-respected UK professional education provider. It was evaluated by us during 1999-2001 [17].

**English Leadership Programme for Serving Headteachers**

The LPSH provided workshops which were followed up by discussions using the email conferencing system, FirstClass. The discussions were not content-based, and were moderated by experienced staff. The FirstClass system was robust as it had been in use for several years with large numbers of students in the Open University. The evaluation gathered data from active, occasional and non-users of the forums.

As in SQH, occasional users of the forums felt that their sense of isolation was reduced, and non-users gave a variety of reasons for their inactivity, including lack of time, lack of suitable equipment, technical difficulties etc. It appeared that many might have lost passwords or access details. In a small survey, 50% of logons were from home in the evenings. All these features are similar to our own findings with the SQH students.

Salmon and Crawford [23, 11] both describe ‘on-line behavioural types’, such as ‘swimmers’, ‘wavers’ and ‘drowners’, and ‘addicts’, ‘newcomers’, ‘thinkers’, ‘sceptics’ and ‘dippers’ who exhibit characteristic patterns in their postings and comments as to why they do or do not post. We can see many of these features in the SQH students, for example the ‘wavers’ or ‘sceptics’ who were little involved due to lack of time, technical problems
etc, and the ‘swimmers’ or ‘addicts’ who quickly became very active and wanted to see more activity.

**MSc in Nursing**
The other course with which we shall compare SQH is a taught and research Masters in Nursing for mid-career health professionals which is taken by mature learners of both sexes as a post-experience/post-graduate qualification. It is offered by the Royal College of Nursing Institute. The introduction of ICT to the conventional distance education course, including the provision of networked PCs to learners, was funded under the TLTP Phase 3 [27]. We gathered data from most students, tutors, and the providers of the course and on-line systems by use of paper surveys, interviews, observations and scrutiny of student assignments. The size of the cohort and tutor numbers were comparable to SQH.

The student profiles on entry were very similar to those of the SQH students, particularly with respect to ICT (PC ownership, their skills, patterns of use at work and home, and attitudes towards it).

Email became the most popular way for students to communicate with both tutor and course providers/institution, although prior to the introduction of ICT to the course it had hardly ever been used, despite many students and tutors having access. In some way, it was not seen to be ‘permitted’.

Initially the on-line forums were relatively unstructured, based around tutorial groups, café, etc but this failed to develop systematic discussion so it was re-vamped to be focussed on discussion topics led by experienced staff and experts. Despite this, the forums in the first 5 month period accumulated 400 postings, with a distribution similar to SQH in that most messages were from the course team, a minority of tutors posted, and a few students posted frequently, most a few times and some never posted. 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.

There was a small but detectable impact on the academic work of the students in comparison to a peer group, in that their use of electronic sources and software applications was greater in their assignments. There was a much larger impact on their general use of ICT and their attitudes towards it. Although we have not examined the work of the SQH students (which would form an interesting project in its own right), we know that they valued the on-line documentation and access to information sources.

As with SQH, most of the tutors never really established a presence on-line. They were not ‘written in’ to the structure, and high level of activity of the course team may have ‘squeezed them out’ or reduced the need for them to apply effort (apart from a few who were invited to contribute as ‘experts’ in later modules). They continued to provide their face-to-face tutorials and worked on 1:1 email in supporting their students.

The technology was a greater problem for this course as it included supply and use of a home PC, although as with SQH, some students had considerable difficulty using the on-line forums, lost passwords, couldn’t make web-features work properly. It was clear that there was a significant difference between ICT literacy and ‘technical literacy’, and this
feature can also be seen in SQH. Although there was technical support provided in this project, support at home was still useful to many students.

There was a significant impact of the project on the central administrative staff in the course provider’s institution. They found themselves at the ‘sharp end’ of student queries and their ICT skills were stretched to the limit. Allowing for the differences between the courses, similar impacts on central staff could be seen in SQH.

In the following year, after the pilot was completed, there were no on-line forums and no strong pressure to use ICT. Email remained a popular way to contact tutors (‘permission perceived’) but the traditional methods of phone and face to face were used more than in the ICT-rich year. This ‘permission to use’ factor may underlie the report in Morris 1999 [13] of student comments about the lack of use of the internet by most SQH students, despite the fact that many apparently had access to ICT.

6.7 Return on investment (ROI)

The introduction of substantial ICT components into courses raises an important question of the cost of the development and the gains and losses which occurred as a consequence. Publications on this topic have been appearing since the earliest days of uses of technology in education, usually under the heading of ‘cost-effectiveness’, and have typically focussed on the attempts to measure educational improvements, if any, of the innovation in comparison to ‘traditional methods’ [28,29,30,31]. The challenge of finding such improvements due to introduction of ICT can be gauged from the materials at the ‘no significant difference’ website at the University of British Columbia (http://teleeducation.nb.ca/nosignificantdifference/).

More recently, attention has turned away from a focus on cost-effectiveness towards ‘return on investment’, signalling the view that instead of looking at costs over and above the norm the aim should be to see these innovations as investments, with their inbuilt implication of looking to the future [16, 32]. As with all investments, there should be long- or medium-term payoffs for the university, for its staff, for the learners and, in this instance, perhaps also for the LEAs.

Some of the returns one might seek to achieve through investment in a development such as introduction of eLearning into a course such as SQH could be:

- Flexibility of time & place
- Enhanced learning through groupwork
- Modified environment within University to better position it for future developments
- Marketing enhancement
- Portable e-skills for students
- Portable e-skills for staff

And some of the investments needed will be:

- Design time
- Update time
- Debug time
- Helpdesk
- Server/VLE costs
- Additional training
• Change management
7 Conclusions & recommendations

The data that we have collected demonstrate that, overall, the introduction of ICT into the SQH course was a success. It achieved this success in stages, the second year was better than the first, and it was not without problems in both years.

Successes in the SQH course
The students valued many aspects of the ICT provision and this is something the course team needs to stay aware of to make sure that provision is continuing to match needs. The e-reserve was highly rated as were the forums, the latter both by those who used them and those who only browsed them. The flexibility of time and place was taken advantage of by many students, and this placed only limited time-place demands on the staff by comparison. All the students wanted the mixed mode of delivery (part digital, part face-to-face) and during interviews reported that this was what they expected to see in a course of this kind. These features were much better in the second iteration and it seems likely that the balance is now about right for most students. Many students commented on the ease-of-use of the website.

From the course leader’s perspective, the course is now a reasonably successful exemplar of eCPD and could be ported with appropriate changes to other settings. Given the right structuring of the course and proper support many students engaged in predominantly academic groupwork on-line. A similar positive conclusion can be drawn for central university services.

The positive wider impacts of the use of ICT in the course are important and significant.

Problems for the SQH course
There were inevitably some problems, and these arose in three main areas: technical, educational design and SQH staff

Technical:
The WebCT system was new to the developers in MALTS and this course was an early adopter. All technology implementations are troublesome, often in unpredictable ways, although this probably was not clear to the course team. Most of these difficulties fade away as the system becomes more stable. Staff get better at running them and have track record with problem-solving, they train others in its use etc. The second year was much less problematic than the first. However, to reap the full benefits, there needs to be attention paid to use of standard protocols, checklists, use of a proper training suite, and matching of ICT staff aptitudes to roles. One individual may not be able fit all roles and so there will be a need for back-end technical staff and front-end trainers. Some students had technical problems (the distinction we have made above between ICT literate vs technically literate), and this is hard to resolve for home users at a distance. However, it is a problem that needs attention if it is not to drag the course (ie the education) into technical problem-solving or impact negatively through a ‘dissatisfaction backwash’. Many older students have low skills with new on-line
systems and so some attention is needed to set aside time for training, by whatever method this training is best done (eg on-line, CD-ROM, face-to-face). The same arguments apply to teaching and administrative staff (see below). All these challenges require adequate funding to overcome, and are mostly staff- rather than equipment-related.

**Design**

As in a face-to-face traditional course, there needs to be a built-in clarity of purpose for activities. For example, it is easy to assume that on-line forums will ‘run themselves’, but experience shows that they don’t, as students are pressed for time etc and need to know why these are present and what they should be able to get from them. Moreover, one cannot assume that all students will view all activities in the same way. Some will be very active users, some will browse, and some take no interest for whatever reason. The tutor role also needs to be built in explicitly if they are to have a chance to engage. In traditional courses this is ‘unconscious’ (and most tutors in SQH had and worked in their normal role) but in on-line provision it is not there.

Sound advice might also be not to go all out for ‘bells and whistles’ from the start, stepping up and working with the easier parts first (eg informational website, on-line forms, e-reserve) and then bringing in discussion forums. Even where a wide range of components are available, it might be best with inexperienced learners to phase in the use of these in the early parts of the course to avoid overload.

**Staff**

Although some academic staff are confident that they are skilled in the use of on-line forums and student support, there is no evidence in the SQH course that this led to them playing an active role on-line. At this early stage of development of academic activities on-line it must be assumed that tutors will need training (and it may be necessary to apply ‘just-in-case’ training for some staff so that a pool is available unless the choice is taken to make it normal for all staff to be trained). They will also need support to engage with the process - if it is ‘public’ and ‘exposing’ to post messages as some learners state, then it is really public for staff!! They need a clear role for which they are trained.

On-line learning is suited to team delivery par excellence, and the course leader and dedicated tutor worked out an approach to this in the second year by dividing up the many of the ‘threads’ on the forums between them. It could be even better if all staff were involved.

The transition from traditional courses to mixed mode or 100% on-line introduces a new dimension into the nature of departmental provision for support to learners. Someone has to be responsible for updating websites and for providing a helpdesk function, even if minimal. These can either be centrally provided or locally. It is clear that students will seek help from the course provider, that they will call and email to find a solution to the problems that prevent them from getting on-line, as to them it is important, and they can have a strong sense of ‘missing out’ if they do not. On-campus, students go to computing services for example for help, and at school teachers turn to their IT technicians, but at home……???. This re-writes the nature of the course administrator and/or the course leader roles if they are first point of call. It also has implications for maintenance of continuity of service if staff turnover is likely to be a factor (and as for the SQH Unit, there is no immediate replacement available).

Some of these problem areas can be minimised by ‘know your learner’ and ‘know your tutor’ but information about them needs to be updated regularly (with a light touch) as in the ICT area things change fast.
Going mainstream with eCPD
This is a good model for eCPD for the University. There would probably be good value in an extra burst of investment to get the final problems resolved at this stage and then disseminating the experience around the University. CPD is an area where repeat business is possible, and hence a good first experience can lead to returning learners. In small communities, word of mouth (and word of email) are important. Several students mentioned their wish for a ‘course life after the course’, that is some form of network to keep them together and to continue to share ideas and problems through.

Our data from interviews with students show clearly that almost all expect to see this kind of ICT-enhanced/supported course at CPD level. Most said that they preferred a mixed mode (ie ICT + face-to-face), but as all could reach the university fairly easily this cannot be taken for granted on other courses. It sounds a cautionary note however, not to assume that 100% digital courses will be viewed with delight! A few students saw other new technologies on the horizon, videoconferencing for example, and so it will be important to keep abreast of what learners can use. It will to be necessary to be aware of what competitors are offering too, as markets in Scotland are small. This is classical market awareness but needs to be in the minds of staff designing courses and Schools contemplating developments.

For academic staff to be confident in their development of eCPD, there will be a requirement for the correct institutional systems so that they can take it for granted that the right level of readiness and resilience will exist. This is needed as soon as possible if the University wants rapid expansion. A relevant view was expressed by the course leader that there was a need for better coordination around the University/Faculty to remove the isolation felt by ‘a series of individuals, fighting lone battles’ as they pursued a goal of educational innovation. The lowering of institutional barriers is thus of concern to both the institution seeking to promote use of eLearning and individuals wishing to use it, and some approaches are discussed in Collis & Moonen [16]. They describe these factors as the 4 Es – ‘environment’, ‘ease of use’, ‘educational effectiveness’ and ‘engagement’. Some of these important barriers and incentives can only be modified at a level above that of the course or single units, whether they be academic or administrative.

Finally, it is worth noting that if the introduction of ICT into education was an easy option there would be a lot less written about it!!! Despite a variety of challenges, the SQH course in the University of Edinburgh has contributed a largely-successful exemplar of its use in CPD of education professionals.
The entry and exit surveys for the Cohort 2001-2 students are shown below. The layout has been compressed to minimise white space. The two surveys were printed on folded pastel A3 landscape paper.

**Scottish Qualification for Headship Participants Survey**

As part of our evaluation of the of the Scottish Qualification for Headship, including the Information & Communications Technology (ICT) component, we should like to collect some information from you about your use of ICT and your experiences with learning at a distance.

Please answer the questions by placing a **cross** in the appropriate boxes.

All answers will be treated strictly confidentially as described in the evaluation consent form.

Please return the completed questionnaire in the reply-paid envelope to Denise Haywood, Department of Higher & Further Education, University of Edinburgh, Holyrood Road, Edinburgh EH8 8AQ

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**Q1. How much time per week on average do you expect to spend studying on the SQH course?**

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**Q2. Please rate how important you anticipate these people will be in giving support for your studies and related activities** *(mark all that apply)*

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<td>Others</td>
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<td>☐</td>
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</tr>
</tbody>
</table>

Please specify others:

**Q3. How often do you use computers/information technology (IT) in your present job?**
Q4. If you do use computers/IT, what sorts of tasks do you carry out with them?

Q5. In comparison to the average of your colleagues at work, how would IT you rate your current IT skills and competences?

Q6. How often do you use a computer/IT at home for work, study or recreational purposes?

Q7. Do you have family, friends or colleagues whom you would feel free to ask for advice or help about computers/IT?

Q8. If you will use a computer(s) for study on the SQH course at work what type is it/are they? (mark all that apply)

Q9. If you will use a computer(s) for study on the SQH course at home what type is it/are they? (mark all that apply)

Q10. Which, if any, of these computers were obtained specifically for your SQH studies?

Q11. Do you currently have an electronic mail (email) address of your own at work?

Q12. Do you currently have an electronic mail (email) address of your own at home?

Q13. Please rate your confidence in your ability to use:

<table>
<thead>
<tr>
<th>Task</th>
<th>very confident</th>
<th>confident</th>
<th>little/no confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>word-processor</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>graphics/drawing program</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>the World Wide Web (eg with Netscape, Explorer)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>electronic mail (email)</td>
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<tr>
<td>Spreadsheet</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>general database</td>
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<td></td>
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</tbody>
</table>
Evaluation of Use of ICT in the University of Edinburgh Scottish Qualification for Headship/Postgraduate Diploma in Educational Leadership & Management
September 2002

pupil or staff records database □ □ □
on-line bibliographic search (eg ERIC) □ □ □
on-line discussion forum/conference □ □ □
presentation manager (eg Powerpoint) □ □ □

Q14. How important do you believe computers/IT will be in your future career?

very important □ important □ useful □ little importance □ no importance □

Q15. Please mark one box next to the statement which best describes your feelings about using computers in your SQH course.

quite looking forward to the challenge □ fairly confident I will take it in my stride □ somewhat apprehensive about the difficulties □ Very apprehensive about the difficulties □

Q16. Have you taken any courses, other than SQH, since your first degree and initial teacher training? If so, please provide details below

<table>
<thead>
<tr>
<th>Course/award</th>
<th>Course provider (eg. Open University)</th>
<th>Completion year</th>
<th>If mainly study at a distance write DE, if mainly face-to-face classes write F2F</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Q17. Please print your name: ____________________________________________

Thank you very much for completing this questionnaire.

Please return it in the envelope provided, along with your consent form, to Denise Haywood, Department of Higher & Further Education, University of Edinburgh, Holyrood Road, Edinburgh EH8 8AQ

Scottish Qualification for Headship

Participants exit survey

Now that you are nearing the end of the SQH course, we should like to collect some final information from you about various aspects of the course.

We are very grateful for the time you have given to us in our evaluation. The input that you have made has been very helpful, as it has enabled us to give useful advice to the course team, who are now busy preparing the next phase of the course.
Q1. Thinking about the **website and on-line activities** in the SQH course, what do you feel **went well** and why?

Q2. Thinking about the **website and on-line activities** in the SQH course, what do you feel could have been **improved** and why?

Q3. With respect to your studies on the SQH course, which people (outwith the SQH course) have you turned to for support and help in the following areas:

<table>
<thead>
<tr>
<th>Area</th>
<th>Study Skills</th>
<th>Academic Discussion</th>
<th>Technical (typing, literature searches, PCs etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family or Partner</td>
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<tr>
<td>Friends</td>
<td></td>
<td></td>
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<tr>
<td>Colleagues at school</td>
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<tr>
<td>Headteacher at your school</td>
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<tr>
<td>Headteacher at other school</td>
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<tr>
<td>LEA staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past &amp; present SQH students</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other, please specify ________________________________________________________________

Q4. To what extent have you used these methods to communicate with people involved in the SQH course?

Please mark boxes using this scale: ✓✓ = frequently, ✓ = sometimes, ✗ ✗ = rarely, ✗ ✗ ✗ = never

<table>
<thead>
<tr>
<th>Method</th>
<th>Letter</th>
<th>Phone</th>
<th>Fax</th>
<th>Email</th>
<th>On-line Forum</th>
<th>Face-to-face</th>
</tr>
</thead>
<tbody>
<tr>
<td>your tutor</td>
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<td></td>
<td></td>
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<tr>
<td>Other participants</td>
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<tr>
<td>SQH course leader</td>
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<tr>
<td>SQH course administrator</td>
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<tr>
<td>university IT technical support</td>
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</tbody>
</table>

Q5. Have any of these changed significantly during the course? yes No

Q6. If yes, please describe the changes briefly

Q7. Are there things that you do now with ICT which you consider you might not be doing were it not for the use of ICT in the SQH course? Please give brief examples.

Q8. In comparison to the start of the SQH course, how do you now feel towards ICT in your studies?

much more favourable  more favourable  neutral  less favourable  much less favourable
Q9. In comparison to the start of the SQH course, how do you now feel towards ICT in general?

- [ ] much more favourable
- [ ] more favourable
- [ ] neutral
- [ ] less favourable
- [ ] much less favourable

Q10. Imagine that you are about to take the SQH course again(!!), and could re-design the course to best suit how you prefer to learn. You are able to balance the relative proportions of physical resources and contacts versus electronic resources and contacts, the proportions of groupwork versus study alone, independently of your classmates, and (an option not currently formally available) to involve the school management team directly in your workplace activities..

Please place an X on the lines below to indicate what proportion of each course component you feel would make you most comfortable for learning on a course like SQH. *Assume that there are no problems of quality with any aspect of course provision.*

- [ ] 100% face-to-face contacts
- [ ] 100% electronic communications,
- [ ] 100% physical texts and library
- [ ] 100% digital texts and library
- [ ] 100% Learning in groups away from workplace, either formal such as tutorials or informal for
- [ ] 100% Learning alone, at home and at workplace, using study materials
- [ ] one person in school working on the programme
- [ ] the whole school management team working on the programme

If you would like to comment on why you positioned your marks as you did, or any difficulties you had in deciding where to place them, we should be interested to know these:

Q11. Please write your name here:........................................................................................................

Thank you very much for your time spent completing this questionnaire.

Please return it in the reply-paid envelope to Denise Haywood, Department of Higher & Further Education, University of Edinburgh, Holyrood Road, Edinburgh EH8 8AQ

Best wishes for the future.

Denise Haywood
9 Bibliography and other information sources

5. ICT & teachers – www.canteach.gov.uk/community/ict
22. Home ownership of PCs – data can be found at www.statistics.gov.uk/statbase under ‘consumer durables, central heating and cars’
25. Mason, R (1999) IETs Masters in Open & Distance Education: What have we learned? CITE