

# Higher Education Training Needs Analysis

October 2004

## Survey for Academic and Research Staff

### Introduction

This staff cohort yielded the highest number of responses across all five sections of the survey – 1865. However, this is a very diverse body of people for the most part dividing their time between teaching and research with only a minority exclusively devoted to either. As can be seen from Table 1, the response rate varied enormously across the institutions surveyed, as a percentage of the total figure obtained. This is due in large part to the varying sizes of the institutions themselves and the correspondingly varied numbers of individuals available within each to complete the survey. It may also be indicative of the energies expended by the key individuals within each institution who had agreed to publicise the survey to their colleagues.

### Section 1: Your Post

#### Question 1: Institution

Institution	Responses	%
University of Aberdeen	179	10%
University of Abertay Dundee	38	2%
Bell College	13	1%
University of Dundee	96	5%
Edinburgh College of Art	6	<1%
University of Edinburgh	421	23%
Glasgow Caledonian University	117	6%
Glasgow School of Art	16	1%
University of Glasgow	336	18%
Heriot-Watt University	113	6%
Napier University	63	3%
The OU in Scotland	17	1%
University of Paisley	49	3%
Queen Margaret University College	21	1%
Robert Gordon University	44	2%
Royal Scottish Academy of Music & Drama	9	1%
Scottish Agricultural College	38	2%
University of St Andrews	92	5%
University of Stirling	70	4%
University of Strathclyde	117	6%
UHI Millennium Institute	5	<1%
Not specified	5	<1%
<b>Total</b>	<b>1865</b>	<b>100%</b>

**Table 1: academic responses from individual institutions**

**Question 2: Basic facts about respondents**

The HETNA survey established some basic facts about its respondents. The vast majority of these, almost 90%, were full-time, permanent staff members. In addition, the age and gender divisions are as illustrated in Figs 1 and 2.

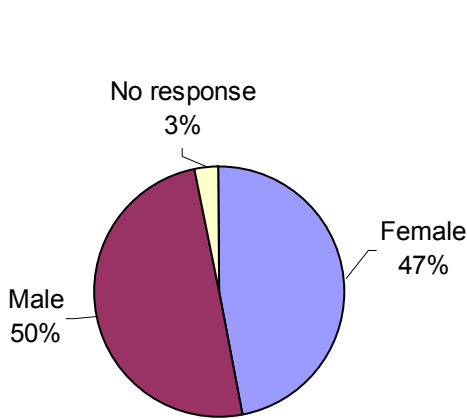


Fig 1: Staff responses by gender (N=1865)

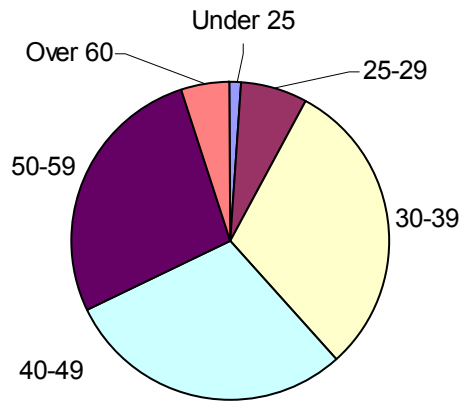


Fig 2: Staff responses by age (N=1805)

**Question 3: How would you describe your post?**

As can be seen from Figure 3, the respondents operate within a variety of roles beneath the banner label of ‘Academic’. A majority of the respondents, 57%, claim some element of teaching within their job remit while an even higher percentage, 64%, have some involvement with research. Only a small minority of staff can claim to be either exclusively involved in teaching or research, at 4% and 14% respectively. The category of ‘academic-related’ may point to some faculty administration, management or learning technology support role. Clearly, the bulk of survey respondents register involvement in both teaching and learning.

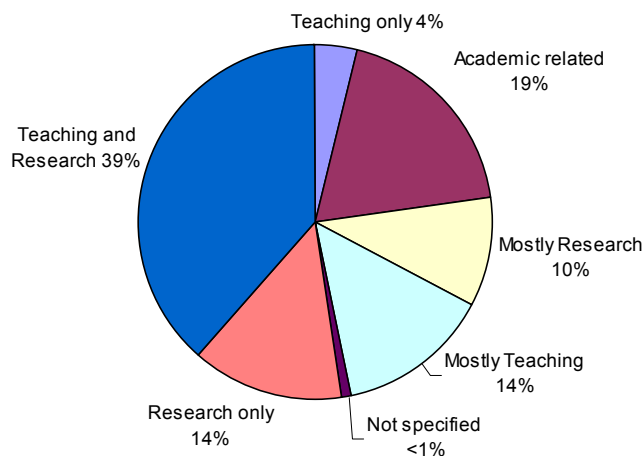
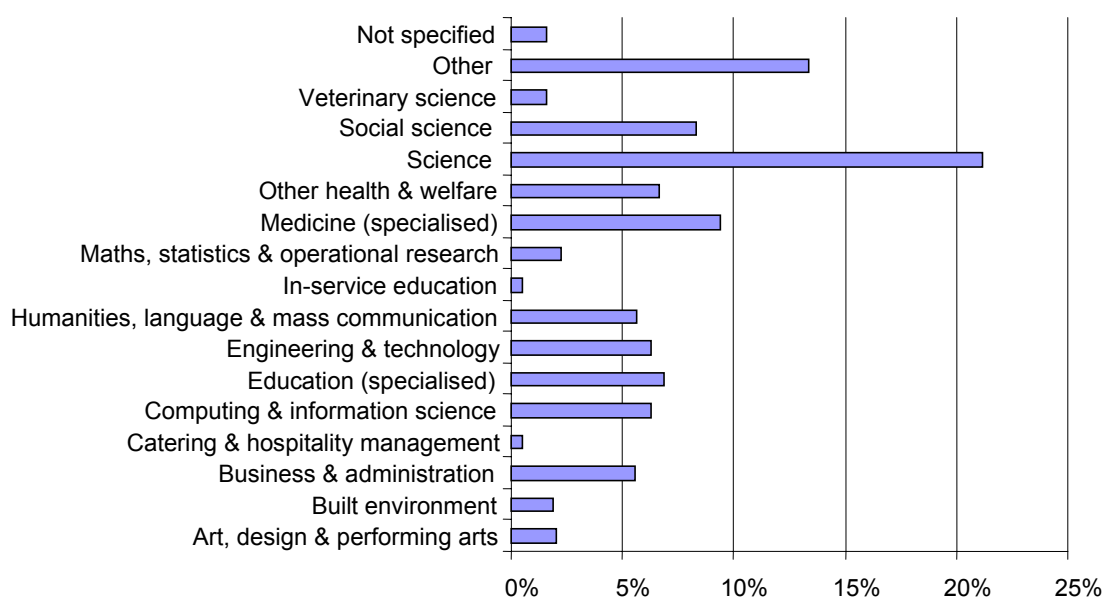
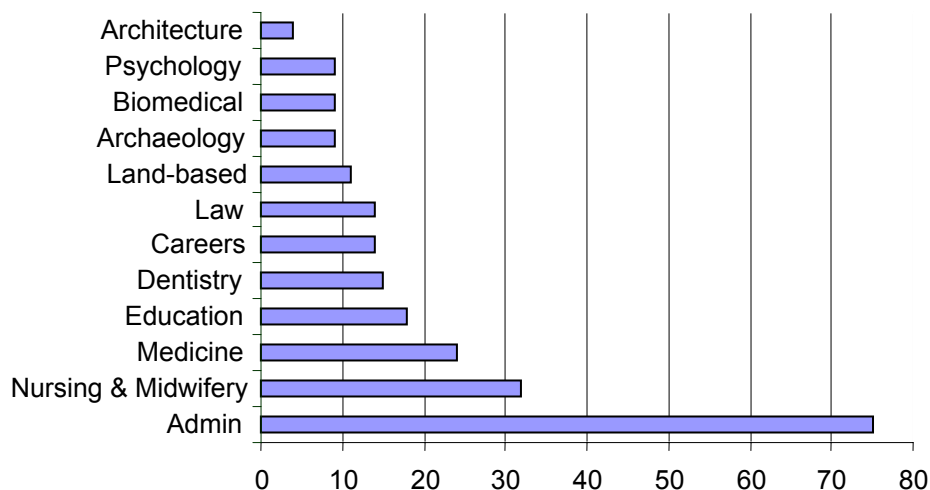


Fig 3: “How would you describe your post?”(N=1865)

**Question 4: Which category best describes your main work area?****Fig 4: “Which category best describes your main work area?” (percentages, N=1865)**

343 people found that their work area did not easily fit into any of the above categories. Descriptions of ‘other’ categories ranged from *Accounting* to *Wider Participation*, with the largest groups describing *Nursing* (27), *Psychology* (6) and *Financial Administration* (6).

**Fig 5: Other main work areas described (instances recorded, N=1865)**

The 343 responses may additionally indicate the diversity of roles to be found within institutions and also points to the fact that a number of key sectors were omitted from the initial drop-down boxes. One of the major areas not represented was the whole health sector - nursing, medicine and dentistry account for over 50 responses here.

Perhaps the most interesting section is the ‘Admin’ group. This - 75 responses - proved to be the largest group represented here. HETNA contained a completely separate other questionnaire specifically for administrators so it is clear that this comparatively large group see themselves primarily as academics, but wish additionally to register their significant administrative workload.

### Question 5: Job Title

As would be expected across a range of modern institutions there was a wide variety of job titles reported. Of those two-thirds of respondents who responded to this question the most common ten titles appear in the table below. The greatest proportion of respondents were in what are generally considered to be combined teaching and research roles (lecturer, senior lecture, reader and professor – 46%), with only 14% in purely research roles (research fellow, assistant, associate). However, in most universities it is not uncommon for the latter to also have some teaching duties.

Job Title	Responses	Percentage
Lecturer	432	23
Senior Lecturer	248	13
Professor	132	7
Research Fellow	123	7
Research Assistant	69	4
Reader	54	3
Research Associate	39	2
Director	36	2
Post-Doctoral Research Fellow	31	2
Teaching Fellow	28	2

Table 2: Job titles selected by respondents (N=1865)

### Questions 6 and 7: Teaching experience

Question 6 asked: *If you teach, how many years have you taught in higher education?* Not everyone completing the academic survey identified themselves as in a teaching role (lecturer etc), but for those that are, the distribution of years of experience of teaching are shown in the graph below. The mean number of years of teaching experience was almost 14 years.

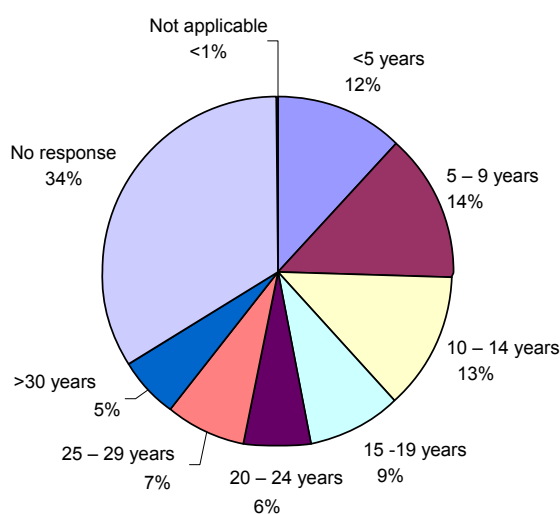


Fig 6: If you teach, how many years have you taught in higher education (N=1865)

### Question 8: Do you hold a teaching qualification?

The survey probed the subject of formal teaching qualifications. Just over a quarter of those surveyed had such a qualification and they were asked to supply further details in a supplementary question.

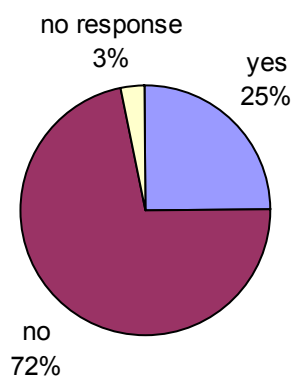


Fig 7: "Do you hold a recognised teaching qualification? (N=1865)

The total number of responses to the follow-on question, at 479, represents just over 25% of the cohort. There was a great mix of qualifications cited here and many of those who responded had more than one. The most common qualifications are listed in Table 3. In addition to these there was a range of alternatives including qualifications awarded by institutions outside the UK.

A large number cited membership of the Institute for Learning and Teaching (ILT) – as well as the 76 noted in the table there were many others who cited ILT in addition to their other qualifications. The comments seemed to indicate a fair degree of confusion as to whether membership of the ILT was actually a teaching qualification.

Teaching qualifications	Responses
Post Graduate Certificate in Education(Primary)	8
DipEd	14
B Ed	15
TQ(FE)	24
Post Graduate Certificate in Education(HE)	35
Post Graduate Certificate in Education(Secondary)	61
Member of the Institute of Learning & Teaching	76
Post Graduate Certificate in Education	84
Other Qualifications	162
<b>Total</b>	<b>479</b>

Table 3: Teaching qualifications held

### Question 9: Qualifications in Online Learning

The final question in this section focused on qualifications in online learning and revealed that only a tiny minority of staff (4 percent) held such a qualification and that there was no standardised award which could be held up as the benchmark in this area. Comments indicate confusion as to the status of ECDL (*European Computer Driving Licence*) and

whether this is an ICT rather than IT qualification. There is also evidence of a slight inroad into the market by well-know providers such as Gilly Salmon and LeTTOL. Most staff pick up what training they do receive as one part of a longer course such as the PGCE. There is also some evidence of training being carried out by VLE vendors.

## Section 2: Using Computers in your Work

### Question 10: Access to equipment

The first parts of Question 10 sought to probe access to the necessary hardware within Higher Education and to try to assess the feelings of staff towards the level of equipment available. At first glance the first two sets of responses seem contradictory but it may be that staff have both exclusive use of a computer and, from time to time, share facilities with others.

Do you...	Yes %	No %	N/A %*
...have exclusive use of a computer (or workstation) at work	95	5	-
...share a computer with others?	17	68	-
...have access to a room with computers for teaching?	56	9	28
...feel your capabilities are limited by the power of your computer?	16	78	-
...feel confident using computers in your work?	91	6	-

**Table 4: Access to equipment (N=1865)**

\* N/A - Not applicable

More than half of those surveyed had access to a computer as part of their teaching equipment, evidence of the technology as a teaching tool as well as for research or the preparation of materials. Also of note here is that the hardware currently in use is adequate to the demands of the overwhelming majority of those surveyed. But the most unanimous aspect is the confidence displayed in the use of the technology by over 90% of the sample. Question 11 reaffirms that computer technology is now a core element in the working lives of the sample with 99% of staff using computers in the course of their work.

### Question 11: Using computers for work

The question next drilled down into this widespread pattern of computer use to try to establish exactly what the technology was being used for.

In the work context, computers are used....	Yes %	No %	N/A %*
...to find information or resources	99	0	-
...to communicate with colleagues	99	0	-
...to communicate with students	77	3	19
...for the administration of your teaching	67	3	28
...to support student learning	61	11	26
...to assess student progress	32	35	30
...to improve accessibility for people with special needs	32	63	-

**Table 5. Use made of computers at work (N=1865)**

\* N/A - Not applicable

Remembering that this part of the HETNA survey invited responses from research as well as lecturing staff, so it is no surprise that the primary uses of computers are in the location of information and resources and in communication with colleagues – a usage pattern likely to be valid for lecturers, and learning support staff and researchers, regardless of how their time is split between functions. Once the figures in the 'not applicable' column are discounted it also appears that the technology is almost as frequently used to communicate with students.

Clearly, a significant proportion of respondents use technology to 'to support student learning' but it is harder to draw firm conclusions about this part of the teaching and learning process as this activity can have a multiplicity of meanings at different levels. Finally, technology is heavily used in the administration of teaching though markedly less so in assessing progress and in improving accessibility.

The supplementary question within Question 11 invited respondents to describe other uses they made of the technology outside the given categories. The 270 free text responses received were tagged into nine different sections which attempted to reflect observable trends. The most common use of the technology was in the pursuit of research which at 66 responses occurred at 2.5 times the frequency of teaching. The second most popular use, 'data storage and analysis', may hint at research rather than teaching applications. There is also a good deal of overlap with the categories provided in the core question.

Other uses for computers	Responses
Research	66
Data Storage & Analysis	55
Communication	46
Design/Development/Operation	27
Teaching	25
Administration	22
Computers Used in all Work	14
Other Reasons	9
Financial	6
<b>Total</b>	<b>270</b>

Table 6: Other uses for computers (N=1865)

### Question 12: ICT skills currently held

The next set of questions sets out to determine the skill set of respondents, establishing areas where they felt confident with technology and areas where there were still training needs. Not surprisingly, in the basic areas of office applications the vast majority of those surveyed exhibited confidence across the range.

Key areas where demand was identified were in the creation of databases and web page design. This in itself is related to the largest area of demand, cited by 40% of respondents, who would like to learn how to create web pages.

I can...	do with confidence %	know how to %	would like to learn %
... store files in folders and retrieve them from a computer	71	27	1
... create documents using a word processing application	73	26	0
... create tables in a word processor	64	32	3
... insert images into word processing documents	55	35	8
... insert hyperlinks in word processing documents	41	34	20
... create spreadsheets	49	38	10
... use functions in a spreadsheet	39	39	18
... create databases	20	36	32
... create presentations (PowerPoint)	54	35	9
... use email	74	25	0
... attach files to an email message	73	25	1
... search the web for info	72	27	0
... create my own web pages	21	30	40

Table 7: ICT skills currently held (N=1865)

### Question 13: Computers in the home

The final set of questions in this section of the survey looked at access to computers outside the workplace and the uses to which the technology was put in that context.

Do you....	Yes %	No %
...use a computer at home?	91	7
...use your home computer for work-related activity?	84	8
...have internet access at home?	83	8

Table 8: Computers in the home (N=1865)

The large majority of those surveyed had access to a computer and to the internet at home. Also over 4 out of 5 respondents used their home computer for work-related activities, blurring the line between home and work to a large degree. Nearly a third of those connected to the internet did so through a broadband connection.

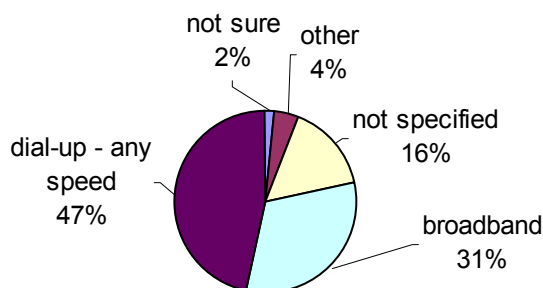


Fig 8: The types of internet connection used at home (N=1865)

### Question 14: Has your institution purchased a VLE?

The next set of questions looked at the issue of Virtual Learning Environments in Higher Education. As online learning increases in importance as a delivery method, then VLEs are likely to be the engine of change and an increasingly relevant tool for student learning. The questions attempted to ascertain the installed base of VLEs in the sector and how they were being used.

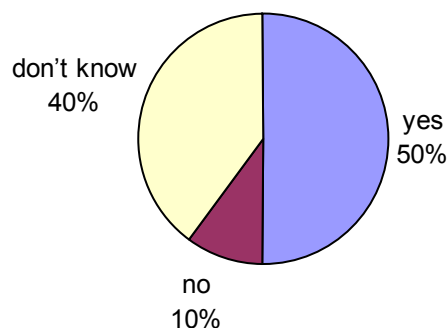


Fig 9: Does your institution or department have a VLE? (N=1865)

The results here are interesting in that they indicate that a large number of the respondents did not know whether their institution – or department – had invested in a VLE. This seems

rather a large percentage but it may be that there is simply a problem of nomenclature here. In other words, within the institution the VLE may be referred to with its proprietary name such as 'WebCT' and not as 'the VLE'. Whatever the explanation it would appear that a large percentage of staff seem to be currently unaware of this type of development.

The next question sought to establish the VLE 'market share' of some of the major vendors and providers of VLE systems and the pattern which emerged is clear from Table 9.

VLE Type	Responses	%
TopClass	0	0
Bodington	2	<1
Lotus Learning Space	2	<1
Learnwise	5	<1
iCampus	17	1
Moodle	41	2
Blackboard	297	16
WebCT	557	30
Don't know	149	8
No response	794	43
<b>Total</b>	<b>1864</b>	<b>100</b>

**Table 9: Other responses to the question: which other VLEs installed? (N=1865)**

Clearly at present within Higher Education, the market is dominated by two major players in *Blackboard* and *WebCT* who, between them, would appear to have supplied almost half of the installed base. At present all of the other suppliers hardly register on the radar. However, this is not the whole picture and it would be wrong to present the growth of VLE purchase and use within the HE sector as a monolithic battle between two global suppliers. The use of VLEs in institutions mirrors the autonomy in purchasing and technology that exists within many departments. The follow-up question here asked if any other VLEs were in use across the sector.

VLE type	Responses
in-house	39
Spider	17
First Class	9
other	9
open-source	5
EEMeC	4
Teknical	4
EEVeC	3
OU	3
SharePoint	2
Qmark	2
TAP	2
WCT	2
Bboard	1
clive	1
cnap	1
i-campus	1
intranet	1
learnlinc	1
Mesmis	1
Pegasus	1
<b>Total</b>	<b>109</b>

**Table 10: Other responses to the question: which other VLEs installed? (N=1865)**

The 109 responses here provide some interesting results and an overview of the multiplicity of VLE platforms in use across Scottish HE. Question 14 was asked on the basis of the VLE purchased by 'your institution or department' and it appears that devolving purchasing power for this type of technology has had two effects: a multiplicity of platforms in use (sometimes in a single institution) and a tendency towards in-house solutions. Nearly half of the returns here refer to an in-house developed system. There is also a growing interest in open-source solutions such as *Moodle*.

All of these trends may make it harder at the institutional level to achieve the economies of scale promised by the introduction of VLE technology and there are also training implications for staff in an environment with a multiplicity of learning platforms.

The survey next tried to establish the various uses made of the VLE. Perhaps the most noteworthy aspect of this part of the survey is the lack of positive responses in each of the categories, especially given that staff involved purely with research had been invited to bypass this set of questions. The largest categories are usually 'no response' or 'not applicable' suggesting perhaps that this is a technology which has not yet emerged into the mainstream of teaching and learning within Higher Education.

The main recorded uses were for the delivery of online resources and communicating with learners – both functions which can be replicated without the use of a VLE. Some characteristic attributes of VLE functionality - the ability to create online assessment and to track student progress - were largely underused. Perhaps more evidence of the minimal impact of this technology so far.

<b>If you use a VLE, do you use it to...</b>	<b>Yes%</b>	<b>No%</b>	<b>N/R%*</b>	<b>N/A%*</b>
...deliver online resources?	29	6	43	23
...conduct assessments?	9	21	46	24
...track the progress of learners?	13	18	45	24
...communicate with learners?	25	8	44	25

\* N/R - No response  
N/A - Not applicable

**Table 11: Uses made of VLEs (N=1865)**

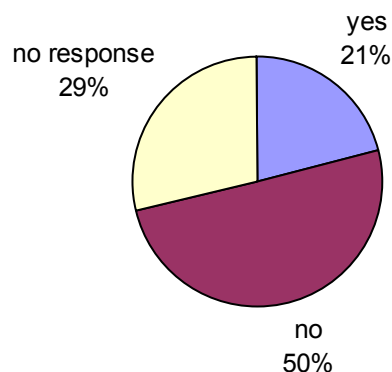
Finally within Question 14, respondents were invited to describe in an open text manner any other uses of VLE technology. The small response rate of 51 revealed a major overlap with the categories of use presented earlier and no examples of particularly innovative usage.

<b>Other uses of VLEs</b>	<b>Responses</b>
Admin	9
Peer communication	8
Course resource	6
Course delivery	5
Research	5
Assessment	4
Communication	4
Staff development	4
Course development	3
Tracking	2
Learner support	1
<b>Total</b>	<b>51</b>

**Table 12: Other uses of VLEs (N=1865)**

It also appears that some of these categories, such as assessment and online or course delivery, appeared in the body of the main question set. Stripping these out then, the two main areas of other interest are the comments connected with 'peer communication' and 'research'.

The final question in this section examined VLE training and the attempts that had been made to introduce staff to this new technology.



**Fig 10: Have you been trained to use the VLE? (N=1865)**

Clearly, only around one in five of the staff who responded had received any form of VLE training. The reasons for this can only be a matter of speculation but may be related to the large number of platforms in use in the sector, as discussed above, or to a lack of available time to receive the training, or even to the inconvenience of any training locations offered. It is possible that the small number may also be taken as evidence of how little real impact VLEs have so far made across institutions. Further research would be required at the local level to firm up some of the speculation offered here in this interesting area.

### **Question 15: Video Conferencing**

The next set of questions looked at the technology installed in institutions which might have an impact on teaching and learning. This time the focus was on video conferencing, both in the established scenario of fixed video suites and the emerging technology of desktop video.

<b>Do you have access to a video conferencing suite?</b>	<b>Yes</b>	<b>No</b>	<b>Don't know</b>
	54	14	30
<b>How often do you use the video conferencing suite?</b>	<b>Never</b>	<b>Sometimes</b>	<b>Frequently</b>
	40	21	2

**Table 13: Access to and use of video conferencing suites (N=1865)**

It is noteworthy that large numbers of staff seem simply unaware of the facilities offered within their organisations (nearly all HE institutions do have video conferencing facilities). However, where there is knowledge of the technology, just over a fifth of academics make some use of it.

Desktop video conferencing over IP promises to take video conferencing to a new era, removing the necessity for expensive video suites and intensive technical support. Unfortunately, though the technology has greatly improved over recent years, as yet desktop video conferencing seems to have made little or no impression: few people in education have access to it and few people make anything more than infrequent use of it.

<b>Do you have access to desktop video conferencing?</b>	<b>Yes %</b>	<b>No %</b>	<b>Don't know %</b>
	6	53	35
<b>How often do you use desktop video conferencing?</b>	<b>Never %</b>	<b>Sometimes %</b>	<b>Frequently %</b>
	19	2	0

**Table 14: Access to and use of desktop video conferencing (N=1865)**

The final question probed the uses made of video conferencing by those who claimed to use it. The majority of these use it to communicate with colleagues, but there appears to be only minimal use in the process of teaching and learning.

<b>Do you use VC to communicate with colleagues?</b>	<b>Yes %</b>	<b>No %</b>	
	16	31	
<b>Do you use VC to communicate with/teach students?</b>	<b>Yes %</b>	<b>No %</b>	<b>N/R %*</b>
	4	28	25

\* N/R - No response

**Table 15: Using video conferencing to communicate (N=1865)**

The final question in this section examined any other uses for video conferencing among staff who used it. As with the earlier questions, communication with colleagues, particularly those abroad and particularly for the purpose of interviewing was the clear winner in this category, with 'course delivery' presenting a very minor use.

<b>Other recorded use made of VC</b>	<b>Responses</b>
Interviews	36
Meetings	24
Research collaboration	17
Course delivery	11
Viva	6
Continuing professional development	2
Examiners' meetings	2

**Table 16: Other uses for video conferencing (N=1865)**

## Section C: Using Online Learning Technology

### Question 16: The context of using online learning technology

The third main section of the survey turned to look at the whole area of online learning technology and staff involvement with it. The first set of questions tried to establish the environment within which staff were working as it related to online delivery of teaching and learning and as such was designed to be general.

Do you...	Yes	No	n/a*	n/r*
...have sufficient time to learn how to use online learning?	34	55	9	2
...know how to find relevant online learning resources?	56	35	8	2
...have access to facilities to use online learning with students?	44	20	33	4
...have institutional support to use online learning technologies?	56	20	18	6
...need training to help you use online learning with students?	48	19	29	4

**Table 17: The context of using online learning technology (N=1865)**

\* N/A - Not applicable  
N/R - No response

A narrow majority of those questioned did feel supported by their institutions in beginning to use online learning though only a third felt that they had sufficient time to develop the new skills associated with it. Nearly half were in a position to use the technology to deliver learning and over half knew how to find relevant online learning resources. However, 48% felt the need for training in this area (35% of these in the area of locating appropriate resources).

This set of questions was followed up by an open text question which probed the reasons which might encourage or discourage staff from using online learning technologies. Of the 270 comments received here, very few described factors which could be used to explain usage. However, one respondent did mention more money, while another thought achievement of new skills could be linked to promotion.

However the vast majority of comments listed the disincentives to adopting the new skills sets. The table in Table 18 displays by far the largest number of comments – fully one third – cited lack of time as a disincentive, a view which is repeatedly echoed in surveys of this type carried out across all the educational sectors. If that objection could perhaps have been anticipated then the next most frequently cited disincentive is more unexpected. A sizeable number of those who responded still remain to be convinced of the value of teaching through this medium. They are sceptical of claims made and their suspicions may also be echoed by those who see these methods as unsuited to the delivery of their particular subjects. Other correspondents cited a general lack of resources for both staff and students, a need for new skills, costs and an overall lack of institutional support as disincentives. Some other voices – collected in the ‘other’ category here - had fears on everything from loss of academic freedom through intellectual property rights to the rise of plagiarism.

Factor	Responses
Time	90
Sceptical of the value of online technology	33
Resources	31
Skills	23
Support	18
Online delivery unsuited to subject	12
Student Access	9
Cost	6
Information & knowledge	6
Other	42
<b>Total</b>	<b>270</b>

**Table 18: Factors which were perceived to influence the use of online learning (N=1865)**

### **Question 17: The recorded use made of online resources**

The next set of questions looked at the use currently made of available online resources and, perhaps reflecting the research interests of many of the correspondents, electronic journals were the most heavily used resource attracting 80% of users. Subject gateways, perhaps linked more closely to the teaching role, were the next most popular at 30%.

Online Resource	Usage (%)
Census data	12
Map data	14
Data sets	20
Image Libraries	25
Subject gateways	30
Electronic journals	80
Other	8

**Table 19: Online resources used by respondents (N=1865)**

8% of those surveyed cited resources outside the prescribed categories of the question. There was a huge range of responses here, the resources used being largely influenced by the academic discipline of the respondents. The internet generally is a well-used resource and general recourse to it was mentioned easily as often as references to more formally-established resources. Some resources such as the *Web of Knowledge* are mentioned more frequently, as are the specialist database services. There is also frequent mention of government sites, *Google* and search engines generally. There is also regular mention of participation in discussion lists.

### **Question 18: The use of online resources in learning and teaching**

The survey then turned to examine the use of online resources facilities as part of learning and teaching. For ease of analysis the data have been split into two (Table 20); the first set of questions covering the creation and use of online learning materials and assessments while the second shows the support and communication options offered by online delivery.

<b>I have...</b>	<b>Never %</b>	<b>Sometimes %</b>	<b>Frequently %</b>	<b>WLT %*</b>
...used online materials created by others	17	59	20	5
...designed online materials myself	33	31	23	14
...used online assessments created by others	64	22	5	10
...designed online assessments myself	60	16	8	16
...supported students using email	8	30	61	1
...used online discussion forums	41	35	17	7
...used an electronic whiteboard for teaching	73	9	2	17
...taken part as a student in an online course	77	16	2	5
...used streaming audio or video	66	18	5	11

\* WLT - would like to learn

**Table 20: The uses made of materials, communication and support tools (N=1865)**

Nearly two-thirds of those surveyed have used online materials created by others while almost one in five have used assessments created elsewhere. The numbers decline when staff are asked if they themselves have created online materials (31%) and assessments (16%). Not surprisingly then, the main training demand which arises from this question appears in these areas.

The second set of questions in Table 20 shows the use of communication and support tools within the online environment. As suggested by an earlier question, a majority of the respondents had used email to support students though the relatively low return to the question on the use of discussion forums suggests that this method of one-to-many communication was not frequently used. Two newer aspects of online delivery, namely electronic whiteboards and the use of streaming video attracted very low usage and a consequent demand for staff development in these areas – particularly interactive whiteboards.

One other question in this set bears close examination. Of those surveyed, 77% had not themselves taken part as a student in an online course and therefore could have no real insight into the mechanics of course delivery in this area and of the elements which make for a successful and enriching experience online. Given this fact, on one hand it is perhaps surprising that so few of those surveyed expressed any desire to learn more about this area, but, on the other, it may simply reflect that a low perceived value to training in this area.

Once again this section was concluded by a free-text entry question where respondents were asked to identify other learning technology skills they wished to develop. The responses are illustrated in Table 22.

Skills requests	Responses
multimedia	29
VLE	21
web design skills	17
assessment	15
online learning design	9
electronic whiteboards	8
online pedagogy	8
forums	7
simulations	4
PowerPoint	3
accessibility	2
e-moderation	2
knowledge management	1
mobile technology	1
moodle	1
open source software	1
server management	1
video conferencing	1
<b>Total</b>	<b>131</b>

**Table 21: Other learning technology skills respondents wished to develop (N=1865)**

The skills requested in this question cluster towards the higher end of the online learning and web skill sets, indicating that those who responded here were in the main experienced users of the technology, looking to enhance a fairly well-developed skill set but perhaps not typical of the sample as a whole. The multimedia column covers all references to audio, video and images. The 21 VLE references contained a high proportion which referred directly to *WebCT*.

### **Question 19: Online assessment**

The next set of questions examined the area of online assessment which evidence from Question 18 has already indicated is an area where staff feel less sure of themselves in the online environment. The responses indicate more readiness to use such assessments in a formative rather than a summative context, which may be partly influenced by a lack of confidence in the technology to deal with practical or security issues. The only response which shows slightly more favour in the summative context is plagiarism detection. Once again it may be important to draw attention to the very low levels of responses recorded in the area of discussion forums. Given that this can be seen as one of the primary tools of a 'constructivist' approach to learning perhaps the low responses here indicate the remoteness from this model within Higher Education at the present time.

Do you...	Formative %	Summative %
...use email for collecting assignments?	20	14
...require students to use tools such as <i>PowerPoint</i> or VC?	20	13
...use online plagiarism detection services?	5	6
...use online objective testing/quizzes?	11	5
...assess students' contributions to discussion forums?	7	3

**Table 22: The generic types of assessment tools in use (N=1865)**

### Question 20: assessment tools in use

Having examined assessment generally Question 20 probed the specific assessment tools in use within the sector. The first point to make is that the generally low levels of response to this question would seem to indicate that there is little current use of online assessment. The strongest area of response is in the area of VLEs, most of which come equipped with the capacity to generate assessments.

Assessment Tool	Responses %
<i>Triads</i>	<1
<i>Hot Potatoes</i>	1
"In-house" tool	2
<i>Questionmark</i>	3
Part of a VLE	8
Other	2

Table 23: The specific types of assessment tools in use (N=1865)

As usual, an open question ended this section inviting respondents to describe 'other' assessment tools used. Of the 47 responses, no real conclusions can be drawn from the resulting 47 responses with the exception that many of the respondents claimed to use 'home-grown' assessment mechanisms (16 from 47 responses), a situation which parallels the trend towards 'home grown' VLE products noted earlier.

### Question 21: Accessibility issues: knowledge of SENDA

The next set of questions (21-22) cover the subject of accessibility, awareness of recent legislation on the subject (the Special Educational Needs and Disabilities Act, 2001), the knowledge of assistive technologies and the use made of them. The first question asked if respondent were aware of the 'accessibility issues' that needed to be considered when using online learning. Roughly one third of the cohort made no response at all to this question and the graph which appears at Table 24 represents the spread of the remaining responses received.

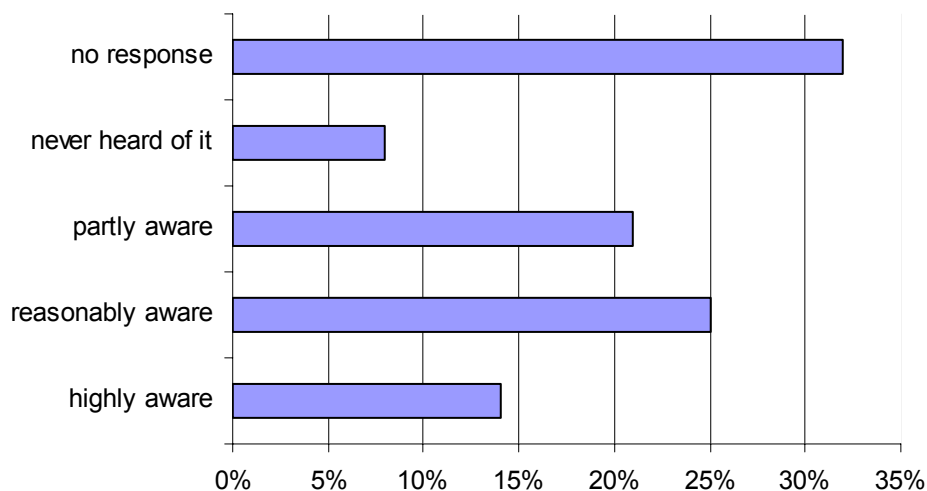


Fig 11: Awareness of the SENDA legislation (percentages, N=1865)

Given the number of staff who did not respond here (33 percent) and the levels of awareness depicted in the graph then there would seem to be a need for some staff development in this area.

## Question 22. Assistive Technologies

The next question then looked in detail at some of the more common accessibility tools and the level of familiarity with them. Positive responses here stuck stubbornly around the 20% mark or less with once again a high number of blank responses. However, one encouraging factor is the number of staff who expressed a desire to learn about assistive technologies especially in the general area of making materials more accessible and in specialist software areas like mind mapping.

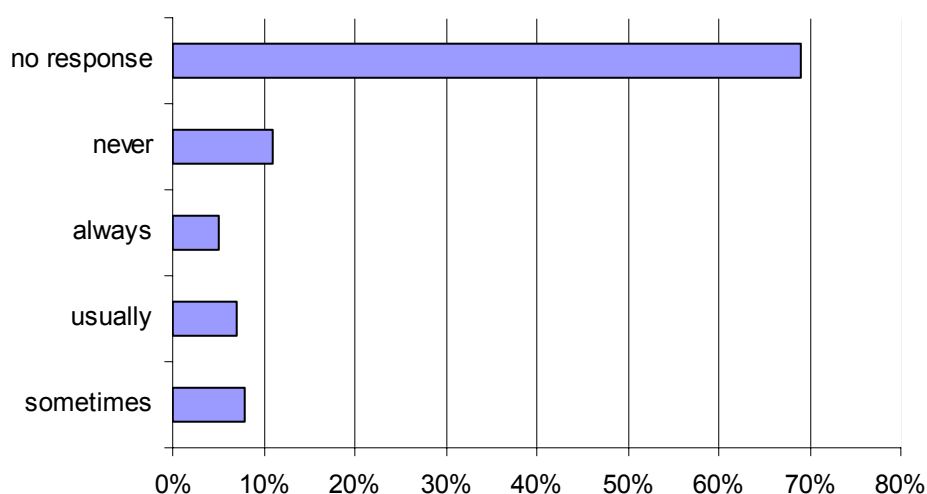
I Know About....	Yes%	No%	WLTL%*	N/R %*
...making online resources more accessible	21	20	26	33
...the 'accessibility options' in the Microsoft <i>Windows</i> environment	18	26	23	33
...adapted keyboards and alternatives to the standard mouse	21	26	19	38
...alternative input methods(eg voice recognition, switches, infrared)	22	23	22	34
...alternative output (eg tactile diagrams, text-to-speech, Braille)	13	31	22	34
...screen magnification/screen reading software (eg Zoomtext, Jaws)	17	28	21	34
...specialist software (eg Text Help, Mind Manager)	9	32	25	34

**Table 24: Levels of familiarity with assistive technologies (N=1865)**

\* WLTL - Would like to learn  
N/R - No response

An open response question followed inviting respondents to nominate other assistive technologies. 46 responses were received here and again no discernible pattern appears other than a feeling that this was a service which should be provided centrally and it was enough that a lecturer know how to find the help within the institution rather than be able to deliver it personally. There were also a high number of responses which betrayed a certain anger at the usual suspects: workload, time and the *Windows* platform.

A final question in this section on assistive technologies took a passing look at quality control measures that might be implemented within an individual institution to ensure that online learning materials are accessible. Once again the question was notable for its high level of null responses (69%).



**Fig 12: the frequency with which online materials developed by respondents are reviewed for accessibility purposes (N=1865)**

These figures indicate that only a small minority (5%) of the sample *always* use a quality control system with respect to accessibility, but perhaps given the general level of online development across the sector the appearance of relatively mature quality control instruments should be expected to be rare.

## Section D: Staff Development and Support Needs

The final section of the survey turned from trying to establish a snapshot of standards across the sector in relation to online learning to consider the demand for staff development which must accompany the further integration of ICT into the delivery of teaching and learning.

### Question 23: Membership of ILT

Question 23 attempted to establish the level of qualifications already held. Nearly 20% of all respondents claimed to be members of the Institute of Learning and Teaching (ILT) in Higher Education.

### Question 24: IT Qualifications

Question 24 reviewed the specific IT qualifications held – citing ECDL as an example of such a qualification. Fewer than 11% of the sample held such a qualification. Details of exactly which qualifications were held were prompted by the free text question which followed. This question produced 185 responses, shown in Table 25.

Qualification	Responses
Miscellaneous	50
European Computer Driving License	35
Post Graduate	25
MSC Info Tech	20
Batchelor of Science	15
Master of Science	11
Diploma in Computing Science	8
MSc in Information Management	6
Diploma in Computer Education	3
Not applicable	12

**Table 25: IT qualifications held (N=1865)**

Once again this section gives out mixed messages. Primarily there is a wide range of qualifications, reflected in the fact that miscellaneous qualifications represented the largest category with 50 returns (included here are single figure returns for LETTOL, CLAIT, internal institutional qualifications and diploma level qualifications of various varieties). ECDL does seem to be making significant inroads with 35 of the respondents holding this qualification but even at this level it is a long way from becoming the de facto standard it has become in much of the economy and in other educational sectors like Further Education.

Other qualifications mentioned fell into the category of first degree or PhD. Once again some of the opinions expressed here were very vigorous and showed a generalised antipathy towards the use of learning technology in the institution.

Finally, the divergence of responses here suggests that they were largely coming from two very well-defined groups: high-end, well-qualified expert users and staff who have picked up a qualification but may not necessarily be classed in any way as 'experts'.

### **Question 25: the sort of training felt to most benefit respondents' work**

Question 25 offered categories of training that could potentially be supplied and invited respondents to check all those they thought would most benefit their work. The results are as shown in Table 26.

<b>Training need</b>	<b>Responses %</b>
Video conferencing	19
Effective searching on the web	26
Facilitating electronic discussions	28
Using a VLE	34
Understanding the theory, practice and pedagogy of online learning	39
Authoring online learning materials	40
Other	4

**Table 26: "What sort of training would most benefit your work?" (N=1865)**

Of the 4% which selected 'Other', an analysis of their responses has produced the information in Table 27.

<b>Other skills needed</b>	<b>Responses</b>
Advanced VLE	2
Project Management	2
Research	3
Accessibility	4
Online Learning Materials	4
Databases	5
Assessment	7
Advanced Web Skills	9
Basic Miscellaneous	10
Advanced Miscellaneous	20
Open comments - not always relevant	24

**Table 27: Other required skills (N=1865)**

Again there is little consensus here and a range of demands from the relatively small number of respondents. Once we move into this type of question the demands become very precise and personal. There is some evidence here of demand in assessment, databases and research and advanced web skills. Both miscellaneous categories contain single requests.

Perhaps the most striking category is the quotes section where many of the quotes were highly irrelevant to the question asked.

There was one eloquent quote which seems to reflect the underlying current of bitterness already noted in the comments:

"I'm using this box to comment that there is an implicit assumption (in this questionnaire and elsewhere) that the 'value' of e-learning methods is indisputable. I would like to be persuaded of their value before committing significant effort to the implementation of more than I do already."

The final subquestion within Question 25 asked respondents to choose which for them was the most important of the elements on offer in the first part of the question. The results are

illustrated in Figure 13 and show a preference for the pedagogy of e-learning (currently the subject of a major JISC Programme) and for the skills in authoring online materials.

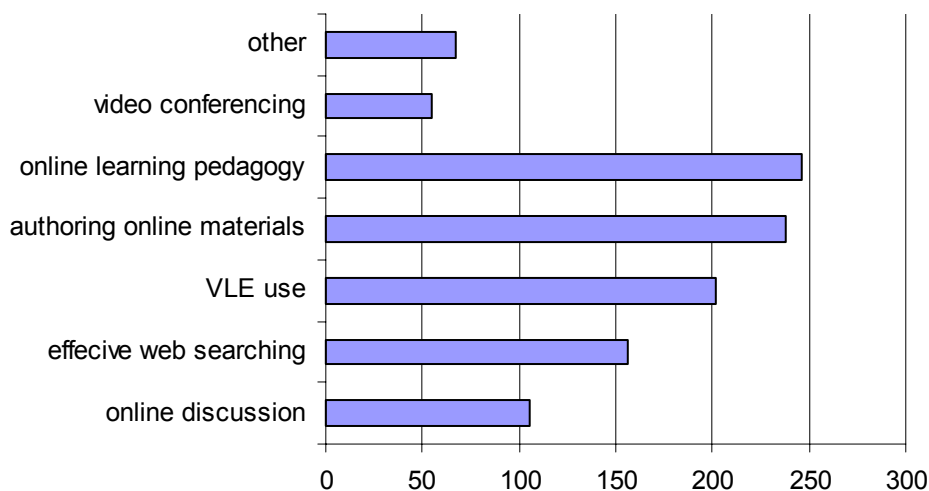


Fig 13: Prioritising the training required (N=1865)

### Question 26: Specialist ICT skills

The next set of questions examined specialist skills which might only be useful to a small minority of the sample who were already comfortably beyond the basic skills levels in ICT. As in earlier parts of the survey, the clear demand was for skills in web development. There was also demand for project management skills which is echoed elsewhere in this survey.

Specialist ICT Skills	responses%
Video Creation/editing	22
Image Editing	27
Data Analysis	33
Project Management	35
Web Development	45
Other	2

Table 28: Specialist ICT skills required (N=1865)

### Question 27: Methods of training and support found to be most suitable

A slight preference is shown in Table 29 for face to face workshops, though an almost equal high number of respondents would find a blended model of support acceptable.

Methods of training	Yes%	No%	N/R %*
Traditional face-to-face workshops/courses	73	7	20
Advice by phone, electronic mail or through electronic discussion lists	35	32	33
A 'blended' model (face-to-face workshops & open/flex learning supported online)	71	10	19
Open and flexible learning delivered and supported wholly online.	44	28	29

\* N/R - No response

Table 29: Methods of training found suitable (N=1865)

An open text box was provided to record respondents' comments on the subject of the methods of training and support found most suitable. In total, 32 further comments were received.

Other suitable training models	Responses
blend	2
chalk & talk	5
e-forums	2
mentoring	7
paper-based	8
comment	8

**Table 30: Further comments received on suitable training models (N=1865)**

This small number of overall responses undermines to some extent the validity of the comments as representative of the larger group. The only generalisation that can be made is of the overwhelmingly 'traditional' nature of the methods mentioned. Once again these have been coded and if we discount the comments which don't seem to relate to the question we only have 28 valid responses. Of these 20 cover delivery methods - chalk & talk, mentoring and paper-based - which would have been familiar to Socrates.

### **Question 28: Factors influencing/restricting preferences with respect to training models offered**

This section of the survey yielded the highest number of free text responses with 691 comments. However, even this large response rate involved only a third of survey respondents.

The comments were grouped to attempt to discern common features in the comments made. Key areas of convergence surrounded the familiar areas of time and the reasons for choice of preferred delivery method as *face-to-face*, *blended* or *fully online*.

Overall, nearly half (333) of the respondents cited 'time' as the key reason for their preferences expressed in Question 27. This is a common feature of all such surveys conducted including the 2001 and 2003 versions of the Scotland wide survey of training needs within Further Education (ETNA, JISC Regional Support Centres, 2003). A picture emerges of a sector where time for any kind of training is at a premium. Some respondents went on to elaborate how the time factor had influenced their preferences and this produced an interesting split. 32 respondents felt *face to face* was the only suitable method for them as it provided the only opportunity where time could be effectively 'ring-fenced' from other activities for staff development. However, 40 respondents held the opposite view, seeing online learning as the only way to maximise the use of their time by allowing the flexibility to access training at a point suitable to them.

197 respondents were tagged in terms of the 'preferences' expressed in their comments and the reasons given for them. These fell into the following categories:

Face to face: 137  
Blended: 40  
Online: 20

Here the preference towards *face to face* is far more marked than that returned in the question itself. Reasons for the bias towards this method were familiar ones: the need for some form of 'human' contact, ease of communication, familiarity with the methodology and a suspicion of the technical deficiencies of online delivery, a lack of the necessary skills to take part confidently in online learning. In a number of cases the choice was also driven from a

previous experience of online learning which had proved negative. Also evident was a scepticism about the overall value of a medium of transmission that was as yet unproven.

Those favouring online and blended delivery did so also for the familiar reasons which have come to be categorised as the 'Martini' model of delivery - anytime, anyplace, anywhere yielding maximum flexibility to the learner. There was also a recognition among some of the respondents that such learning patterns were set to become more common and that these needed to be experienced in themselves as part of professional development.

Many comments evaded categorization, or were too distributed for coherent grouping, and no discernible trend emerged from them. However, a number of them did make the point that the delivery method was in fact a secondary consideration and the key element in training was the quality of the materials and the content on offer.

### ***Question 29: Other training needs related to ICT and the use of e-learning***

From the 108 responses (less than 6% of the total survey population of academics) here, once again no particular trend emerges. Nearly a third of all respondents used this final opportunity to make general comments and some express their antagonism towards trends in teaching & learning, though this was not explicitly prompted for in the question. This in itself indicates the strength of feeling prevalent at least among a percentage of the respondents.

In the area of skills, which constituted the narrower intended focus of the question, there was a degree of overlap with earlier questions on specific training needs. Advanced audio-visual skills in areas such as streaming video were requested, as were advanced Dbase and web authoring skills. Pedagogy is the only other area which attracted a cluster of requests.

## Conclusions

1. The three largest institutions, Edinburgh, Glasgow and Aberdeen, account for almost 50% of the returns. This is inevitable, given respective academic population sizes, but may impose bias with respect to general representativeness of findings.
2. Male and female almost equally represented in the sample. The majority of staff was involved in both teaching and research.
3. Only a quarter of the sample holds a teaching qualification with even fewer having any kind of qualification in online learning (4%). There was some confusion on the status of membership of the Institute for Learning & Teaching in this context.
4. The vast majority have exclusive access to a computer, are happy with its specification and 'feel confident' using the technology. This is now a primary tool for the identification, modification and communication of resources for all academic staff, though it may not have such a central role in teaching and learning.
5. The basics of common applications seem to be well embedded. Greatest demand is for training in e-pedagogy, creating web pages and making use of databases.
6. Nearly all staff have computer access at home and the vast majority use this for work-related activity.
7. VLE technology.
  - 40% of staff did not know if a VLE had been purchased by their institution/department.
  - Where they do exist, Blackboard and *WebCT* are dominant vendors but there is increasing reliance on 'home grown' systems and increasing penetration of the market by open source solutions.
  - The multiplicity of platforms has implications for cost-effective training delivery.
  - Main uses for storing online resources and communication with students but little use as yet for assessment and tracking.
  - Only a fifth of staff had received any training in how to use the VLE.
8. Though 19% of respondents felt that training in video conferencing would benefit their work, VC generally would appear to be an underused technology, particularly outside the UHIMI network. Despite this apparent low usage pattern, VC is still used more than some other e-learning technologies investigated within the survey, such as assessment.
9. Online Learning Technology and Resources
  - Majority do not have sufficient time to learn how to use the technology.
  - Almost 50% of respondent requested training in the area of online learning technology and resources.
  - Electronic journals were the most heavily-used resource.
  - Four out of five respondents had not personally been a student on an online course.
  - Most electronic communication is one-to-one and use of discussion forums very low.
  - Online assessment is preferred in formative rather than summative mode, but is used by less than one in ten.
  - Key training demand in multimedia, VLE, e-pedagogy, web design and assessment.
  - Very low use so far of plagiarism detection services.

10. Though there was some awareness of the SENDA Act and its implications some staff had still not heard of it. More training needed in the use of assistive technologies. Better quality control over online materials also required to ensure compliance.
11. Wide range of IT qualifications held by the sample but no benchmark standard qualification for ICT emerges.
12. Training Needs:
  - Highest demand was for pedagogy of online learning, authoring online materials and VLE training.
  - Specialist demand for data analysis, project management and web development.
13. Traditional methods narrowly favoured by this group just ahead of blended delivery. Entirely online rejected by well over half the respondents. Of the barriers to the uptake of training the majority of respondents cited 'time' as the key factor.
14. A thread running through many of the comments sections of the survey carried a strongly sceptical view on the value of online delivery and large numbers of staff remain to be convinced that this is a viable alternative to traditional methods.