



## THE DEVELOPING IMPACT OF ILT

Final report to the NLN Research and Evaluation Working Group by the Learning and Skills Development Agency (LSDA) and Sheffield Hallam University on the impact of information and learning technology in sector colleges

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We have come a long way in five years. The National Learning Network (NLN), which started life in 1999, has had a marked impact on further education.

The NLN evaluation team's first major report was at the end of 2002. This subsequent publication provides yet further evidence of the influence information and learning technology (ILT) has on the work of colleges and on the lives of staff and students. This is highlighted by our sector's increased use of the term 'e-learning', as technology becomes a progressively more important component of innovation, planning and delivery.

The evidence in this report is based on case study visits to a small, but representative, number of colleges during 2003 and the early part of 2004, and on data from large-scale surveys of sector staff and students which took place from late 2003 to early 2004. It is fascinating to note the consistency of findings from all the various e-learning evaluation exercises taking place in this sector and elsewhere. It is also interesting to see the gradual changes since the team's first report.

There is some way to go before we have any universal curriculum transformation brought about by technology, but the trends are positive and there is firm evidence of partial adoption of some technologies.

As chair of the NLN Research and Evaluation Group, which has steered this work, I would like to thank staff and students in the case study colleges and all those who completed questionnaires, and who have thereby supported this work. Thanks also to the evaluation team from LSDA and Sheffield Hallam University, who have produced such a useful report.

As the NLN itself undergoes change and expands into the other parts of the learning and skills sector, this publication, and all the supporting material, provides yet more solid evidence to make us confident about the direction of future activities.

John Taylor



## Authors

This report has been edited by Kevin Donovan (Learning and Skills Development Agency [LSDA]). It is based on the extensive research activities and text supplied by staff at the Centre for Research and Evaluation (CRE) at Sheffield Hallam University (SHU). Our thanks go to the key staff involved in this work: Dr Colin McCaig (Research Fellow at CRE), Maria Smith (Research Fellow) and Rachel Ibbotson (Research Fellow). Thanks also to Rachel Barker, DfES, and other colleagues for incisive and constructive comments on earlier drafts.

## In relation to the key themes of the report:

- Information and learning technology (ILT) is commonly used across a range of activities by both staff and students in colleges.
- Staff and student users feel that ILT has a positive impact on many aspects of education and more generally.
- A still limited range of ILT resources is used extensively.
- Staff are clear about their development needs in relation to skills, application of ILT, and the availability of content.
- The level of ILT infrastructure and support is regarded as sufficient by most staff and students.
- Staff judge their colleges to be generally at an early but coordinated stage of ILT development.

## Key findings<sup>1</sup> include:

- The majority of staff in colleges are enthusiastic about the use of technology for teaching and learning.
- A minority of students felt increased use of technology/ILT/e-learning would increase their grades.
- Part time students have least access to technology resources.
- There is under-utilisation of the potential of technology/ILT/e-learning.
- There is little evidence of the use of technology in assessment.
- Technology has had a positive impact on management and administration.
- Staff identified their support and development needs.
- There is overwhelming support for a database of e-learning content.
- The key message is that staff and students are prepared for greater use of ILT/e-learning.

## Introduction

*Use of ILT is such an important life skill in general... Either they've got the skills or, more hopefully, because they're confident with technology, as technology develops they can go with it, so it's not just about teaching a static skill that will be out-of-date in six months' time, it's about teaching to just be happy with technology. (ILT Champion, College I)*

- 1 This report describes the final outcomes and findings from an evaluation exercise undertaken in a representative sample of eight sector case study colleges during 2003 and the early part of 2004; and via a survey carried out between October 2003 and February 2004. The students' survey attracted almost 700 responses across 11 colleges (the case study colleges and several others that were involved with NLN projects). The staff survey produced responses from around 350 teaching and support staff working in over 50 further education colleges.

<sup>1</sup> Paper P16SR for Post-16 e-learning stakeholder event, September 2004

- 2 The National Learning Network (NLN) has involved a programme of investment and development in the information and learning technology (ILT) capacity of the learning and skills sector<sup>2</sup>. The evaluation is not merely about the influence of the NLN; it encompasses wider aspects of sector and other external developments as they impact upon the life of colleges in the sector. Therefore the report draws upon (and the associated full report provides details of) evidence emerging from other evaluations – and which illustrate considerable consistency in their findings, including about the conditions upon which the successful use of information and learning technology (ILT) depends. For example, at the same time as the NLN evaluation exercise, the ICT Test Beds project has been developing and an 'impact study' of the effects of ILT post-16 has been commissioned by the DfES.
- 3 The surveys should be taken as indicative rather than representative of the sector. The sample of students was skewed towards full time students, mainly because of the greater accessibility of full time students in the short timescale available for this survey. The difficulty in accessing part-time and distance students suggests that more and better-targeted research is needed to judge usage and attitudes towards ILT among these groups.
- 4 The survey sample over-represented Asian, Black, Chinese and mixed ethnic groups compared to the national picture, and under represented White communities; this is largely because of the geographical location of the colleges which responded to the survey. Some subject areas were over-represented because many students between the ages of 16 and 19 are expected to follow key skills qualifications in communication, application of number and information technology alongside their other studies.

## The sample

- 5 The sample included 687 respondents to the students' survey, located in 11 English further education sector colleges. There were 347 respondents to the staff questionnaire, working in a total of 54 different further education sector colleges in England. Two thirds were teaching staff, the remainder support, administration and management staff.
- 6 The case study sample colleges were representative of the sector, although the sample of students interviewed was weighted towards full-timers. As in previous evaluation exercises case study interviews provided an opportunity to explore issues in greater depth with staff and students. The material from these sessions corroborated the findings of the survey and quotations are included in this publication only as appropriate and to offer an illustration of the survey findings. The full report includes more detailed content and analysis from the visits.

## The extent of common use of ILT

*Technology is not going to replace classroom teaching, or at least not in the foreseeable future. But it could help to make the classroom activities more interactive and tools like VLEs help to reinforce learning, support weaker learners and enable tutors to focus more on listening and speaking during the class. (Staff Survey Respondent)*

<sup>2</sup> Details at <http://www.nln.ac.uk/background.asp>

- 7 Information and learning technology can be said to be fully embedded (in terms of a high prevalence of normal staff usage) in a number of areas: teaching, lesson preparation, communication, administration and record keeping. For example, students reported that class notes, or printed handouts, were by far the most commonly used aspect of ILT, used by almost three-quarters of staff. PowerPoint was also heavily used, while networked PCs for all students were the norm for classroom activity and around a third of all staff used data projectors and Internet websites in all lessons.
- 8 Beyond the classroom, a third of staff reported that they used technology constantly in lesson preparation at home, and over half used it for preparation in their office. Almost half reported using PowerPoint regularly. ILT was also firmly embedded as a tool for communicating with colleagues, record keeping and registration and for tracking students' progress.
- 9 ILT use was also embedded among students, especially for accessing the Internet in the classroom and using PowerPoint. Beyond the college almost three quarters of students had Internet access at home or in the workplace, half of which was via broadband, while a third of respondents accessed VLEs and college intranets remotely.
- 10 In all areas of ILT use, full time students were more prevalent than part-time students. Older students (aged 22-24 and 25-34) recorded higher use of data projectors and interactive whiteboards than younger ones, while students at Level 2 and above were more likely to use the data projector. Level 1 and below students were more likely to use networked PCs and Internet websites in the classroom.
- 11 Staff in post for less than five years, male and full time staff reported higher use of ILT for administrative purposes and in classroom use than more senior, female and part time staff.

## The impact of ILT

*I think it's got a superb impact... providing teaching and learning that isn't boring. (Head of Department, College C)*

- 12 Both students and staff were generally positive about the outcomes of ILT usage. For staff the largest areas of improvement were in student employability and enjoyment, and there were also important advantages in record keeping and course management. Almost half of students believed that ILT could improve grades, employability, and, to a lesser extent, retention. There was evidence of a robust demand for ILT in the FE sector and high levels of enthusiasm and use of the technology both at home and in the college, including an awareness of the positive change over the last five years. Levels of enthusiasm for elements of ILT were appreciably higher for the 25-34 age group than younger or older age groups.

## Resources

*More enjoyable and makes a change to work with computers. (Student, College E)*

- 13 The Internet, email and major software packages such as MS Office were highly valued by staff and students. Male full time staff in post less than five years reported the highest use. Among students who used it, the college VLE/intranet was highly regarded because of its flexibility, practicality and user-friendliness, and the vast majority of students who used electronic content believed it to be well pitched at their ability level. Chatrooms and moderated discussion were rarely used for collaborative learning, with face-to-face meetings, email and telephone contact preferred instead.

## Staff Development

*'I think staff are the issue; if they don't see the benefits of what we have, they won't pass it on to their students'. (Head of Faculty, College F)*

- 14 A lack of time, insufficient infrastructure and a lack of departmental and institutional support were seen as the main barriers to further use of ILT in teaching and learning. Full time staff were more likely to cite lack of time to prepare materials, while part time staff were more likely to cite insufficient equipment, ill-equipped rooms and a lack of electronic course content. For each factor listed on the questionnaire, a higher proportion of staff in post six years or more cited them as barriers than those in post up to five years, with the largest difference relating to time to prepare materials.
- 15 More training and the existence of more good practice exemplars would have stimulated greater use. There was clear demand for a national database of ILT content specifically written for the FE sector, preferably developed nationally with room for local customisation. Staff development and training courses seemed to be well received by staff, although a third of all staff had attended no courses designed to improve their use of technology in the last year. Roughly a third had attended just one and a fifth had attended two such courses over the previous twelve months.

## Infrastructure and support

- 16 The level of infrastructure was judged to be sufficient by around two thirds of students, in terms of the number of PCs and their availability, and over a third judged technical support to be either good or very good. Students below level 2 recorded the highest levels of satisfaction with the availability of PCs and levels of technical support received in college, while those studying at Levels 4 and above were more dissatisfied. Younger male students were more likely to believe there were sufficient PCs in the college than older and female students. Full time students were generally more satisfied than part-time students.

## The state of the colleges

- 17 Staff were invited to place their college on the MIT/Becta transformation scale<sup>3</sup> in relation to several aspects of ILT. Response rates were lower for this question than many of the others as respondents were not, it seemed, fully aware of the meaning of the question. For each variable, most respondents judged their college to be at the co-ordinated stage.

Stage of Transformation	ILT Strategy	ILT Management	Staff Dev.
Localised	18	21	26
Co-ordinated	36	38	34
Transformative	26	23	25
Embedded	7	6	7
Innovative	14	12	9
Total (numbers)	102	100	102

<sup>3</sup> The five-point scale was developed by Massachusetts Institute of Technology to measure the impact of IT on businesses and adapted by NCET (now Becta) as a model which may be applicable to the adoption of ILT by colleges. <http://www.becta.org.uk/research/research.cfm?section=3&id=557>

## The impact of ILT

*In FE it is appropriate for the focus of centrally supported development to move away from ILT infrastructure, to realising the potential of ILT for learning and teaching processes (as suggested by the evidence of the LSDA's NLN Evaluation Report). Work over the next three years should afford higher priority to issues of practice and management, whilst sustaining the infrastructure investment. The focuses for development might best be articulated as 'helping students to learn' and ensuring ease of use for teaching and learning support staff<sup>4</sup>.*

- 18 This publication is one output from the second phase National Learning Network (NLN) evaluation. The work, commissioned by the LSC from the Learning and Skills Development Agency (LSDA) and Sheffield Hallam University (SHU), encompassed originally intensive case study investigations in a small number of sector colleges; it was later extended, with additional funding, to cover surveys of staff and students and a specific examination of staff development issues. All of this is reflected in the various outputs, including this summary report.
- 19 The first phase evaluation reports and associated material, which examined the first three years of the NLN (1999-2002), were published in October 2002, together with a good practice guide, and are still available on request from the evaluation team<sup>5</sup>.
- 20 This summary report is the one print publication from the second phase evaluation; this and the other outputs are available as electronic downloads<sup>6</sup>. They comprise:
- The summary report.
  - The full report, with extensive data from the evaluation surveys, case study visits, and drawing upon other evidence.
  - The evaluation toolkit, including a range of material.
- 21 The full report of this study of the impact of technology on teaching and learning includes a full analysis of the findings of the evaluation. The material is intended to complement and support other related exercises undertaken as part of the NLN programme, including the annual Becta survey of sector ILT infrastructure and use.
- 22 The work has been overseen by the NLN Research and Evaluation Working Group (one of the five sub-groups of the NLN Transformation Board); it has been used formatively over time and in a range of ways by various NLN teams and operational groups as the evaluation has proceeded.
- 23 A new organisational structure for the NLN groups is under discussion at the time of writing. The latest position is available via the NLN web site<sup>7</sup>.

<sup>4</sup> The National Learning Network: A Strategic Framework for Development 2002/2005, LSC, October 2002

<sup>5</sup> All enquiries about the evaluation to Kevin Donovan (LSDA) at [kdonovan@lsda.org.uk](mailto:kdonovan@lsda.org.uk)

<sup>6</sup> All the evaluation outputs are available as electronic downloads from [www.nln.ac.uk](http://www.nln.ac.uk) and [www.lsda.org.uk](http://www.lsda.org.uk)

<sup>7</sup> <http://www.nln.ac.uk/transitionmain.asp>

*You learn more because you are looking for it yourself. More enjoyable and makes a change to work with computers. (Students, College E)*

*I think it's got a superb impact. I was looking at some of the downloadable materials we make use of, as and when we can, and it has an enormous impact providing teaching and learning that isn't boring.*

**(Head of Department, College C)**

*If you want to you can plan your day or week. You can do loads of things, small things that you can use your computer for rather than pen and paper.*

**(Lecturer, College H)**

*I think the technology has changed the college drastically, but it hasn't changed the teaching and learning... Many, many staff use computers in the preparation of their lessons, but perhaps not in the face-to-face delivery. So it depends whether you're saying ILT is in teaching and learning, or whether it's there to help teachers.*

**(ILT manager, College A)**

*Essential for research elements of the course; electronic format is better because you can go back to it and add to or amend work. (Student, College E)*

*You get more interaction without computers and projectors. I prefer it when teachers talk. There is the temptation to write down bullet points only.*

**(Student, College I)**

- 24 This report describes the final outcomes and findings from an evaluation exercise undertaken in a representative sample of eight sector case study colleges during 2003 and the early part of 2004; and via a survey carried out between October 2003 and February 2004. The students' survey attracted almost 700 responses across 11 colleges (the case study colleges and several others that were involved with NLN projects). The staff survey produced responses from around 350 teaching and support staff working in over 50 further education colleges.
- 25 The evaluation is not merely about the influence of the NLN; it encompasses wider aspects of sector and other external developments as they impact upon the life of colleges. Therefore the report draws upon (and the associated full report provides details of) evidence emerging from other evaluations – and which illustrate considerable consistency in their findings, including about the conditions upon which the successful use of ILT depends. For example, at the same time as the NLN evaluation exercise, the ICT Test Beds project has been developing and an 'impact study' of the effects of ILT post-16 has been commissioned by the DfES.
- 26 The surveys produced little information about distance learning students, part-time students and students with learning difficulties and disabilities. This suggests that there should be further specific research into the experiences of such groups, including using data from work already undertaken by sector bodies.

# INTRODUCTION

27 Whilst the findings of the evaluation (and, for example, the quotations in this report from case study college staff and students) may resonate with readers, the surveys should be taken as indicative rather than completely representative of the sector. The sample of students was skewed towards full-time students, mainly because of the greater accessibility of full-time students to researchers. Some subject areas were over represented, partly because of the inclusion of key skills in communication, application of number and information technology in programmes for many students between the ages of 16 and 19 who were involved in the survey.

28 Nevertheless, it is clear that ILT development in the sector has parallels with experience elsewhere, including the commercial sector, and the following extracts from recent reports about e-learning in business could apply in part to the experience of colleges:

Early investment in e-learning has been based mainly on maximising cost-efficiencies and effectiveness. In this regard, e-learning has shown much promise in helping firms to deliver training more cost-effectively. The intangible benefits, particularly associated with more advanced-level training and development (T&D), are much more difficult to quantify but, in the long term, may have more impact on business performance than applications aimed at cutting the costs of training. When compared to initial predictions, the scale and complexity of challenges that e-learning presents have been largely miscalculated and those responsible for T&D are experiencing a steep learning curve. It is clear that many businesses have now moved beyond their initial concept of e-learning, with a rather narrow focus on something akin to the transfer of computer-based training (CBT) to a web-based format, to a much more integrated view of ICT supporting learning processes<sup>8</sup>.

The potential of information and communication technology (ICT) to transform the world of work is enormous. But in the UK, technology's potential to transform work is often unfulfilled... The principal conclusion is that many UK workplaces are characterised by a 'low tech equilibrium'. They are still grappling with promise and reality of new technology. They are getting by, not getting on. The powerful tool of ICT is being blunted by unrealistic expectations, organisational inertia and a failure of leadership<sup>9</sup>.

<sup>8</sup> Corporate e-learning: Delivering business benefits (GRIST for the Henley Learning Partnership, 2004)

<sup>9</sup> Getting by, not getting on: Technology in UK workplaces (The Work Foundation, 2004)

# WHERE THE INFORMATION CAME FROM

29 Case study visits were undertaken to eight sector colleges during 2003 and the early part of 2004. The colleges were chosen as an anonymous representative sample by geography, type, size – and what was known about their adoption of e-learning from a range of sector intelligence. A ninth selected college was unable to commit to involvement after initial contacts because of a major reorganisation.

30 As well as collecting and analysing a range of college documentation, the evaluation team held initial meetings with principals and other senior staff to explain and secure support for the evaluation process. Subsequently there were meetings with individuals, including ILT champions, and with groups of staff and students. Colleges were given feedback from the meetings and, in some cases, used this as part of their own ILT development.

31 *The involvement was welcomed universally, one principal noting that it would, 'provide us with a sense of direction and an impetus to change practice' (College C)*

*Another hoped the link with the evaluation would, 'help us understand where we are in relation to the other colleges in your study, and what we need to do to reach their standards - if they are higher than our own' (College E)*

32 A document detailing the contacts with the case study colleges is included as an annexe to the full report.

33 The survey sample included 687 respondents to the students' survey, located in 11 English further education sector colleges. The colleges were broadly representative of the sector with a mixture of types of college and geographical spread and they included the eight case study colleges. There were 347 respondents to the staff questionnaire, working in a total of 54 different further education sector colleges in England. Two thirds of respondents were teaching staff, the remainder support, administration and management staff and this represented the distribution required in the research plan.

34 Initially the survey was distributed to the evaluation case study colleges, which were representative of the sector, but the initial responses were skewed towards non-teaching staff and ILT enthusiasts. Thereafter a second sweep of the sector was carried out and surveys were completed by FE staff at national (non-IT related) training events. This resulted in a more representative sample.

35 The questionnaires used in the surveys and details of the student and staff sample are included in the full report and associated materials.

36 The field of e-learning is still developing and, for example, terms in use and their definition are subject to varied interpretation. The interviews and surveys used definitions based on those in common use in the sector and which were included in the questionnaires completed by users.

# WHERE THE INFORMATION CAME FROM

For example the staff questionnaire offered the following:

*ILT: Information and learning technology (the standard term used by the LSC and within the National Learning Network) refers to the use of information and communications technologies to support the core business of colleges: the delivery and management of learning. E-learning: By e-learning we mean electronic learning technologies e.g. data projectors, interactive whiteboards, VLEs and the teaching and learning methods that they enable. If someone is learning in a way that uses information and communication technologies (ICT) (computers and other equipment and software) they are doing e-learning. Classroom technology use might involve: all students sitting in front of networked PCs while the teacher guides your learning; using data projectors from a computer, video-conferencing, using web cams, watching demonstrations using technology, etc.*

- 37 The surveys also attempted to recognise the current reality of e-learning for many staff and students. For example, whilst there was no major evidence from this evaluation of teaching and learning being transformed through the use of technology, there was substantial use by staff of 'back office' applications which could not have happened without the sector's significant investment in technology. This is shown by the number of references to what are variously referred to as 'lecture notes', or 'class notes', or 'handouts'.
- 38 Thus, staff were asked, 'How often do you use the college VLE/intranet on the courses that you teach to post [lecture/class] notes?' Similarly students were asked, in the context of technology applications, 'How often does your teacher use [notes] as part of your learning?' And, 'How often do you use these as part of your learning?'
- 39 The responses showed that such pre-prepared electronic notes were the most commonly used aspect of ILT. This may disappoint some looking for fundamental change. However it can be taken as a reassuring indication of a more professional approach to the quality of teaching material.
- 40 In this summary report figures are given mainly as proportions or fractions and most percentages have been rounded up or down for ease of understanding. In the text, charts and figures in the main report, and the tables which appear in annexes to the main report, percentages are presented to one decimal place.
- 41 In all cases figures relate to the numbers and percentages of respondents within the samples. Where appropriate and available, national sector figures are given for comparison.
- 42 Quotations are attributed (anonymously, showing role and identifying college letter) where they come from staff and students in the case study colleges, or are shown as from survey returns.

## Implications

- 43 As noted elsewhere, some groups were under-represented by the surveys and case study visits. The evaluation team has made proposals to the NLN Research and Evaluation Group for further work to fill the gaps in the investigation.

# THE EXTENT OF COMMON USE OF ILT

- 44 ILT is commonly used for:
- Classroom teaching
  - Communication
  - Preparation
  - Administration
- 45 The kinds of ILT most used include:
- Back-office software to prepare material for later classroom use
  - Presentation software
  - The Internet
  - Networked computers
- 46 It is not used in most cases for a radical new approach to teaching and learning.

## What it's used for

- 47 Information from the surveys and case study interviews showed that information and learning technology was used in a number of areas in the colleges: teaching, lesson preparation, communication, administration and record keeping, and for tracking student progress but rarely used for marking or assessment. The most commonly used aspects of ILT were those which supported traditional teaching methodologies by aiding delivery, while those aspects of ILT which offered the opportunity for a radical new pedagogy were less used.

*If you want to you can plan your day or week. You can do loads of things, small things like that you can use your computer for rather than pen and paper.*

**(Lecturer, College H)**

*Technology is not going to replace classroom teaching, or at least not in the foreseeable future.* **(Staff Survey Respondent)**

*[Computerised] registers help maintain attendance records and liaise with registry staff more effectively.* **(Staff Survey Respondent)**

- 48 Staff respondents indicated that technology was more commonly used in lesson development, either at home (where a third reported constant use) or in the office at college (over half reported constant use), than in actual teaching settings. For example, some tutors used ILT to provide supporting material for lessons which could then be made available for students to use at any time.

*I have slide shows, which support the entire course and every syllabus point for each of the three modules, but I don't use them necessarily in lessons and I think that's what PowerPoint should do. But they are there, so basically any of my students can access any of the slide show presentations for the whole of the course. In addition to that they can access full instructions and handouts, which we use throughout the year.* **(Lecturer, College C)**

# THE EXTENT OF COMMON USE OF ILT

49 The most common classroom configuration cited by staff respondents was networked PCs for some or all students, with almost a third of staff reportedly using them constantly and nearly a further quarter using them often. PowerPoint (used constantly or often by almost half of staff respondents) was the most used classroom delivery tool, ahead of data projectors and interactive whiteboards (three in ten used them constantly or often).

*The PCs available in the classroom are fine... Technology is utilised by the tutors effectively. (Student Survey Respondent)*  
*Use it everyday in [programme area]. Regularly find that, despite having a large user area, it is not sufficient. Excellent [programme] IT facilities. (Student Survey Respondent)*

50 Staff rarely used many elements of ILT in the classroom: four fifths had never used videoconferencing and three quarters had never used mobile devices, such as PDAs in class. Peripheral devices, such as digital cameras and scanners, had been used at least once by over half of staff respondents.

51 There was some usage of a wide range of different technologies; many of them were only used infrequently and most students indicated that teaching staff never used many aspects of ILT. A similar, but more pronounced picture emerged of student use of technology.

52 Students reported that class notes or printed handouts, produced with a computer and stored on the college VLE or intranet, were commonly used by almost three-quarters of staff. PowerPoint was reportedly also used heavily, and around a third of all staff used data projectors and Internet websites in all lessons. Uses of interactive whiteboards, the VLE/intranet, videoconferencing, mobile devices and peripheral equipment were all very low.

53 Students also commonly reported ILT use, especially for accessing the Internet in the classroom, and using PowerPoint. The quotation below illustrates the power of technology to engage and enhance, even if not to transform, the learning experience:

*I think PowerPoint is very useful; it speeds things up and makes lessons fun. I feel I learn more by using PowerPoint. (Student Survey Respondent)*

## Who uses it

54 Full-time staff respondents were more likely than part-time staff to use interactive whiteboards, data projectors, and networked PCs for each student, while part-time staff were more likely to use stand-alone PCs for each student. Male staff were more likely to use all aspects of ILT more often than female staff, with the biggest differentials reported in the use of PowerPoint, interactive whiteboards, data projectors and networked PCs for all students. Staff in post up to five years were more likely to use all types of ILT than those in post six years or more except for networked PCs for some students.

# THE EXTENT OF COMMON USE OF ILT

55 Noting that there were disproportionately more full-time students than part-time students in the survey and case studies, older students (aged 22-24 and 25-34) recorded higher use of data projectors and interactive whiteboards than younger ones, while students at Level 2 and above were more likely to use the data projector. Level 1 and below students were more likely to use networked PCs and Internet websites in the classroom than students at higher levels. Staff respondents in post less than five years, male, and full-time staff reported higher use of ILT for administrative purposes and in classroom use than more senior, female and part-time staff.

56 There was very little difference in reported teacher use by those students new to the college (less than a year) and those students who had been at the college for a year or more. This was also the case for student usage of technology: part-time students reported far less use of technology by teachers than did full-time students and in most areas part-time students made less use of technology than full-timers. As throughout this report it should be noted that findings were based on a small part-time student sample.

57 An analysis of associated literature provides more evidence about the extent of common use of ILT, VLE use, problems of access, students' experiences, and staff perceptions of use and usefulness and this is included in the full report.

## Use outside the college

*If we all had computers at home it would be great. (Student, College D)*

58 The survey attempted to measure the proportion of students who used ILT in the home or workplace via the intranet or VLE, and to identify problems such students may encounter.

59 Almost three-quarters of the sample of students had Internet access beyond the college, with over a third having a broadband connection. Around one in seven were not able to access a computer to do work when at home or work. Only a third indicated that they accessed a VLE or the intranet beyond the college. Of those with broadband, almost two fifths claimed to have accessed the VLE from outside college, compared to less than a third of those using dial-up.

60 Higher-level students were more likely to have used a computer at home or in the workplace for learning and to have broadband connections than lower level students. Two fifths of Level 4 and above students used the VLE compared to a fifth of Level 2 and below students. Consequently, higher-level groups reported more satisfaction with aspects of the VLE.

61 Over half the student respondents indicated no problems accessing the VLE from home or workplace. There was a big difference between dial-up users (only two fifths with no problems) and broadband users (of whom almost three quarters reported no problems). Half the dial-up users reported slow connection as a problem compared to just over a tenth of broadband users.

# THE EXTENT OF COMMON USE OF ILT

- 62 Students were also asked for an assessment of the extent to which their general skills had been improved by use of technology outside the college. A third of respondents indicated that skills had been very much improved. Only one in twenty said they had not been improved at all. There was no significant difference between levels in the extent to which respondents identified skill improvement. The small sample of part-time students was slightly less positive than the full-timers about skill improvement. Although not statistically significant, the newer students indicated less skill development than students who had been in college more than a year.
- 63 Students were asked to respond to several statements about working at home or in the workplace. Flexibility of time and space, the ability to learn at one's own pace and the opportunity to go over work again were highly valued, as was the extra time for reflection. Around half also agreed or strongly agreed that they liked things explained with the help of a teacher and a sizeable minority preferred working in groups.

## Distance and remote learning

- 64 The survey reached too few students who were distance students (5 respondents) for analysis. However a fifth of the teaching sample reported that they were involved, at least to some degree, in distance learning. They were mostly male and on average spent less than half their time on distance learning courses and were more likely to be teaching at Level 4 and above. In addition, greater use of certain types of ILT by the distance learning staff group also appeared to permeate other non-distance learning areas of teaching. Use of certain examples of ILT in the classroom seemed to be more commonplace amongst this group of staff.
- 65 The associated full report includes a review of the literature on the benefits of remote learning. There are also issues which arise in this context and elsewhere relating to the connection between ILT and student autonomy. These were not explored in depth in the case studies but are referred to in the literature review.

*Distance learning could transform education if there were enough trained teachers to run it and to feedback to assess students.*

*(Student Survey Respondent)*

## The kinds of ILT in use

- 67 The survey showed that the Internet, email and major software packages were highly valued by staff and students. Well over half the students in the sample indicated that using the Internet for research and MS Office applications were very useful. Male full-time staff in post less than five years reported the highest use. Among students who used it the VLE/intranet was highly regarded because of its flexibility, practicality and user-friendliness; the vast majority of students who used electronic content believed it to be well pitched at their ability level. Almost half the students in the sample thought that email was either useful or very useful. Chatrooms and moderated discussion were rarely used for collaborative learning, with face-to-face meetings, email and telephone contact preferred instead.

# THE EXTENT OF COMMON USE OF ILT

- 68 As in other areas of use, Level 3 student respondents were more neutral about the usefulness of PowerPoint presentations than students at other levels. High neutral figures were reported by students at college up to one year compared to those at college more than one year. A third of lower-level students found PowerPoint presentations very useful but a sixth thought them totally useless, as did a similar number of those studying at Level 4 and above. Respondents studying at Level 2 or below had less exposure to PowerPoint than students at higher levels.
- 69 More lower-level students thought using MS Office applications was very useful than did those at Level 3 and at Level 4 and above. Length of time in college had no significant impact on perceptions of usefulness.
- 70 There was little difference in the usefulness attributed to the Internet by students at different levels, nor of accessing information from CD ROMs or from DVDs, or tracking their own progress on the VLE. Nine tenths of student respondents believed that e-learning content was neither too easy nor too difficult.
- 71 Of the specific elements of the VLE/intranet, around a third of student respondents reported most functions useful or very useful, the exceptions being chatrooms - and the ability to track their own progress.
- 72 Email, accessing the VLE and downloading notes were more useful for students at higher levels but the differences were not large. Students at Level 4 and above were slightly more neutral about the usefulness of chat rooms and message boards than lower-level students.
- 73 Self-assessment tests were significantly more useful for respondents at lower levels. Nearly half of respondents up to Level 2 thought they were useful or very useful compared to just a quarter of respondents studying at Level 4 or above. Although not statistically significant, there were different perceptions of the usefulness of self-assessment tests between full-time on-site and non full-time on-site students. Almost half of off-site part-timers, engaged in distance learning, found them useful or very useful as opposed to fewer than four in ten of on-site full-timers.
- 74 Similarly, on-line tests and quizzes proved more useful to those studying at lower-levels. Nearly a third of respondents up to Level 2 thought they were useful or very useful compared to a sixth studying at Level 4 or above. As with self-assessment tests, part-time and distance students found on-line tests more useful than full-time, on-site students.
- 75 Submitting work by email was found useful or very useful by almost half of Level 3 respondents. This compares to under a third of Level 4 respondents and just over a third of Level 2 or below respondents (although almost a third of them considered this totally useless). Very little variation was reported by the mode of attendance. Lower-level students found following web links provided for more information was more useful than did respondents at Level 4 and above. Full-time students were more likely to report tracking their own progress as a useful or very useful element of the VLE. Students almost unanimously stated that they usually worked with fellow students on a face-to-face basis. A fifth also used email for that purpose, slightly more than used the telephone.

# THE EXTENT OF COMMON USE OF ILT

76 Comments from the fieldwork were mixed. Whilst some believed that ILT had made learning easier and more enjoyable, others saw potential dangers in reliance on technology and the Internet for information, especially compared with receiving knowledge from a teacher. It is clear that while some students are stimulated by the ability to learn on their own or at their own pace, this is perhaps confined to more confident, higher achieving students.

*Essential for research elements of the computing course; electronic format is better because you can go back to it and add to or amend work.*

*(Student, College E)*

*You learn more because you are looking for it yourself. (Student, College E)*

*More enjoyable and makes a change to work with computers. (Student, College E)*

## Infrastructure and support

77 The level of ILT infrastructure, in terms of the number of PCs and their availability, was judged to be sufficient by around two thirds of student respondents, and over a third judged technical support to be either good or very good. Students below level 2 recorded the highest levels of satisfaction with the availability of PCs and level of technical support received in college, while those studying at Levels 4 and above were more dissatisfied. Younger male students were more likely to believe there were sufficient PCs in the college than older and female students. Full-time students were generally more satisfied than part-time students.

78 Over half the student respondents indicated that, in the classroom, they were supported face-to-face. Only around one in twenty were helped via email and a similar group indicated support through dedicated courses. In the learning centre or library, help for under one in ten students was via a dedicated help desk, with half this figure indicating dedicated courses or email support in the learning centre. For a quarter of respondents some help to use technology in the learning centre occurred during lessons, but for a third help in learning centres was also during their own time.

79 Two-fifths of students identified the availability of on-line help; a third indicated the availability of a telephone help desk.

80 Although two fifths of student respondents indicated that the technical support they received in college was good or very good, the same proportion indicated it was neither good nor bad. This may or may not be significant as it was not clear whether this was because they had not needed to use the service or had nothing else with which to compare.

81 The survey found high levels of satisfaction with the levels of resources. Not only did two thirds believe there were sufficient PCs available to complete their work, but also a larger proportion of student respondents reported that they were accessible to them at times useful to them. More than a third of respondents also accessed the VLE/intranet but there are no figures for how many of them were satisfied with this level of accessibility.

# THE EXTENT OF COMMON USE OF ILT

82 Students below Level 2 recorded the highest levels of satisfaction with the availability of PCs, while those studying at Level 4 and above were more dissatisfied. Younger and male students were more likely to believe there were sufficient PCs in the college than older and female students. Full-time students were more satisfied than part-time students, which probably related to availability outside core hours. Responses regarding the accessibility of these PCs followed a similar pattern of satisfaction.

83 A third of student respondents accessed materials through the VLE or intranet. This sub-group of the sample was more likely to consist of those studying at Level 3 and above and also to be full-time students with no significant variations by years in college, age or sex.

84 Time and space were the most common problems associated by half the students with accessing material from home or the workplace. Only a fifth indicated that connecting to the Internet was a problem.

## Specific applications and technologies

### Notes and handouts

85 'Class notes' or printed handouts were by far the most widely reported use of a technology application by teaching staff, with over two thirds of student survey respondents indicating that they were used in some or most lessons. There was little difference in usage of class notes between levels of study.

86 'Class notes' produced by teachers (in other words, material produced using a 'back office' software application) were also by far the most frequent manifestation of technology used by students. Less than one in twenty-five (< 4%) of the sample never used them while more than half reported that they were used on a daily basis. There was much more daily use by full-timers compared to non-full-time students, and there was marginally more frequent usage of class notes at Level 3 and above.

87 This contrasts with the use of specifically developed e-learning material. Staff were asked who should develop new related course materials; the clear favourite with half the staff respondents was a mixture of local and national development, which would provide an opportunity for individual teaching staff to customise the materials. 'National: state developed' materials were far more popular (a fifth support) than a commercially developed 'private under contract' set of materials (less than one in twenty).

88 There was overwhelming support by staff for a central database of e-learning content which had been tested and shown to be appropriate for use in further education.

*We are heavily committed to use ILT in teaching and admin areas and some staff have been involved with development of e-learning materials. There is a general awareness of the benefits that selective use of e-learning can bring learners. However, there is an abundance of technology around today which is largely un-used/underused in learning settings. I believe the key to future ILT impact will be with local management of e-learning resources. Too many good resources being under-used due to limited 'cataloguing'/reviews at local level. (Staff Survey Respondent)*

# THE EXTENT OF COMMON USE OF ILT

## Websites

- 89 Three quarters of student respondents said teachers used Internet websites in at least some lessons and over half that college websites were used. Relatively few respondents indicated use in every, or most, lessons of Internet or college websites by teachers. Internet and college websites also tended to be used more by teachers at lower levels.
- 90 Students, in contrast, made considerable use of websites. Over a third indicated daily use of Internet websites and only one in ten had never used them. College websites were less extensively used with a third of students never using them. Internet websites were used less frequently at Level 4 than at lower levels; college sites were used on a daily basis more frequently at higher levels. Full-timers made more frequent use of Internet and college sites than non-full-timers.
- 91 The case studies did not explore the extent of purposeful (as opposed, for example, to uncritical) use of the Internet.

*[Access to the] Internet and available use of computers is very useful. (Student Survey Respondent)*

## Networked PCs

- 92 Networked PCs were the next most frequently used manifestation of ILT, and over three quarters of students indicated they were used in at least some lessons and almost a fifth indicated they were used in all lessons. Teachers used networked PCs more at lower levels than at Levels 3 and 4.
- 93 In terms of their own reported use, a fifth of students never used networked PCs, a third used them daily, and over another third at least weekly. Those at higher levels used them slightly less frequently than those at lower levels, and newer students more frequently than students who had been in college a year or more. More than two-fifths of non-full-time students never used networked computers compared to less than a fifth of full-timers.

*Looking forward to the use of more computers and bigger specialist computer rooms. (Student Survey Respondent)*

# THE EXTENT OF COMMON USE OF ILT

## Data projectors and PowerPoint

- 94 Two-thirds of students said that data projectors were used by staff in lessons; over half said that PowerPoint was used in at least some sessions. Despite anecdotal evidence about the overuse of projection software, only a small minority (about 3%) of students indicated that it was used in every lesson. Staff used PowerPoint more extensively at Level 3 than other levels.
- 95 Around half of student respondents never used data projectors or PowerPoint. Almost a third used PowerPoint daily or weekly and one in ten made daily use of data projectors. Higher-level students made marginally more frequent use of PowerPoint, and full-timers slightly more frequent use than part-timers and distance students.

## TV/VCR/DVD

- 96 Over half of the students surveyed indicated that TV/VCR/DVD was used in at least some lessons. The greatest use tended to be at Level 3, followed by Level 4, with over two thirds of respondents indicating that teachers never used it at lower levels.
- 97 Half the students made no use of TV/VCR/DVD as part of their learning, although a quarter used it at least weekly. Level 3 students tended to use this technology more than other levels. Students in the college for a year or more tended to use it marginally more than newer students.

## CD ROMs, interactive whiteboards and discussion boards

- 98 CD ROMs, interactive whiteboards and discussion boards were unused by staff in almost two thirds of lessons. A small minority (around 7%) of students indicated that interactive whiteboards were used in every lesson, and there was more use of the technology at Level 4.
- 99 Half the student respondents never used CD ROMs, three-quarters never used interactive whiteboards and two thirds never used discussion boards. In each case there was a small group who claimed to use them daily. Interactive whiteboards were used more by students at Level 4 but discussion boards were used more frequently up to and including Level 2. Interactive whiteboards were more used by full-time students and discussion boards by part-time and distance students. Full-timers made much more frequent use than part-timers of CD ROMs.

## Email

- 100 Three quarters of student respondents indicated that teachers never used email comments or email for assessment feedback. Email was used marginally more at Level 3 than other levels of study.
- 101 Less than one in ten students made daily use of email comments and two thirds never used them. (This rose to three quarters for emails for assessment feedback, with less than one in twenty using them for this purpose on a daily basis.) Email comments tended to be used marginally more at Level 3 and by non-full-time students.

*However 'Handing in assignments via email is helpful'. (Student Survey Respondent)*

## Peripheral, video-conferencing and mobile devices

102 Other technologies, such as peripheral devices, video-conferencing and mobile devices were rarely used in teaching. Although very small proportions of students claimed to use such devices daily, the vast majority never used these technologies for learning.

## VLEs

103 Only a fifth or more of the teaching staff respondents reported constant use of email feedback to students and posting notes in the context of the college VLE or intranet. About a third of staff respondents often or constantly used all elements of the VLE (with the exception of the chatroom function, which may be disabled in some colleges). In each case, however, the percentage of staff respondents who reported never using the VLE was higher than the frequently used percentages.

*Technology needs to become easier to use. Some 'old fashioned' staff will not be easily convinced to move to ILT. This would improve the use of the VLE.*  
(Staff Survey Respondent)

104 Full-time staff respondents were more likely to use all the features of a VLE/intranet than part-time staff; male staff were also more likely to use the VLE than female staff, although by smaller margins: only in relation to posting notes, using the chatroom to feedback to students and using email to feedback to students was there a significant differential between sexes.

105 Staff in post six years or over were more likely to use aspects of the VLE/intranet than those in post up to five years, even though they were less likely to use ILT as a whole. This may be because those in post six years or over were more likely to be teaching at higher levels. Part-time, male staff and those staff in post up to five years were slightly more likely to be teaching on courses which were available as distance learning according to respondents.

106 Students were also asked to indicate whether they agreed or disagreed with statements about working via the VLE or college intranet. Half agreed or strongly agreed with the statement 'I can do the work in my own time' and there were also high levels of agreement with statements about flexibility, practicality, user friendliness, enhanced visual stimulation, focus and reflective learning. Less agreement was expressed with statements about VLE content leading to learning faster or remembering more of the curriculum. The statement 'It was more fun' produced the most ambiguity, with around half locating it in the centre of the scale.

107 Student respondents at college over one year and full-time students were more likely to agree with these statements than more junior and part-time students, while female students were likelier to agree that courses accessed independently encouraged more reflective learning and the ability to work in one's own time.

108 Further exploration of patterns of use and the barriers to further uptake of ILT, and particularly VLE/intranets, can be found in other sections, including on staff development issues.

## Level 2 use

109 A trawl of the data was undertaken to illuminate uses of ILT by Level 2 students. The reason for this is the priority given to Level 2 achievement in official education policy. For example the Level 2 PSA ('public service agreement') target covers performance of all 19 year olds in England. It is also a National Learning Target, where the aim is for 85% of 19 year olds to have achieved a level 2 qualification or better by 2002 (GCSE grades A\*-C, or level 2 NVQ).

110 The sample of Level 2 students reported that their teachers used class notes and networked PCs more often with them than was reported by students at other levels. In terms of their own utilisation, they used class notes less often than students at level 1 but more than their use of other examples of ILT. They used more Internet and college intranet sites in class than Level 1 and Foundation level students, but less than students at Level 3, and Level 4 and above. When asked about how useful the technology was, they rated it more useful than Level 1 students but less useful than Level 3 students.

111 The Level 2 sample valued technical support in the college more highly than the other level groups and also reported the highest level of satisfaction with the amount of open access PCs to use in completing course work. Students at levels 2 and 3 reported equally high satisfaction with the accessibility of PCs, more so than other levels.

112 One in five Level 2 student respondents did not use PCs outside college, a higher rate than for Levels 3 and 4 and over, but less than Level 1 and Foundation. Almost a fifth of the sub-sample had access to the Internet at home, which was more than Level 3 and less than Level 4; a third had dial-up connection to the Internet, a quarter had broadband, which was more than Level 1 and Foundation, and less than Levels 3 and 4. A fifth of the sample accessed the VLE from home and the workplace (compared to a third of Level 3 and two fifths of Level 4).

113 In terms of VLE use and the benefits of electronic content accessed remotely, Level 2 students valued most highly practicality, flexibility, user friendliness, and ease of use. The concept that such content was more fun attracted the lowest level of agreement. More Level 2 students than Level 3 students expected ILT use to improve their employability.

## Implications

114 Whilst there is extensive use of a range of ILT technologies and applications, it is clear that that is yet to be a transformation of teaching and learning approaches by 'e-learning'. A maintained NLN research and evaluation capability will be needed to track related developments over time, including measuring the returns on ILT investment.

115 Although there were some mixed messages from the evaluation contacts, many students and staff in both the case study colleges and the survey were positive about the outcomes of ILT usage. More detail is given in the full report. For staff survey respondents the most commonly cited areas of suggested potential improvement from the use of technology were in relation to student employability and enjoyment, and there were also important advantages in record keeping and course management.

## Attitudes and perceptions

116 The survey asked staff about their attitudes towards technology generally and technology in teaching and learning. Although both sets of questions showed similar levels of enthusiasm, rather more respondents were enthusiastic or very enthusiastic about technology in general use than in teaching and learning.

117 Amongst the very enthusiastic for the teaching potential of ILT was the tutor who said:

*I think it's got a superb impact. I was looking at some of the downloadable materials we make use of, as and when we can, and it has an enormous impact providing teaching & learning that isn't boring. (Head of Department, College C)*

118 One case study interviewee who took a more general view of the impact on employability believed that:

*Use of ILT is such an important life skill in general, so it is part of helping industry, but it is also helping that person maybe in ten years' time when they want to be able to access something. Either they've got the skills or, more hopefully, because they're confident with technology, as technology develops they can go with it, so it's not just about teaching a static skill that will be out-of-date in six months' time, it's about teaching to just be happy with technology. (ILT Champion, College I)*

119 The full report explores further the impact of the ILT that staff did use and the reasons they used it.

## Student views

120 Just over two-fifths of student survey respondents agreed or strongly agreed with the view that increased use of ILT would lead to higher grades and had positive effects on staying-on rates. A slightly lower proportion of respondents agreed or strongly agreed that it would help them in the job market.

121 Comments from the students interviewed were mixed. Whilst some believed that ILT had made learning easier and more enjoyable, others saw potential dangers in reliance on technology and the Internet for information, especially compared with receiving knowledge from a teacher.

*You learn more because you are looking for it yourself. (Student, College E)*  
*Although it is easier to absorb knowledge there is a danger of getting the wrong information from the Internet. (Student, College G)*

122 It is clear that, while some students were stimulated by the ability to learn on their own or at their own pace, this was perhaps confined to more confident, higher achieving students.

*Essential for research elements of the computing course; electronic format is better because you can go back to it and add to or amend work. (Student, College E)*

123 Among respondents there was evidence of a robust demand for ILT in the FE sector and high levels of enthusiasm and use of the technology both at home and in the college, including an awareness of the positive change over the last five years. Whilst terms were exemplified at appropriate points in the interviews and questionnaires, respondents did not necessarily differentiate 'technology' and 'learning technology' or the range of potential contexts and uses, other than as guided by interviewers or by the introduction to individual questions.

124 The surveys showed that first year students, younger and full-time students were more likely to anticipate beneficial impacts from the application of ILT. Those studying at up to Level 2 were more likely to expect positive impact on employability than those at higher levels, while female students were more likely to anticipate improved retention.

125 The case study interviews and focus groups of students provided equally mixed findings. To some extent this depended on which elements of ILT they were thinking about when answering. For example, the majority of respondents believed that classroom ILT sessions using graphics and audio can make learning more engaging and enjoyable and that 'visualising things makes it easier to remember'.

*More enjoyable and makes a change to work with computers. (Student, College E)*

126 Similarly, almost all respondents were impressed by the possibilities of the Internet. Some noted that, although they could access a broader range of views than those offered by the teacher, some of the information may be inaccurate or partisan, while others noted that the ability to do research at home would be restricted to those students who had fast access.

127 Some students (more often those taking academic A levels) were quite sceptical about the impact on retention and future employability, believing that the quality of the individual student would still be more important. Some believed that ILT might distract from the subject matter.

*You get more interaction without computers and projectors. I prefer it when teachers talk. There is the temptation to write down bullet points only.*  
(Student, College I)

128 Those taking vocational qualifications were more likely to believe that ILT could make it easier to understand complex concepts (cited by engineering and equine studies students) and such students were also more likely to believe ILT would enhance their employability, that information was easier to absorb but believed that 'it won't stop students dropping out'.

129 Overall students who were interviewed displayed a concern with equity and a strong belief in the responsibility of the individual student. Hence, they were concerned about the digital divide between richer and poorer families, unequal access to facilities in the college and unequal exposure to ILT because of the age profile of teaching staff in some departments. In terms of outcomes students were robust in their belief that individuals who were going to drop out would do so regardless, and that future employability depended on their own efforts.

## Staff views

130 Almost two-thirds of staff respondents in the survey thought that technology in teaching and learning had a great deal or a considerable impact on better record keeping and almost as many believed it had led to easier management of courses.

131 In line with responses noted above, less than one in thirteen staff respondents thought that student outcomes had improved a great deal because of the application of technology. Almost half the respondents took a neutral position. Overall, though, there was more opinion in favour of technology having made an impact on outcomes than against. When asked about future impact, those expecting a great deal of impact doubled, and there were fewer sceptical respondents.

132 Full-time staff respondents were much more likely than part-timers to believe that technology would impact positively on outcomes such as attendance, retention, student enjoyment, motivation, grades, employability, and improve record keeping and course management.

133 The same proportion of staff respondents indicated their view that technology would have a considerable or a great deal of impact on making students more employable, and a similar proportion believed it made learning more enjoyable, echoing students' response findings. This also reinforced the message of other research, which suggests that it is not only the use of IT but also, crucially, the way in which it is used that is important<sup>10</sup>.

*I taught nutrition and health. We were doing all the different vitamins [and] that is desperately boring and what I did was I actually put them into groups and I gave them highly controversial stuff on the Internet about various vitamins which they had to discuss and then present. I had to work hard to plan the lesson but it was wonderful. I just sat back and watched them do it...*  
(Lecturer, College F)

134 There was more scepticism about the impact on grades, retention and improved attendance. Only just over two-fifths of surveyed staff believed technology had much impact on improved attendance, on higher overall grades and on improving retention. Taking the 'great deal' of impact value alone, only one in ten expected technology to lead to higher grades, in contrast to nearly a quarter who thought technology would impact on students' motivation.

135 As the survey evidence shows, there was a greater belief in the impact of technology on 'soft' issues such as course management, motivation and enjoyment than on 'hard' issues such as attendance, retention and higher grades. This was to some extent replicated in the case study meetings, although the results of interviews and discussions reflected the particular interests of respondents. Staff who were interviewed placed far less emphasis on the implications of ILT for course and college management issues, and more on its potential for student retention and employability; they also differentiated its impact on diverse subjects and learning groups.

136 Some staff noted the wide ability range in many vocational classes and how ILT made this more manageable:

*Some have got different start points, different places on the course, so this is a fantastic tool to help us with some of the less able.*  
(Head of School, College H)

<sup>10</sup> The relevant research is referenced in the associated full electronic report, which accompanies this print publication.

137 As noted above, staff in the survey were more optimistic about the impact of ILT in terms of its ability to keep students interested enough to learn. Although qualitative evidence supported this, it was clear that impact varied depending on the type of subject and the type of student. Vocational subjects provided most of the illuminative examples quoted by respondents:

*I come from a science background and I see ILT not only for virtual lessons but also as a tool to engage students. For example I show them a clip of a horse's heart beating, I scour the Internet & CD Rom materials to upload onto the intranet. They enjoy it more, as opposed to reading books; [they] will stare at a screen but not at a book... It is a tool that helps to engage the students. (Lecturer, College G)*

138 ILT was seen to have particular benefits in engaging certain groups of students:

*I mean ILT can be very motivating, but its contribution to motivation is greatest in students who are not so traditionally academic. They're the sort who are more likely to find IT contributes to motivation, not the sort of students doing A-Levels. (ILT Champion, College I)*

139 Staff in interviews that believed that the other groups to benefit most from ILT were those disengaged from education or with communication problems. Thus:

*Generally... IT itself is very useful for the work I do particularly when you have got dyslexic students, speakers of other languages, anyone who is actually going to struggle a bit with hand written work. It's so much easier to transfer that into IT and then edit, re-edit, develop it. The levels of frustration for the student I think are reduced and their sense of achievement is increased... I think - just instinctively - the lower the motivation of the students the bigger the impact. (Learning and Language Development Support Staff, College F)*

*I think some students that don't do well at school probably do find ILT is an easier way. Even just word processing simple things you know they can get it right; they don't have to worry about being understood and their spelling, because they can use the packages and resources available to them. I do think that they can say, 'OK I couldn't write it down because I can't spell, but if I do it on here I can check it and it can be looked at'. (ILT Champion, College F)*

140 Staff felt that mature adult students were another group to benefit particularly from ILT:

*Certainly for the more mature students on the higher-level qualifications, the impact of ILT is definitely well received by those types of students furthering their career... you want to keep up with society. (ILT Champion, College F)*

141 There was a perceived contrast in the attitudes of disaffected students who were not interested in IT, yet had to undertake compulsory key skills (including IT) as part of their studies:

*They are fed up with schools and teachers and sitting at the desk, and it is difficult to motivate them but I do think we are along the right lines with other materials that we have available to include in classroom teaching. The NLN materials are designed to motivate and it's not just about taking in stuff they can see. There is more interaction with resources now and on that front you do have to choose your materials and resources carefully to motivate them. (ILT Champion, College F)*

142 A college's virtual learning environment (VLE), in particular the features which allowed students to repeat missed elements of the course, had a radical impact according to some interviewees, particularly as an aid to retention, and thus grades.

*The students in the area I'm in are mainly adults and I know it has improved retention on the programmes. In the past, if adult students who are working missed one or two lessons they would give up because they would have too much to catch up on, but nowadays they can catch up before the next lesson is presented and it has aided retention. Therefore, it has a knock-on effect and the achievement's got to be better. (Online Manager, College H)*

*One of the reasons students drop off is because they get behind and the step is just too big for them to get back on and a tutor can sit on a one to one basis and get somebody up to scratch. A lot of stuff on line can be printed off and you can also give them a hard copy as well. (Head of School, College H)*

143 There was little differential between the sexes within staff respondents on most issues, except in relation to 'a more enjoyable experience' and 'easier course management', both of which were expected more by male staff than female. Length of time in post and age did not produce any significant variation.

144 Does enhanced motivation and enjoyment lead to more tangible outcomes? This issue was bound up with retention and the role of the educational marketplace in the minds of many respondents. One respondent reflected this by emphasising the importance of equipment as much as teaching and learning strategies:

*We are up against outside providers and they are going to provide up-to-the-minute whatever. We're in the market place for bodies to teach and we're not going to get handed them. Young people will walk into this establishment and they'll walk out just as quickly if they don't get what they think they should get and I think a professional attitude is what we should give.*  
(Head of Faculty, College F)

145 And another interviewee noted that colleges 'would lose out if they didn't offer the latest resources'.

146 The literature on the impact of ILT is extensive and varied. The full report of this evaluation includes details of other research covering, for example:

- Types of impact
- Scale of impact
- Variations by levels and subject areas
- The role of the VLE

## Implications

147 It is clear that ILT has made an impact on many aspects of teaching and learning. Much of this is at the margins of educational activity and there is yet to be any fundamental shift in approaches. It will be necessary to continue to measure the impact as and when further investment takes place, and as a greater understanding develops of the pedagogical implications of technology.

## Staff views

148 Staff involved in the evaluation were asked about staff development issues such as: the number and usefulness of courses attended; the types of additional support staff felt they needed; factors preventing/encouraging more use of ILT in teaching and learning; and about the appropriate processes for the development of ILT materials.

149 Staff in post up to five years (the median point for staff in the sample) made more use of technology for administrative purposes than those in post six years or more, while male staff used it more than female staff for all categories except record keeping and registration. Full-time staff used technology more than part-time staff in all categories except marking and assessment, where part-time staff used technology more.

150 *This somewhat sporadic use is reflected by the staff interviewee who said that technology is generally supported. 'I wouldn't say it is widespread, but there are little pockets who, once they see it, get involved with it'.* (Head of Department, College C)

151 Overall, more than a quarter of staff in the survey reported constant use in workshops and learning centres and just under a quarter reported constant use in the classroom. Combining the two highest use values (often and constantly) confirms these trends, with over half reporting high levels of use in workshops and just under half in the classroom.

*I scour the Internet and CD ROM materials to upload onto the intranet.* (Lecturer, College G) *I think staff are the issue; if they don't see the benefits of what we have, they won't pass it on to their students.* (Head of Faculty, College F)

152 A lack of time, insufficient infrastructure and a lack of departmental and institutional support were reported to be the main barriers to further use of ILT in teaching and learning. Full-time staff respondents were more likely to cite lack of time to prepare materials, while part-time staff were more likely to cite insufficient equipment, ill-equipped rooms and a lack of electronic course content. For each factor listed on the questionnaire, a higher proportion of staff in post six years or more cited them as barriers than those in post up to five years, with the largest difference over time to prepare materials.

*It is a long process and there is never enough time for arranging development training - only the keen take the time.* (Lecturer, College G)  
*More time, training and assistance in developing in house material.* (Tutor)

153 Respondents thought that more training and the existence of more good practice exemplars would stimulate greater use. There was clear demand for a national database of ILT content specifically written for the FE sector, preferably developed nationally and allowing for local customisation. Staff development and training courses seemed to have been well received by staff, although a third of all staff had attended no courses designed to improve their use of technology in the previous year. Roughly a third had attended just one and a fifth had attended two such courses over the previous twelve months.

154 Staff were aware that training was not just necessary to develop technology-specific skills, but to cover the pedagogical knowledge and skills which allowed technology to be used effectively to support and enhance learning.

*Last year a lot of IT courses were for teaching staff, but they were very much how to use Word, PowerPoint, Excel – very much skills based. What I want to do this year is shift the emphasis away from that. To me, the best use of the sessions is when you sit down and develop some resources that you can use in your lessons. It takes more than an hour, you need half a day to do that, but to me it is much more valuable than simply trying to teach skills. Teachers do need a certain level of skill but I think the problem with skills teaching is that if you give someone a session for an hour or two on a particular software package they forget most of it anyway after a few weeks. They're much more likely to retain and value the skills acquired if you spend a morning developing some resources using PowerPoint or whatever. The aim is not to use the software but to produce some resources that you're going to use to teach your classes next year. You won't produce a full set of resources in half a day, but you should be able to give them something worthwhile and get them started. To me that's the way to organise IT training, not two hours on PowerPoint, just generically, doing something meaningless. (Staff Development Officer, College I)*

## Courses and help

155 A third of staff reported that they had not attended a single course that improved their technology skills in the last 12 months. A further third had attended one. About one in fifteen reported having attended four or more courses.

156 Male staff, staff in post up to five years, and full-time staff reported attending more staff development courses designed to improve technology skills and courses designed to improve the use of technology in work in the last year. More part-time staff than full-time staff reported attending more than four such courses in the last year.

157 In all, over a third of staff respondents had attended no courses designed to help their use of technology in teaching and learning in the last 12 months, A third indicated that they had attended one such course, with less than one in twenty having attended four or more courses.

158 Almost two thirds of respondents reported that they were satisfied or very satisfied with courses that were designed to improve technology skills although over a quarter were non-committal about their level of satisfaction.

159 Similarly, two thirds of respondents reported that they were satisfied or very satisfied with courses which were designed to improve their use of technology in teaching and learning. Female staff, staff in post up to five years, and part-time staff were slightly more satisfied with the courses they attended.

160 As a result of staff development activity, male staff, those in post up to five years, and full-time staff felt better prepared to deliver and support learning with technology than other staff.

*Rather than workshops I would like to see and attend more taught classes. (Staff Survey Respondent)*  
*I thought the staff development workshops were useful but would be more help if we were taught in classes. (Staff Survey Respondent)*

161 The identified types of support that respondents had most often requested included help with network problems (almost half) and using specific learning software (a third). Help with basic IT problems (a quarter) and help with the VLE (a fifth) were less often requested.

162 Female staff were more likely to request help with basic IT problems, as were staff in post six years or more. Those in post up to five years and part-time staff were more likely to request additional teaching materials training courses, and those in post up to five years were more likely to request bespoke materials design courses.

163 Staff were asked how useful various types of additional support would be. Almost two thirds thought subject specific help to apply technology in their subject area would be very useful or essential and a similar proportion thought that the provision of a repository of materials to use in their own time would be very useful or essential. Over half the staff thought that both courses offered for technology skills development and help in accessing web-based learning materials would be very useful or essential. Just under half thought general help with technology would be very useful or essential.

*The training and training opportunities are patchy, where they have to guess what people want rather than putting in what people need, but sometimes people do not know what they need. (Development Officer, College C)*

164 Part-time, female and staff in post up to five years were more likely to report that such help was essential across all categories.

165 The most significant factor preventing greater use of e-learning was time to prepare materials. When asked how often this prevented greater use of e-learning/ILT over half the respondents indicated all or most of the time. A third of staff cited a lack of support and guidance. Only around one in six indicated a lack of personal confidence as a factor all or most of the time. Insufficient equipment and ill-equipped rooms were seen as more of an inhibitor than unreliable networks or lack of electronic course content.

166 Full-time staff respondents were more likely than part-time to cite lack of time to prepare materials as a factor preventing greater use of ILT, and full-timers were also more likely to cite lack of time to prepare materials. Part-time staff were more likely to cite insufficient equipment, ill-equipped rooms and a lack of electronic course content. For each factor listed on the questionnaire, a higher proportion of staff in post six years or more cited them as barriers than those in post up to five years.

## Suggestions for support

167 The factors identified by well over half the respondents that would have a great deal or considerable influence on making them more likely to use technology in the classroom were: more institutional support, the availability of good practice models, more departmental support, and more staff training in teaching using technology.

168 Part-time staff favoured more specially configured rooms for teaching with technology and more institutional support. Full-time staff were keener than part-time staff on more ILT content. There was a similar pattern between the sexes, with more male staff than female staff believing that more ILT content would stimulate greater use.

*Time to train is a problem in FE, relevant courses are hard to find.  
(Staff Survey Respondent)*

*I think the key disenabling factor is time, it really is the difficulty that we have got. I know that in order for this to be a very successful project and become part of the work, we need to invest an awful lot of work, energy and money into things like staff development on a regular basis to ensure that we are embedding it. If we don't have that then we might as well say goodbye to it now.*

*(Head of Faculty, College F)*

## Implications

169 Staff define development in a broad way and which reflects the offer from NLN partners, including the distribution of materials and case studies and involvement in action projects. Further staff development is clearly necessary and desired: courses need to be targeted in ways which reflect demand for that approach to staff development; other support (by peers, through projects etc.) must continue to be fostered. And staff feel that time needs to be made available for development.

170 Staff were invited to place their college on the MIT/Becta transformation scale in relation to the three areas of ILT development as shown. The meanings of the five levels or stages of transformation were explained and exemplified in the questionnaire. Response rates were lower for this question than others; this may be due to the complexity of the question and the unfamiliarity of the concepts to non-ILT enthusiast staff.

Stage of Transformation	ILT Strategy	ILT Management	Staff Dev.
Localised	18	21	26
Co-ordinated	36	38	34
Transformative	26	23	25
Embedded	7	6	7
Innovative	14	12	9
Total (numbers)	102	100	102

171 Case study interviewees and focus group attendees were not asked directly to place their colleges on the five-point scale, although many of the topics were covered in conversation. Two main themes emerged: firstly, infrastructure and resources were not yet in place to allow e-learning to be integrated as a simple option for most staff; secondly, even where the facilities, materials and support were present, teaching staff were often not yet ready to make full use of e-learning.

*I think we're poised to go into that particular stage and phase. Some of the website for example, is tremendously supportive of e-learning and we could have a whole debate here about what e-learning is couldn't we? ... There's a differential in what people's perception of e-learning actually is. Is it support? Is it learning online? Is it materials that you access online? I think, as it's me answering the questions and not you, perhaps I should say that I think there is a very clear distinction between learning support and learning online. And if you ask me, 'how are doing with learning support?' I think we're second to none. If you ask me about how are we doing with learning online, I think we're very low down the scale as yet. I think that would probably apply to most colleges. (Lecturer, College A)*