



How can the University use e-learning to improve the learning experience of non-traditional students?

Final Report to the University of Surrey's Widening Access Fund

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Executive Summary

- E-learning, defined here as 'learning facilitated and supported through the use of information and communications technology'¹ is expanding rapidly within higher education both in the United Kingdom and globally. Becker and Jockivirta (2007) report that a large majority of British higher education institutions have virtual learning environments; Browne et al. (2008) report that the proportion may be as high as 96% and that most of these are being used to help deliver blended learning.
- This trend coincides with an increasing proportion of 'non-traditional students' in higher education as a result of policies which seek to widen participation (Laing and Robinson 2003). 'Non-traditional' is a term widely used to describe groups of students who might be more accurately described as groups who have low rates of participation in higher education relative to the population and thus are under-represented in higher education.
- E-learning is sometimes presented as being advantageous to non-traditional students and some authors have even claimed that widening participation is a driver of e-learning in higher education. However there is considerable literature which takes a critical approach to e-learning in higher education, highlighting how e-learning may in fact amplify inequality and exclude non-traditional students.
- This project seeks to understand how e-learning is experienced by non-traditional students, whether e-learning is being used to improve their learning experiences and, if not, whether it can be developed towards that aim. The non-traditional groups chosen for the focus of the project were mature students; those from lower socio-economic group backgrounds and students entering higher education with non-traditional qualifications such as GNVQ. Three programmes were the subject of this study; chemistry, management and nursing.

Methods

- A mixed methods design was used which included a literature review and semi-structured scoping interviews with staff (phase one), separate focus groups with staff and students (phase two) and an online survey of 2,650 undergraduate chemistry, management and nursing students at the University of Surrey which achieved a response rate of 15% (n=399) (phase three).

Qualitative findings (phase two)

- The findings from both staff and student data suggest that e-learning is not currently being used to improve non-traditional students' learning experience.
- The barriers to such improvement would seem to be due to staff tending to vastly underestimate the proportion and type of non-traditional students whom they teach; that staff have limited knowledge of the demographic profile of their students; that staff have limited knowledge of how they might 'tailor' teaching and learning for non-traditional students; and that staff do not feel supported by the university to invest time in improving teaching and learning. This might be equally true for face to face teaching and e-learning.
- There are additional barriers to the use of e-learning to improve the learning experience of non-traditional students in terms of non-traditional students having less prior experience of computers and internet at home, less confidence with ICT and some issues with physical

¹ At the University of Surrey this comprises of a range of activities, including using lecture notes and resources available online, taking a multiple choice quiz, using an e-portfolio to record and/or reflect on your learning, taking part in a discussion in an online forum, submitting your work and/or receiving feedback on it electronically. E-learning may be based on ULearn (the university's Virtual Learning Environment) or may involve wikis or blogs. E-learning is not limited to learning that occurs online as it also covers (for example) the use of electronic voting equipment in classrooms and computer-assisted learning (e.g. using software that helps to visualise molecules) which may be used wholly offline.

access (such as being less likely to have access to computers and the internet in the parental home). These barriers were detected in the qualitative research but are captured more systemically in the quantitative research.

Survey findings (phase three)

- The survey was demographically representative (i.e. the proportion of non-traditional students in the survey response were approximately in line with those proportions in the sample).
- The proportion of students in the survey response who were confirmed as non-traditional on criteria of mature status or being from a lower socio-economic group background is 50% but this does not include those for whom socio-economic group background is unknown or the various other non-traditional criteria (e.g. having a physical or learning disability). Therefore, the true proportion of non-traditional students in the undergraduate population on the three programmes studied is certainly considerably higher than 45%.
- 34% of respondents were from middle/higher socio-economic group backgrounds; 23% of respondents were from lower socio-economic group backgrounds; and socio-economic group background was not known for 43% of respondents².
- The proportion of students from lower socio-economic group backgrounds was considerably higher in nursing (35%) than in chemistry (22%) or management (13%).
- 38% of respondents were mature (on the broadest definition i.e. aged 21 or above). The proportion of mature students was highest in nursing where they were a large majority (68%). Mature students formed a significant proportion of chemistry and management programmes (20% and 15% respectively).
- Only 6% of respondents (24 people) had 'non-traditional' entry qualifications and all but one of these were in nursing. Even within nursing, students with non-traditional qualifications are a relatively small, though significant minority (15%).

Confidence/prior experience/need for support with e-learning

- 91% of students were confident with information and communications technologies and although levels of confidence were also high amongst non-traditional students, they were considerably lower than those of traditional students.
- 44% of respondents had no experience of e-learning prior to university; but for non-traditional students the proportion with no prior experience was much higher (e.g. 53% of mature students having no experience of e-learning prior to university compared to 39% of non-mature students).
- All categories of non-traditional students had much less prior experience of computers/internet at home while growing up and at secondary school. For example, 41% of mature students had no experience of computers or the internet at school (this was not true of any non-mature students) and 25% of lower socio-economic group respondents had no experience of internet/computers at school compared to just 8% of those from middle/higher socio-economic group backgrounds.
- Very few respondents (7%) said that they had particular needs for support with e-learning but all categories of non-traditional students were much more likely to answer 'not sure/don't know', suggesting a greater need for support for e-learning for non-traditional students.

² This is calculated from university data for those who took part in the survey.

Access to information and communications technologies/personal computers/the internet

- Overall, 95% of respondents agreed or strongly agreed that 'I am able to access a computer and the Internet when I need to' but large differences exist between non-traditional students and traditional students; (e.g. 82% of respondents from middle/higher socio-economic group backgrounds strongly agreed with the statement compared to 58% of those from lower socio-economic group backgrounds).
- 89% of respondents said that their current way of accessing e-learning was from a laptop or desktop personal computer at home; nearly all of the remainder preferred a desktop or laptop personal computer on campus; respondents were nearly always able to use their preferred method of accessing e-learning.

Attitudes to e-learning and perceived benefits of e-learning

- 84% of respondents considered e-learning to be a fairly or extremely important part of their course.
- Respondents were asked to indicate their opinion on a number of aspects of e-learning based on their experience over the last 12 months. There were large positive majorities in favour of most statements; 80% agreed or strongly agreed that 'e-learning improves my understanding of the topic covered' and 75% agreed or strongly agreed that 'e-learning helps me learn more effectively'; 69 % of respondents agreed that 'e-learning improved my experience of e-learning'.
- Overall, respondents were most positive on 'e-learning made it more convenient for me to study the topics covered' and least positive on 'e-learning makes it easier to get feedback on my work'.
- Non-traditional students had more positive attitudes to e-learning than traditional students on a range of survey questions which aimed to measure the perceived benefits of e-learning. Mature students and students with non-traditional qualifications had higher mean agreement on all items including 'e-learning helps me to manage my study time' and 'e-learning offers me flexibility'. This perhaps lends some support to the idea that mature students may benefit disproportionately from the flexibility that e-learning can offer in terms of where and when they study.
- Lower socio-economic group background respondents had higher mean scores than those from middle/higher socio-economic group backgrounds on just two items (e-learning helps me to manage my study time and e-learning helps me to balance my study with other demands such as family or work). This is (again) consistent with the idea that non-traditional students can benefit disproportionately from e-learning. However, a general pattern was evident whereby lower socio-economic group background respondents were slightly less positive than other non-traditional students and traditional students in their attitudes towards e-learning.

Participation in e-learning

- 40% of respondents said that when e-learning was available on a module they sometimes participated and a further 46% said that they always participated; just 4% said that they almost never or never participate when e-learning is available.
- 78% said that they had participated in some form of e-learning at Surrey in the last 12 months. Participation in e-learning (as judged by the question 'have you participated in any e-learning in the last 12 months?') appeared to be slightly higher for non-traditional students. However analysis of questions about the particular types of e-learning participated in suggested a very different picture – that non-traditional students were

considerably less likely to have participated in all forms of e-learning other than multiple choice quizzes (e.g. 59% of middle/higher socio-economic group background respondents had participated in a discussion board on ULearn and 21% had participated in a wiki); but just 35% of those from lower socio-economic group backgrounds had participated in the former and 7% in the latter (differences of -24% and -14% respectively). Mature students and students with non-traditional qualifications showed a very similar pattern of much lower participation than their traditional counterparts in most forms of e-learning.

Barriers to participation in e-learning

- 21% of respondents felt that insufficient support or training had been a barrier to their participation; 20% of respondents felt that lack of access to computers/internet on campus had prevented or discouraged them from engaging in e-learning and 19% felt that teachers not being positive about e-learning had been a barrier.
- Lower socio-economic group respondents felt that lack of support/training was the biggest barrier to their participation in e-learning (22%) and this was also the most frequently cited barrier to participation in e-learning for mature students.
- Physical access at home was a greater problem for lower socio-economic group background respondents (e.g. 11% said that access to computers/internet at home was a barrier compared to just 4% of middle and higher socio-economic group students). Access to personal computers/internet on campus was perceived as a barrier by lower socio-economic group background students; but it was slightly less of a problem for them than it was for middle and higher socio-economic group background students.
- Lack of confidence with information technology was a much greater barrier to e-learning for mature students than it is for non-mature (16% and 3% identifying this as a barrier for them); mature students were also far less confident with e-learning than non-mature students.

Conclusion

- This study found that although non-traditional students were certainly not excluded from e-learning in a general sense, e-learning is not being used to improve their learning experience at the University of Surrey. The university is not currently using e-learning to enhance the experience of non-traditional students either in terms of increasing the number of non-traditional students (i.e. WP) or in improving the learning experience of those non-traditional students already at the university. Reasons for this include low awareness of different types of non-traditional students amongst staff, either in general terms or specifically regarding the composition of the groups that they themselves teach. It is also clear that even where staff did recognise the presence of non-traditional students they were not adapting their teaching for them in any particular way and there was no evidence that staff were aware of how teaching could be adapted for non-traditional students.
- Many staff were aware of some categories of non-traditional students (generally mature students and those with learning difficulties) and awareness of non-traditional students was highest in nursing where non-traditional students make up a majority of the students. In all programmes many staff were sympathetic towards those categories of non-traditional students of which they were aware and wished to help them but rarely felt equipped with the knowledge, resources or institutional support to do this.
- Many of the potential barriers to non-traditional students' participation in e-learning which were identified in the literature were affecting non-traditional students at the University of Surrey. These include less experience of computers and the internet at home and at school and less confidence with information and communications technology generally, and with e-learning, than traditional students.

- Perhaps most noteworthy, in terms of differences between traditional students' and non-traditional students' experiences of e-learning, were the differentials in levels of participation in particular types of e-learning. Non-traditional students' seem to have considerably lower levels of participation in all types of e-learning apart from the most basic (such as downloading lecture notes and using multiple choice questionnaires).

Recommendations

- Increase institutional, Faculty and staff awareness of the existence of non-traditional students. To support this objective, regularly updated student demographic summaries should be made readily available to staff so they have an increased understanding of the proportion and types of non-traditional students amongst those they teach.
- The University may wish to consider including an additional question in the National Student Survey (NSS) at Surrey to assess satisfaction with e-learning. The results from this question, (and the results of the NSS generally) could be analysed by category of learner to help develop staff understanding of the experience of non-traditional students and their perspective on e-learning.
- Work towards ensuring that e-learning is an integral part of all learning and teaching activity and including consideration of e-learning and approaches appropriate to the non-traditional student learning experience within Faculty's existing planning and evaluation processes would be a valuable contribution towards this end.
- Consideration of non-traditional students and the role/impact of e-learning on their learning experience to be explicitly incorporated into validation and periodic review procedures (including changes in documentation to guide this) to ensure that these issues are addressed formally and strategically.
- Ensure that Faculty staff understand how to obtain advice and support in relation to e-learning for non-traditional students. This is currently being incorporated into the "Integrated Strategy for Improving Progression and Retention for specific cohorts" in development by University Learning and Teaching Committee (ULTC), led by Centre for Educational and Academic Development (CEAD), and Library and Learning Services.
- Expand discussion and focus on the non-traditional student learning experience as it relates to e-learning within professional development opportunities provided by CEAD to help embed consideration of non-traditional learners into e-learning practice. Opportunities include the PG Certificate in Academic Practice, e-learning courses and help sheets (an example is given in Appendix 1: Good Practice Guidelines).
- Develop a student digital literacy skills strategy which sets expectations for all students and provides support to develop these skills; to ensure that all students have opportunities to reach a baseline standard of digital literacy and to address differences in competence and confidence with technology.
- Raise visibility of existing online resources and support for non-traditional students that may be of particular benefit to non-traditional students in developing their information and communications technologies skills and/or learning skills. These resources include Library and Learning Services.
- Extend existing student mentoring schemes to incorporate support for use of technology and digital literacy, particular for non-traditional students.
- Consider offering certain groups of non-traditional students financial assistance for computers and related information and communications technology equipment for use on campus and/or remotely to ensure equity of access. These measures could include a laptop loan or subsidised purchase scheme, and an additional printing allowance.

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We hope that this project, funded by the University of Surrey's Widening Access Fund, provides some insight into non-traditional students' experiences of e-learning, as perceived by students themselves and by staff, and that the recommendations will help inform the development of e-learning to ensure it is an advantage for non-traditional students rather than a further barrier to overcome.

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1 Introduction and literature review

This project, through a review of existing literature (phase one) and empirical research (phases two and three) in three programme areas, selected on the basis of having distinctive student profiles in relation to 'non-traditionality' (nursing, management and chemistry), addresses the research question 'How can the university use e-learning to improve the non-traditional student experience?'

E-learning, defined here as 'learning facilitated and supported through the use of information and communications technology'³ (JISC 2010a), is expanding rapidly within higher education (HE) both in the United Kingdom (U.K.) and globally (Kirkwood 2005). A large majority of higher education institutions (HEIs) have an institution-wide online learning platform (Becker and Jockivirta 2007; Browne et al. 2008); the latter report that 96% of U.K. higher education institutions (HEIs) use some form of virtual learning environment (VLE) and that most of these were being used to help deliver blended learning. Seale et al. (2008) report that:

"The majority of students who enter higher education are required to use online learning resources or activities (e-learning) to support their formal or informal learning in some way e.g. virtual learning environments, discussion lists, e-mail, podcasts, or library information databases. Within the higher education and e-learning fields there is a growing level of interest in exploring and understanding the e-learning skills and experiences of students in higher education".

This trend coincides with an increasing proportion of 'non-traditional students' in HE as a result of policies which seeks to widen participation in HE (Laing and Robinson 2003). 'Non-traditional' is a term widely in use to describe groups of students who might be more accurately defined as having low rates of participation in HE relative to their frequency in the population and who are therefore under-represented in HE (Jeffrey 2009; Laing and Robinson 2003; Schuetze & Slowey 2002). HE students may be defined as non-traditional on a number of criteria such as being from lower socio-economic groups (SEG), being older than average at programme entry (i.e. a mature student)⁴; entering HE with qualifications other than A Levels (such as GNVQ); living off campus, studying part-time; having a physical or learning disability; having just left care; being from a postcode with low participation in HE; being the first in the family to enter HE; being an international student or not having English as a first language. Some authors have also included categories such as ex-offenders, part-time or temporary workers, those with low levels of basic skills (Sims et al. 2005). Some categories of students (e.g. women) cannot be described as 'non-traditional' since they are not as a whole under-represented in HE (although sub-groups such as Bangladeshi women may be) but who nonetheless have distinct experiences of HE (e.g. Vryonides and Vitsilakis 2008; Brooks 2003) as well as of e-learning and/or information and communications technology (ICT) (Coldwell et al. 2008; Heemskerk et al. 2005). While ethnic minorities as a whole are not under-represented in HE, particular ethnic minorities (e.g. Afro-Caribbeans) are under-represented and so might be called non-traditional. For the purposes of this review, 'non-traditional' and 'under-represented' are regarded as being synonymous.

³ At the University of Surrey this comprises a range of activities, including using lecture notes and resources available online, taking a multiple choice quiz, using an e-portfolio to record and/or reflect on your learning, taking part in a discussion in an online forum, submitting your work and/or receiving feedback on it electronically. E-learning may be based on ULearn (the university's Virtual Learning Environment) or may involve wikis or blogs. E-learning is not limited to learning that occurs online as it also covers (for example) the use of electronic voting equipment in classrooms and computer-assisted learning (e.g. using software that helps to visualise molecules) which may be used wholly offline.

⁴ There are competing definitions of 'mature student'. Being over 21 or over 23 are common definitions whilst in nursing the definition has historically been 26 or over. The project uses the first of these unless otherwise specified.

A third trend (in addition to a growing amount of e-learning in HE and a large increase in non-traditional students in HE) is the coming of age of those whom Prensky (2001) calls “digital natives” or the “net generation”. These students have grown up with technology as an integral part of their lives and expect to continue to use technology in sophisticated ways as part of their learning experience in HE.

The current project had to develop a focus consistent with the resources available and it was not therefore feasible to examine all aspects of possible relationships between different groups of non-traditional students and e-learning. The non-traditional groups chosen for the focus of the project were mature students; those from lower SEG backgrounds and students entering HE with ‘non-traditional’ qualifications such as GNVQ (abbreviated hereafter as SNTQs). Because these groups were the focus of the project, the literature review deals in more detail with literature relevant to the experiences of these groups regarding e-learning. However, the project is also interested in the experiences of non-traditional students with e-learning more generally and so literature relating to them is included in this review.

1.1 E-learning and Non-traditional students

1.1.1 What is the relationship between e-learning and non-traditional students in HE?

E-learning⁵ is sometimes described as facilitating the widening participation (WP) in HE to many categories of non-traditional students or as enhancing the experience of such students once enrolled. As Sims et al. (2005) put it “*E-learning is perceived as lowering barriers of time and space to enable non-traditional students to attend campus-based education while accessing resources at a time and place of their choosing*”.

HEIs sometimes identify aspects of WP as drivers for investment in e-learning. U.K. respondents in Becker and Jokivirta’s study (2007) cited access for disabled users as being amongst the reasons for investment in e-learning. Browne et al. (2008), in the Universities and Colleges Information Systems Association (UCISA) postal survey of Principals and VCs at 74 HEIs in the U.K., showed that ‘enhancing the quality of teaching and learning activities’ was perceived to be the key driver for e-learning but ‘WP/inclusiveness’ was the fourth most important driver (up from 7th most important driver in the 2005 iteration of the survey) and ‘improving access for part-time students’ was fifth while ‘meeting the requirements of the Disability Discrimination Act’ was tenth. This suggests that senior managers in U.K. HEIs perceive that issues to do with WP are amongst the important drivers of e-learning but the fact that only just over half of respondents (54%) said that the development of their e-learning⁶ was informed by an access/WP strategy indicates a lack of a coherent strategy in the HE sector regarding e-learning and non-traditional students. There was a massive (and no doubt statistically significant) difference between pre and post 92 universities in this regard; while just 44% of pre-92 universities said that the development of e-learning was informed by an access/WP strategy, the equivalent figure for post 92 universities was 77%. A study by Layer et al.(2003) found that less than a third of HEIs have explicit links between learning and teaching and WP strategies.

These figures need careful interpretation though – neither the UCISA survey nor Layer et al. (2003) report what proportion of respondent institutions have a WP strategy and clearly if they do not then they cannot link it to their e-learning or teaching and learning strategy. The reason why pre-92 universities may be less likely to link e-learning and WP strategies may simply be

⁵ At Surrey this comprises a spectrum of activities from the very basic (making resources such as lecture notes available electronically) to blended learning which combines traditional face to face learning with e-learning (for example, using lectures and an e-portfolio) through to instances of learning delivered mostly electronically (e.g. using online materials and assessment or videoconferencing to deliver a module). The proposed research would cover e-learning using a range of technologies which may include ULearn (the University’s Virtual Learning Environment) wikis, blogs, or electronic voting systems.

⁶ UCISA prefer the term ‘technology-enhanced learning’ (TEL).

because they are less likely to have either a WP strategy or an e-learning strategy. This may speak loudly of cultural differences in the pre and post 92 universities with regard to WP and (perhaps) with regard to e-learning. A more useful measure therefore, which does not appear to be available from any source, would be the proportion of institutions who have a WP strategy who use this to inform the development of their e-learning.

Evidence of non-traditional students or WP being seen as drivers for e-learning is not restricted to the U.K.; Miller and Lu (2003) found that e-learning provision in the United States was being expanded as a response to diversity of students and high attrition.

1.2 How can e-learning support non-traditional students – some examples

Hughes (2007a:349) states that *“The widening of access to higher education has, for many universities, resulted in the issue of retention moving to the top of the agenda”*. Although it is not entirely clear if attrition is higher amongst non-traditional students there are some indications that this is the case. Simpson (2003) found that age, gender and social class background were good predictors of retention; mature students, women and those with higher qualifications or from professional occupations were most likely to complete their programme. Hughes (2007a) explicates the ‘integration’ approach to explaining attrition which is postulated by Simpson (2003). This approach ‘considers the social and academic fit between the learner and academic life’. If attrition can partially be explained by the extent to which the student shares the culture of the institution then clearly some groups, including those from lower SEG backgrounds, would have higher attrition rates and ways of managing this would be advantageous to those students. Hughes’ (2007a) action research study changed one module of an undergraduate degree programme from face to face to blended learning with the aim of reducing attrition. This was done by early identification of those ‘at risk’ of dropping out by using the tracking facilities in WEB CT⁷ (i.e. number of log-ins, number of contributions to online discussions, completion and submission of coursework online). Students who were at risk were given careful and targeted support within the VLE but also through the university’s learning support services and they were also encouraged to get support from peers. Attrition rates were considerably lower on this blended learning module than on the face to face equivalent but it is not clear if the difference was statistically significant. Hughes is positive about using e-learning to improve retention but highlights that it requires substantial resources of time and highly skilled teaching staff are also a prerequisite for providing this level of support to students.

Heaton-Shrestha et al. (2004) evaluated the use of e-learning in WP to non-traditional students through the use of surveys, focus groups and interviews with students and staff, evidence from discussion boards and case studies. They focused on the use of the Blackboard VLE at Kingston University and identified two key strands to their research, ‘access’ and ‘success’. The access element of the research explored how a VLE-based mentor scheme could help change perceptions of HE amongst non-traditional students (and assist them with making applications to HEIs. The ‘success’ strand evaluated the effectiveness of ICT in improving on-course support for a more diverse range of entrants.

Perhaps unsurprisingly, variations across the university were found with regard to the use of the VLE and use depended on individual competencies and attitudes towards the relationship of technology and education. Students’ patterns of use of the VLE reflected those of staff; half of students reported never having used it. Heaton-Shrestha et al. (2009), through further interviews with staff and students, found that some assumptions made about the value of VLEs in aiding communication between students and providing flexibility in modes of learning are not supported, but that retention is likely to be aided by the ways in which VLEs can enhance confidence and provide a sense of control and ownership. The findings also indicate that students tend to be more positive than staff about the role of the VLE in enhancing their overall performance and experience and as such provide an impetus for further developments with the expectation of improved student retention, performance and satisfaction.

⁷ A commonly used ‘brand’ of virtual learning environment software.

There are several other examples which could be linked to a theme of using e-learning for widening participation in a direct sense (as opposed to supporting non-traditional students who are already in HE). Since 2005, The Widening Participation through E-learning Project (WIPEL 2010)⁸, has explored the development of a fully online taught Foundation Degree in e-Communications with Sheffield Hallam University (SHU). This Foundation Degree delivered since 2008 provides progression opportunities for hundreds of learners who failed to achieve at school and are unable to attend traditional college provision for a variety of reasons. They had all studied English and communications in a fully online taught environment at TSC and were considered by their teachers to have the potential to study at degree level. These include some of the most hard to reach adult learners in the UK such as shift-workers, people with disabilities, single parents and/or parents with small children, carers, people with mental health issues.

Payne et al. (2005) report on a project in a deprived area of Wales where the University of Glamorgan offered training in ICT in the community in order to diminish ICT skills as a possible barrier to participation in HE (and indirectly therefore to lessen any possible barriers to participating in e-learning in HE).

Lim (2003) describes student feedback on short courses in ICT developed by the University of Hertfordshire using 'learndirect'⁹ online materials. These courses were developed as part of an initiative to investigate how learndirect materials could be used in FE level programmes to widen access to HE. The pilot was apparently successful in encouraging participation from non-traditional students; one of the major barriers at that time was the low speed and high costs of internet connections, a problem which is now much diminished (see 3.3). Noble et al. (2003) also used learndirect materials to encourage HE participation in deprived areas in the North-East of England.

Although these projects were apparently successful and popular it is not clear to what extent such projects are isolated examples or are common aspects of WP strategies in HE.

1.3 Critical approaches and barriers identified to widening participation and e-learning and ICT generally

The research described above suggests that e-learning can make an important contribution in widening participation to non-traditional students and in supporting those non-traditional students already in HE but the mechanisms by which this happens are complex and it cannot be assumed that e-learning will always or necessarily benefit non-traditional students.

Considerable literature has emerged which is very critical of the idea that e-learning (or more generally, ICT) really can, or really does, facilitate WP in HE. There is evidence that e-learning may potentially reinforce inequality within HE by disadvantaging non-traditional students and that the extent to which e-learning can facilitate participation in HE may be overestimated (Johnson et al. 2008; Sims et al. 2005; Bennett and Marsh 2003; Clegg et al. 2003; Clarke 2002; Washer 2001). Sims et al. (2005) describe "*an untested perception that many of these barriers (to participation in HE) can be overcome by the use of learning technology*". Selwyn and Gorard (2003:169) highlight that the simple fact of ICT or e-learning being available does not of itself widen participation and that the drivers for e-learning in HE are not primarily WP but rather cost savings and an attempt to manage increasingly large cohorts of undergraduate students:

"ICT has fast become the rhetorical foundation of the U.K. government's attempts to transform adult education radically and to establish a 'learning society'. Central to this rhetoric are a series of largely untested assumptions about the potential of ICT to increase and widen levels

⁸ funded by JISC, based at The Sheffield College (TSC)

⁹ learndirect is the 'brand' of Ufi Ltd, a not-for-profit organisation created in 1998 to take forward the UK Government's stated vision of a 'University for Industry' in England, Wales and Northern Ireland.

of educational participation to include those groups of learners who have previously been excluded”.

Another possible driver for e-learning in HE might be the fact that that, as touched on in the introduction, there are an increasingly large number of ‘digital natives’ in the student population and HEIs, may feel obliged to meet students’ expectations for using technology as part of their learning experience.

Sims et al. (2005), through case studies based on semi-structured interviews with seven U.K. HEIs, sought to answer three questions; “Where traditional universities use learning technologies, are they being used with the intention of WP beyond those members of society who would traditionally attend university?”; “Are learning technologies being used in a manner that makes education accessible to such potential non-traditional students?” and “Are efforts being made to make learning technology available to non-traditional students?”. Sims et al. (2005:8) found that few respondents thought of e-learning in relation to WP or non-traditional students.

“None of the case organisations had clear or enacted strategies to deal with the digital divide. Few of the respondents discussed cultural, ethnic or gender differences with the acceptance or use of ICT. None of the learning programmes took steps to ameliorate access difficulties such as ensuring all file sizes are small, ensuring that all students have basic ICT skills training prior to the start of a course, or the provision of computers and internet access at home for those in traditionally excluded sectors of society”.

Sims et al. (2005) go on to say that it is hard to know what the intentions of organisations are in investing in or generally developing VLEs/e-learning but that those managing these technologies (i.e. staff and specialists) seem to do so for reasons that are pedagogically based rather than anything to do with WP. Sims et al. note that many HEIs have a WP strategy but that this was not usually linked to the development of e-learning. Sims et al. find that that:

“decisions about online pedagogy were not based on considerations around WP but rather on enriching teaching and learning for those students who do have access to technology”.

The UCISA (2008) survey might at first seem to be somewhat at odds with the findings of Sims et al. but the sampling criteria in both cases is slightly unclear and it may simply be that they were talking to staff acting in different roles or that the seven HEIs chosen by Sims et al. were not typical; and the UCISA survey comes around three years after the research by Sims et al. However, both studies would seem in agreement that improving teaching and learning generally is the most important driver for e-learning in HE. The UCISA survey suggests that WP is an important consideration for HEIs with regard to their development of e-learning. Sims et al. suggest (perhaps counter-intuitively) that, to the extent that HE staff consider WP at all in relation to e-learning, they do so in the context of WP being a *limiting* factor on the development of e-learning.

“Where widening participation is a consideration it results in a reduced motivation to use learning technologies, not in an increased motivation, thus the use of learning technology is perceived by academics as a barrier to widening participation rather than a means of lowering barriers”. (Sims et al. 2005:8).

Clearly several authors feel that the way in which WP and e-learning interact is complex and that we should at least be sceptical, or perhaps even critical, regarding rhetoric surrounding WP and e-learning.

We now move on to look briefly at the research relating to particular groups of non-traditional students and e-learning, starting with those groups who form the focus of this study (mature students, students from lower SEG backgrounds and SNTQs).

1.3.1 E-learning in improving the learning experience of mature students in HE

Mature students were more likely to live off campus which makes accessing computers in campus libraries or academic departments less convenient. If students must be on campus to access e-learning this may cancel out any gains in terms of control over where and when non-traditional students learn (Washer 2001). Although internet access may be provided free at the point of consumption on campus or in public libraries, barriers such as restricted opening times and transport costs remain. Mature students may have lower levels of skills or confidence with ICT (O'Driscoll et al. 2007; Dearnley et al. 2006; Stephens and Creaser 2002) either or both of which may be significant barriers to participation in e-learning. Bennett and Marsh (2003) also question the often repeated idea that students with work or family responsibilities will automatically be interested in online courses which offer flexibility in where and when students can learn.

There is mixed evidence regarding the relationship of age and participation in e-learning. Hoskins and van Hooffe (2005) argue that little is known about the differences between traditional and non-traditional students in the use of VLEs in HE; they aimed to determine whether the approaches to studying, ability, age, and gender of 110 undergraduates in the second year of a psychology degree predicted the extent to which they utilised online learning using WebCT in support of a core Biological Psychology unit. Data were obtained from WebCT's student tracking system, Entwistle and Ramsden's 18 item Approaches to Studying Inventory (1983) and academic records. Hoskins and van Hooffe (2005) found that age was positively correlated with overall time spent on the VLE and with reading and posting messages on a discussion board but found no age relationship with patterns of use in relation to self-administered multiple choice questionnaires (MCQs). Hoskins and van Hooffe (2005) found that older students had better academic outcomes from the online unit. Alstete and Beutell (2004) also found that older students were more likely to use discussion boards (and tended to achieve better grades in online courses). Coldwell et al. 2008 found no statistically significant relationship between age and participation in e-learning whether in terms of total time spent in the VLE or messages read or posted to discussion boards or in academic outcomes from the module.

This might suggest that it is difficult to talk about patterns of participation in e-learning by non-traditional students in general terms; rather the particular nature of the e-learning activity (and its pedagogical underpinnings) and the particular category of non-traditional student may be key variables in understanding participation and e-learning in general.

Johnson et al. (2008:4) acknowledge that e-learning may in theory be advantageous for mature students (in terms of providing them with greater flexibility over where and when they learn), but claim that in practice:

"It is clear that already empowered, confident and bright students – that is, the least in need of teacherly assistance – are the most active participants. No software or hardware application or platform is an antidote for under prepared university students. It is those who are already enthusiastic, committed and focused who most use digitised learning 'tools' such as blogs and asynchronous and synchronous discussion fora. Invariably, those who contribute most to digitally-enhanced learning environments do well. They are receiving all the advantages of analogue education, through lectures, seminars and tutorials, while also gaining increased spaces to test, question, fail and improve, thereby building and reinforcing knowledge".

Manner (2004) makes a number of recommendations for maximising the success of non-traditional students in e-learning based on long experience of working with this group and particularly with mature students. She discusses orienting the non-traditional student, becoming aware of cultural reluctance about seeking assistance, providing personal feedback, handling issues related to language conventions, embedding important cues, clues and reminders in course materials, and other supportive strategies.

1.3.2 E-learning in improving the learning experience of HE students from lower socio-economic group backgrounds

Students from lower SEG backgrounds remain one of the most under-represented groups in HE so it is extremely important to investigate whether e-learning has a role to play in widening participation to such students.

Because of methodological problems in calculating participation on the basis of social class, and the fact that social class does not include other disadvantages of living in a deprived area, the geographical area from which students come is often used as a comprehensive measure of socio-economic disadvantage. Despite some modest improvement in participation in HE from these areas from 2005 to 2010 it remains the case that:

"Fewer than one in five young people from the most disadvantaged areas enter higher education compared to more than one in two for the most advantaged areas".(HEFCE 2010:2)

Clarke (2002) found that skills required, differential access to ICT, and the location of the learner can all reinforce barriers to learning for non-traditional students. Johnson et al. (2008) argue that the advent of blended learning and e-learning innovations has ostracised, marginalised or ignored those who cannot afford, or who are unable to access, the latest hardware and software to take advantage of these opportunities. Those without the ability to access these necessities are being indirectly marginalised by the universities, which is harmful to WP. The authors argue that there is a community of students who are subjected to what Bourdieu (1977) termed 'symbolic violence' and that *"digitisation in tertiary education is reinforcing what it has always been through its history – a haven of the wealthy and the advantaged"* (Johnson et al. 2008:1). An example of symbolic violence cited by Johnson et al. is that of a designer of e-learning materials who assumes that all students have access to computers equipped with the latest soundcards, media players and broadband connections. They highlight that e-learning designers and teachers can unintentionally inflict this symbolic violence; through failing to consider non-traditional students at the design stage. They also warn against the tendency to use learning objects which require high specification equipment to access effectively (e.g. large video files).

Kenny (2000) and Washer (2001) identify those from lower SEG backgrounds as facing particular barriers to participation in e-learning. Sharpe et al. (2006:69) suggest that student ownership of personal computers (PCs) is high, particularly with respect to laptops but evidence about the disadvantaged minority on the wrong side of the digital divide who cannot afford their own personal computer or laptop is limited. Sims et al. (2005) found, contrary to the rhetoric of ICT/e-learning and WP in HE, that:

"A digital divide with some students financially unable to afford technology and broadband access, others without the skills to engage with learning technology, and some culturally less able to benefit from technological enrichment".

The cost of purchasing computers of all kinds, and of subscribing to broadband access has fallen drastically in the last few years (i.e. subsequent to the publication of papers which highlight financial barriers to participation in e-learning) but it is worth noting that according to the Office for National Statistics in the U.K., in 2010, 27% of households do not have an internet connection and 18% of adults have never used the Internet (ONS 2010). Having an internet connection is strongly associated with educational qualifications (i.e. those without any qualifications were most likely to live in a household with no internet connection). 52% of those with no qualifications also had no internet connection (ONS 2009). Since educational qualifications are strongly correlated with SEG background, it is likely that many university students from lower SEG backgrounds have been raised in households without internet access. The rapid increase in the proportion of homes with computers and internet (broadband) access

in the last few years may have happened too late for many students from lower SEG backgrounds who are currently in HE.

A review of literature regarding the student experience of e-learning in HE by Sharpe et al. (2006) found that undergraduate students in the U.K. reported a high level of ownership and use of technology. Computer ownership has apparently risen from 52% in 1999 (Breen et al., 2001) to a level close to saturation of over 90% at the University of Dundee (Weyers et al. 2004); with a strong preference for laptops. Sharpe also reports that Haywood et al. (2004) found that 56% of students owned laptops compared to 35% choosing desktop machines. In addition 60% have an internet connection at home (Weyers et al. 2004) and 72% have used the Internet before coming to university (Saunders and Pincas, 2004). Prior experience of technology is a key factor in students' experiences of e-learning (Sharpe et al. 2006) so clearly it would be of interest to know whether prior experience is different for non-traditional students but there does not appear to be any data available for the U.K. in this regard. There is some evidence that lower SEG background students in the U.S. may have had less exposure to ICT including e-learning in schools and that schools in poorer areas tend to have less sophisticated ICT and e-learning infrastructure and higher pupil/equipment ratios (Journell 2007).

It may be the case that some HE students from lower SEG backgrounds have a cumulative deficit in ICT and/or e-learning experience due to less exposure to these both at home and in schools and to some extent this deficit may continue into university life, if they do not have access to computer/internet at their place of residence in term time or holidays. The proportion of students from lower SEG backgrounds, who cannot currently afford a computer for use at home or broadband access while they are studying, is unknown. If Surrey is typical of U.K. HEIs then the proportion of students who own PCs or laptops is likely to be high but it seems equally likely that a small minority do not own PCs or laptops, and it is probable that students from lower SEG backgrounds are over-represented in that group. This minority may be at a considerable disadvantage generally and even more so where a significant amount of e-learning takes place online.

One might also speculate that lower SEG background students may, for financial reasons, have slower take-up of each new device or technology that comes onto the market which offers internet access. Access to e-learning in a variety of ways and from a variety of devices may therefore continue to be unequally distributed on the basis of SEG background.

As Selwyn and Gorard (2003:169) make clear, mainly in relation to adult education, *"ICT does not, in itself, make people any more likely to participate in education and (re) engage with learning"*. They are extremely sceptical of government rhetoric such as this which suggests that ICT and/or e-learning could have a drastic impact on WP in education:

"Our vision is for a society in which e-learning is seen as an engaging and stimulating part of everyday life, relevant and accessible to all. We want e-learning to be a tool that for the first time makes learning relevant and accessible to those who have previously felt excluded from traditional learning pathways" (DfES 2002a, in Selwyn and Gorard 2003).

Selwyn and Gorard find, through survey evidence, that long-term social, economic and educational factors are closely related to patterns of current/recent learning. While access to education is largely patterned in the same way as access to ICT, the latter does not, in itself, predict participation in education any more accurately than SEG background. ICT access, like educational qualifications, is a proxy for a more 'profound' variable; SEG background. To put this another way, SEG background is the underlying variable explaining both the rate of access to ICT and the rate of participation in e-learning; low rates of participation are not significantly changed by access to ICT since participation is essentially determined by factors such as SEG. Selwyn and Godard are equally sceptical about rhetoric applying to e-learning's role in WP in HE and, while they do not say that e-learning cannot facilitate WP, they argue that its capacity to do so is vastly exaggerated. They argue further that if barriers of time and space are not primarily what prevents people from engaging in education, then removing or reducing such barriers will not result in transformation of participation rates. Selwyn and Gorard argue that a

much more effective strategy for increasing participation would be outreach work to change attitudes to education amongst low participation groups.

Clegg et al. (2003) warn that technologies are not neutral. Rather they engender assumptions, social processes and pedagogical discussions that focus on the terms and shape of the media adopted. Neither is the way in which technologies are approached by users neutral; *“technology use is culturally located and certain kinds of use create cultural capital, translating into economic capital through career development and other opportunities, while others do not”* (Bordieu in Sims et al. 2005:4).

Sims et al. (2005), drawing on Lewin et al.(2003), assert that the advantages from the use of educational technology is restricted to those whose homes have high cultural capital. Or to put this another way, it is not simply a matter of having physical access to technology, or even of participating in e-learning, but knowing how to use ICT and/or e-learning in a way which maximises one’s opportunities and using it to consolidate advantages that one may enjoy offline. Journell (2007) reviews evidence (Warschauer et al. 2004; Brown et al. 2001) which suggests that students from low socio-economic backgrounds in the U.S. use computers in school differently than more affluent students, with a greater incidence of less challenging rote exercises or presentations of existing materials while wealthier schools encourage students to research, edit papers, and perform statistical analyses. If there are cultural differences on the basis of SEG background in the way what technology is approached or used then it is possible that such differences would also extend to the use of learning technology in HE.

Hughes (2007b), focussing on a particular form of e-learning (online communities), reasons that as there is evidence demonstrating that students may struggle to reconcile social identities based on class (or gender) with their identity as students in the offline world, so they may face the same challenges online. Hughes (2007b:713) says that *“some learners may overcome such contradictions, but others may become excluded from academia”*. Hughes (2007b:714) argues that online communities may be designed in an inclusive way, facilitating congruence, where:

“An individual’s social identities, such as ethnicity, nationality, gender and occupational status, are consistent with the topics and patterns of communication and associated discourses of identity that are made available by an online group or community. Where there is identity congruence, we would expect an individual to be much more likely to participate fully in a group than where there is incongruence. In the latter case, situations of disharmony may arise between identities of members or there may be conflicting available identities for an individual, perhaps leading to limited engagement with the group or unresolved challenge to its purposes”.

Hughes is arguing that online communities may unwittingly exclude people from certain backgrounds (such as those from lower SEG backgrounds) by not including topics that are relevant to the lives of these people or by allowing particular cultural norms or forms of language which are elitist to dominate the online discourse. As Stiles (2004:90) puts it: *“Learning materials and activities need to be ‘authentic’ – normal to the culture in question and using its tools and artefacts”*. It is not necessary or practicable for teachers to understand the nuances of every group or culture in designing e-learning but general awareness of the demographic profile of their students (Coldwell et al. 2008), and the proportions of non-traditional students of different types, is likely to help as well as allowing students to be involved in the design of e-learning and encouraging them to challenge existing content, pedagogies or means of assessment.

We might consider what kind of language/discourse dominates across (for example) ULearn, and whether these are inclusive or dominated by the language and cultural references of a particular group. However, it would seem inconsistent to seek some sort of ‘congruence’ between students’ lives and e-learning if the same was not being achieved in face to face teaching and learning but the focus of this report must necessarily be on e-learning.

1.3.3 E-learning in improving the learning experience of students entering HE with non-traditional qualifications

The current study found that there were no SNTQs in management undergraduate programmes and just one in chemistry undergraduate programmes; but SNTQs do make up about 15% of pre-registration nursing students.

While there does not appear to be a great deal of literature dealing specifically with students who have entered HE with 'non traditional' qualifications (referred to in this report as SNTQs) there is some evidence that SNTQs suffer from low rates of progression (Blicharski and Allardice 2000). Gorard and Smith (2006) suggest that the transition of SNTQs into HE can create particular challenges. A study at the University of Surrey which included 17 students with 'non-traditional' qualifications such as GNVQ supports this view. Brookes (2003:10) found that:

"The most commonly cited barrier (for students with non-traditional qualifications) was the way in which non-traditional qualifications were treated within the university. Although one student, in particular, felt that Surrey was exemplary in its attitude to students without traditional qualifications, others were not sure how their non-traditional qualifications were valued within the university and some perceived that they were treated less favourably than A Level students".

Brookes' study did not deal specifically with experiences of e-learning but the general problems faced by SNTQs may well extend into their experiences of e-learning. Rhodes et al. 2002, studied availability and use of support that was available to GNVQ students in seven further education (FE) colleges at the point of deciding whether to progress to HE or enter employment. The FE students' decisions to enter HE were strongly influenced by the extent to which they were able to develop understanding of HE course contents and key study skills. FE students have too few opportunities for independent learning activities, and in HE there is a greater need to use published research and a greater emphasis on students analysing material themselves. In the GNVQ programmes there is a greater focus on reports rather than essay writing, and tests are used in preference to larger assignments neither of which adequately prepare students for assessment in HE.

Blundell and Chalk (2009) found that e-portfolios were particularly valued by students entering HE with vocational qualifications as it enabled them to celebrate their non-academic achievements. As Blundell and Chalk (2009:8) describe it:

"By initially focusing on positive prior achievements, their sense of pride in a confident and successful self-identity, the students seem to have been much more confident about engaging with and sharing their ePortfolios than our more 'traditional' students on the honours degree courses, who may come ready-acclulturated to the practices of study, personal presentation and scholarship generally".

So, although there is little evidence in the literature of how SNTQs experience e-learning it is known that they may find HE a more challenging experience than those entering with A Levels and there is a potential to use e-learning to improve their learning experience by (for example) providing extra support around the areas in which SNTQs are known to face particular challenges. E-learning might also play a role in FE colleges to allow SNTQs insight into HE programmes in which they are interested. This extra support or information need not be provided by e-learning alone but this would perhaps be a cost effective means of doing so.

1.3.4 E-learning in improving the learning experience of international students/students from a variety cultural backgrounds in HE

Although there is little consensus on how to define 'culture', a broad and flexible definition is that of Scheel and Branch (1993:7):

“The patterns of behaviour and thinking by which members of groups recognize and interact with one another. These patterns are shaped by a group’s values, norms, traditions, beliefs, and artefacts. Culture is the manifestation of a group’s adaptation to its environment, which includes other cultural groups and as such, is continually changing. Culture is interpreted very broadly here so as to encompass the patterns shaped by ethnicity, religion, socio-economic status, geography, profession, ideology, gender, and lifestyle. Individuals are members of more than one culture, and they embody a subset rather than the totality of cultures identifiable characteristics”.

Young (2008:6) argues that ‘culture is at the core of the design process’ with regard to educational ICT¹⁰. Heemskerk et al. (2005) review a considerable amount of literature relating to educational ICT in schools; they note the growing use of educational software and the potential which it offers to adapt or tailor learning materials to individuals from a variety of backgrounds or cultures. However, Heemskerk et al.(2005:1) recognise that:

“The relationship between the use of ICT and equality/inequality in education is far from unequivocal. Whereas some claim that the use of ICT favours disadvantaged students, in the literature others point out several ways in which ICT may increase inequality in education”.

Although the use of educational software and e-learning in schools is different to that in HE in many respects (e.g. the age of the students and the different pedagogical approaches appropriate to children and adults and that the concept of ‘non-traditional’ per se does not apply to primary or secondary education), it would seem that the debate about whether educational ICT/e-learning can enhance the educational experience of a diverse range of students in HE is mirrored in schools. Many of the points made by Heemskerk et al. regarding the relationship of educational ICT/e-learning and diversity seem, in principle, as valid for HE as they are for schools. Heemskerk et al. argue that:

“Analyses from a sociology of technology approach show that technological artefacts are never neutral, but always imply human choices. Assumptions about the supposed user and the way he or she will use the artefact are incorporated into the design of, for example, bicycles, microwave ovens and electric shavers. Computers and software, including educational software, are not neutral media”. Heemskerk et al. (2005:2)

Heemskerk et al. (2005:2) argue that the assumptions contained in the design of educational software are ‘scripts’ which form part of a hidden curriculum:

“When these scripts are not suited to certain groups of students and these students are not able to identify with the supposed user, this may inhibit their learning. Ultimately, this can result in differences in participation, attitudes and learning outcomes”.

There are a number of ways in which these scripts, or cultural assumptions, may operate to make educational ICT less attractive to individuals from some cultures than others. The most obvious of these is that educational ICT is commonly authored in a single language which is dominant in a particular society; multilingual support may or may not be provided. U.K. HE students are expected to have a certain proficiency in English, so this is perhaps less of an issue in HE than in schools. However the dominant culture may be built into e-learning in ways which are more subtle than written language. There is evidence that a considerable proportion of educational ICT is unintentionally tailored to a Western approach to learning (Henderson 1996). Adler (1999) argues that learning in Mexican-American and African-American cultures is characterised by co-operation and inter-dependence, while the ‘Anglo-Saxon culture’ values independence and self-reliance in learning. Shadbolt (2002:51-55) also describes various learning styles across cultures and argues that ‘tell-and-test’ training materials, typically found in North America would be regarded as too authoritarian a style of teaching in parts of Europe, particularly in the UK:

¹⁰ A proportion of the research referenced here concerns itself with ‘educational ICT’ which is a broader category than e-learning but the authors consider that the research discussed is equally relevant to e-learning.

"People here (i.e. in Europe) prefer more of a self-discovery approach, particularly in the soft-skills training". He argues that many American learning materials use models that do not fit the varying teaching and learning styles in different cultures. This underlines that differences in learning style do not only occur between widely disparate cultures and as many large publisher of e-learning materials are based in the USA, one should be careful to avoid inadvertently imposing inappropriate teaching styles on students at U.K. universities. Banks (2006:2) also argues that *"the global development of e-learning often ignores the issue of cultural difference"*.

Bentley et al. (2005), primarily with reference to fully online programmes with international students, make a very detailed and useful analysis of the various factors that influence how good a fit there will be between the programme and the learner's expectations. The eight educational value differentials they identify are language, culture, technical infrastructure, local/global perspective, learning styles, reasoning patterns, social context and 'high/low context'. Bentley et al. (2005) draw attention to the considerable literature around high and low context cultures. In 'high context cultures' (which are posited to include Japanese, Chinese, Korean, Latin American, Mediterranean, Middle Eastern, French, and Vietnamese cultures) students may be focussed on the social context in a learning situation and according to Bentley et al.(2005:4) may:

"Have difficulty using online courses prepared in the United States because of their limited ability in English as well as their conflicting learning preferences which do not easily accommodate to using materials prepared by and for low context culture users".

In 'low-context' cultures (into which category Bentley et al. place the United States, Canada, the U.K., Germany, Australia and most of Western Europe, including Scandinavia) the focus is more on individuals and less on the group or social situation. Bentley et al.(2005:5) illustrate the distinction between high and low context cultures in the context of using email as part of an online programme:

"Low-context North Americans for example, emphasize the information in emails by focusing on the exact words, prose style, argumentation and line of reasoning, and ideas. To North Americans these are often more important than who the people involved are. Just the opposite is true for high-context persons because they are looking for non-verbal cues, social standing, and situational contexts to know how to respond appropriately. In many Western societies, email is seen as a quick, easy way to communicate, but this ease of using only words to communicate content and meaning can often put members of a high-context culture at a disadvantage".

The greater need which may exist in some cultures to know the social context before participating, and the greater focus on group norms rather than individual opinions, may explain findings such as those of Thomson and Ku (2005) in which Chinese students posted more conservative and less critical postings than American students.

Bentley et al.(2005) give specific recommendations for designing e-learning which take into account whether the users are predominantly from low or high context cultures. Bentley et al. also make the very valid point that many international students may want their programme taught 'in the local metaphor' as a way of understanding (for instance) English language and culture which students anticipate may be useful in their future careers. In that sense there might be a limit to the amount of cultural diversity or 'tailoring' which some students might expect in their programme but it would still be important to try and understand that expectation. Strang (2009) provides a model for understanding the expectations of international Doctoral students in fully or mostly online programmes and suggest that supervisors could improve programme outcomes through using this to assess their students' expectations.

Although it is argued that programmes (whether online or offline) should accommodate students' preferred learning strategies, which may be related to their gender and/or culture (Irwin et al. 1994; Adler 1999; Larson 1999) Jeffrey (2009:206) points out that *"Many studies measuring learning styles assume that matching a style or preference with a strategy or similar intervention will result in improved performance"* but points out that there is an alternative

school of thought (albeit somewhat smaller) which suggests that deliberate mismatching (of preferred learning styles and pedagogical approach adopted) may be necessary in order to stimulate learning”.

Returning to a more manifest reason why some cultures may find particular e-learning or educational ICT less attractive than others, Heemskerk et al. (2005:4) present evidence that certain cultures or ethnic groups may be underrepresented in educational materials. While this issue has been confronted with regard to materials used in face to face teaching (e.g. text books) it is not clear whether the same battle will still need to be fought with regard to educational ICT/e-learning. Even if education resources (whether digital, analogue offline or online) do represent a variety of cultures and ethnicities they may fail in another respect which is at least as important – that is incorporating the perspective of different cultures into the narrative (Bigelow and Larson 1999). In order for educational ICT/e-learning materials to be equally attractive to all cultures the content needs not just to represent different cultures and give their perspectives but also to reflect aspects of activities that are congruent with different cultures. As Hughes (2007b: 714) explains:

“A match between the topic of online discourse and an individual’s interests and identity is the most obvious way in which identity congruence might develop or not. For example, if the online communication is about British/US films, then someone with an identity constructed around Asian film viewing might be reluctant to take part, and vice versa”.

There are further issues to be considered if educational ICT/e-learning is to be equally attractive to all cultures; these include being *“considerate of the values, manners and taboos of different cultural groups”* (Heemskerk et al.2005: 5). This may seem obvious but it is perhaps worth considering whether teachers in HE are adequately equipped to understand whether the e-learning materials they are producing or purchasing are as acceptable to students of all cultures as they could be. Young (2008) argues that much more guidance is needed in the form of models or frameworks which incorporate culture in the design process.

Heemskerk et al.(2005) provide an extremely detailed and useful checklist of considerations for those designing or using educational ICT; this deals with the content, the interface and the instructional structure of the materials. Consulting this checklist, would almost certainly be useful for any teacher with concerns about whether the e-learning they are designing or purchasing is likely to improve the learning experience of students from different cultural backgrounds.

Beslisle (2008) and Liaw (2006) suggest that the online learning environment can itself be a place in which ‘intercultural competence’ can be facilitated and e-learning therefore has the potential to improve the learning experience of students from a variety of cultures by helping them to understand more about the host culture and vice versa.

1.3.5 E-learning in improving the learning experience of HE students with disabilities

Disabled students’ experiences of e-learning are perhaps better researched than other categories of non-traditional students although the barriers associated with different types of disability are rarely explored or are, as Sharpe et al. (2006:72) point out, specific to particular local contexts. Disabled students’ relationship to e-learning is perhaps unique amongst non-traditional student groups in that they have rights around accessing learning materials enshrined in the Special Educational Needs and Disability Act 2002 and this may be an important driver for the considerable research around their experiences of e-learning and the considerable guidance available to educators and e-learning developers regarding designing e-learning to inclusive standards (e.g. TechDis; JISC 2010b).

The LExDis project produced under the aegis of JISC (Seale et al.2008), based on participatory mixed methods research with disabled users of e-learning in HE recommended that educational institutions should improve and increase the availability of desktop personalisation

across institutional networks so that students can log in with their own colour, font and accessibility options; that they should increase the level of provision for online materials (as this method of sharing resources is considered vital for those who cannot handle paper based materials easily; and that they should raise awareness and understanding of disabled users for all those staff concerned with implementing and using VLEs regarding accessibility issues caused by cross-course differences and inconsistencies and teaching staff's own customisation of e-learning resources.

The LexDis report also recommended increasing the level of awareness around the use of alternative formats; innovative teaching materials using interactive online applications should be welcomed but alternatives may need to be on offer that can provide a similar learning outcome since even the commonly used formats such as PDFs and PowerPoints can also cause problems if they cannot be read on the screen with speech output or accessed via the keyboard (as opposed to mouse only navigation). The authors of the LEXDis report encourage educational institutions to recognise the digital literacy¹¹ skills that many disabled students have and build on these by providing more opportunities for improved learning outcomes through an increased choice of multimedia tools and resources. Seale et al.(2008:147) also add that that educational institutions:

"Should design and develop learning opportunities and support systems that recognise the significant factors that influence disabled students' use of technology, notably time: all disabled learners cite 'time' as a real issue that influences their decisions about whether to use technology and whether to seek support to use technology. 'Just-in-time' learning seems to be the most appreciated type of training. When students have a problem, is when they want to learn the solution".

The LexDis report also recognised the importance and complexity of the interaction of assistive technology used by some people with disabilities and e-learning technologies.

There is little further literature regarding e-learning and disabilities in HE – one example in FE is that of Apostoli (2005) who highlights the barriers to participation experienced by dyslexic students in the accessibility of teaching materials and gives a case study of how a college revised its teaching materials to overcome such barriers.

1.3.6 E-learning in improving the learning experience of women

Women cannot be described as non-traditional as they are not underrepresented in HE. However there is evidence of gender differences in experiences of, and attitudes towards, ICT and to a lesser extent, e-learning. There is also a large amount of sociological research demonstrating the distinctive experiences of women in HE including their concentration in certain disciplines (Bradley 2000). In addition, it is worth considering that while women may be in a majority overall on the undergraduate population the composition of many programmes shows a strongly gendered pattern so that women may find themselves in a small minority on certain programmes (as men may do on others). Whether the experience of e-learning is significantly structured by gender unclear but one could imagine, for example, that e-learning materials designed predominantly by and for one gender might sometimes disadvantage the other gender unless care is taken (Heemskerk et al. 2005).

The world of computing has been described as a male domain where women are under-represented, both in ICT education and the ICT industry (Craig et al. 2005). Gunn et al. (2002) suggest that women have had fewer opportunities to access computers while other studies suggest that online courses tend to favour women, who (it is claimed) are generally more

¹¹ Benfield and Francis (2008) suggest that digital literacy includes the following competencies using digital tools to reflect on and record their learning; communicating effectively online; engaging productively in relevant online communities; proficiently managing digital information, including searching for, retrieving, evaluating and citing information appropriate to their subject matter; effectively managing group interactions using multiple technologies; developing fluency and projecting their 'own voice' in online authoring and publishing

motivated, organised and better at communicating online (McSporran and Young and 2001). Alstete and Beutell (2004) argue that gender is related to students' performance and that women generally outperform men in online classes. Meyers et al. (2004) argue that there are specific gender-related issues in the use of discussions within the online learning environments which have implications for the design and moderation of such discussions.

Arbaugh (2009), found that men reported more difficulty than women interacting in an asynchronous mainly online MBA course but the sample was very small (less than 30 people). A larger study (Jackson et al. 2001), with 630 undergraduates with a mean age of 20, confirmed that men entered into online dialogue less frequently than women but were more likely to use the Internet for searching for information. Coldwell et al. (2008:6) in a study of a fully online undergraduate programme at an Australian HEI found that:

"On average, female students in the sample spent 24.47 hours in the online learning environment, with males spending an average of 20.61 hours. Similarly, females in the sample also read and posted more messages and viewed more content files than did their male counterparts. The differences between males and females found in the sample are statistically significant across all measures of participation except for the number of content files viewed".

However a study by Hoskins and Van Hooffe (2005) gave a contradictory finding – that men were much more likely to use a VLE for dialogue than were women.

Hughes (2007b) illustrates how exclusion may occur from online communities where the typical rhythm of the lives of some members are ignored. She cites the case of a woman was excluded de facto because, due to the dominance of her domestic responsibilities, the woman could only post her messages late in the evening after the discussion had finished and the other members had moved on to the next topic.

It would seem then that gender-based differences in performance and interaction in e-learning environments have been relatively well researched but there is no consensus about the nature and impact of gender in e-learning. There is some evidence that idea of uncommunicative men and communicative women are in fact simply stereotypes which do not stand up to scrutiny (e.g. Mehl et al. 2007). There is reason to believe that gender is a significant factor in how e-learning is experienced but patterns of participation are clearly not determined simply by gender.

2 Research Design, Methods, Data Collection and Data Analysis

2.1 Research design

This was a three phase study design which used mixed methods. Phase 1 consisted of scoping interviews and a literature review to inform the development of the interview schedules for focus group interviews with students and staff in phase 2. The findings from phase 2 informed the design of the online survey (phase 3) which was delivered to the entire undergraduate population (n=2,650) of the three programmes involved in the study (chemistry, management and nursing).

2.1.1 Focus group interviews (Data collection Phase 2)

Focus groups are a recognised tool for elucidating rich personal data from participants through the 'explicit use of group interaction' to produce data and insights (Morgan 1988). Respondents are able to agree or disagree and develop themes introduced by other group members during the group discussion and interaction; there is no compulsion to reach consensus and additionally no participant is required to contribute. Focus groups have been widely used as a research tool to evaluate existing programmes and to explore ideas for service development (Cronin 2001; Krueger 1994). The group situation allows for spontaneity and serendipity as ideas can 'drop out of the blue' to a greater extent than in individual interviews (Stewart & Shamdasani 1990).

The effectiveness of a focus group depends on the dynamic interaction of the group members. As described by Stewart and Shamdasani (1990), certain people within groups will be perceived as having 'expert power' by virtue of education, training or experience and others within the group will defer to their opinion. At its extreme this can inhibit the effective contribution of other group members. Participants should feel comfortable in talking to each other, as perceived differences amongst participants effects their willingness to discuss a topic together (Morgan 1988). Separate focus groups were held with staff and students; and within each discipline, there were separate focus groups for the teaching staff who were more experienced with e-learning (MEG) of staff and for the less experienced group of staff (LEG).

The themes introduced for discussion within a focus group are carefully predetermined. The sequence in which they are introduced may follow the order of the focus group topic guide but may be discussed out of sequence if this is the natural flow of conversation within the group. Subsequent to the literature review and scoping interviews, interview questions were generated and broad themes were developed for further exploration during the interview process. An interview guide was developed for use during both the student and staff focus group interviews; the topics formed the basis for the subsequent analysis of the data.

2.1.2 Sampling/recruitment traditional and non-traditional student focus groups

The first round of focus groups with students were structured by programme and non-traditional characteristics. Specifically it was planned to hold four focus groups in each of the three disciplines. These were to be for mature students, SNTQs, students from lower SEG backgrounds and one for traditional students. This would have made a total of 12 focus groups. However assessment of university planning data from which samples for the focus groups were drawn showed that SNTQs were not found outside of nursing (apart from one in chemistry) so that SNTQ focus groups for chemistry and management had to be abandoned. Invitations were sent out to the remaining 10 focus groups via their university email accounts, having sampled students by the relevant non-traditional criteria using university planning data. The large

numbers of undergraduate students identified from the university planning data (2,650) meant that large numbers could potentially be invited to each focus group. Around 100 students were invited to each group and financial incentives (£10) were also used as low participation was anticipated (based on other research projects with students which the authors had been involved in). However even the large number of invitees and the financial incentives proved insufficient and seven focus groups were abandoned due to no students turning up; three focus groups went ahead (although one had only one participant so it was an interview rather than a focus group).

As a response to the low participation a second round of focus groups was organised and structured on much simpler lines; one focus group for mature students from all programmes and one students from lower SEG backgrounds from all programmes. This allowed a much larger number of potential recruits (around 200 were invited to each group) and the incentive was doubled to £20¹². This allowed a further two focus groups to be held involving eight student participants (six traditional in one group and two non-traditional in another). The total number of participants from all student focus groups was 12, five of whom (42%) were non-traditional on at least one criteria. All student participants were from chemistry or management programmes; no nursing students participated. The structure of the focus groups is shown in Table 1 below.

Table 1: Summary of student focus groups held

R1 or R2 (first or second round of FGS)	Focus group identifier	Numbers attending	Characteristics of participants	Sampling criteria
1	A	1	1 mature, female middle/higher SEG background; over 21 years old	Non-traditional (mature) management students
1	B	2	2 Female; under 21 years old lower SEG background	Non-traditional (lower SEG background) chemistry students
1	C	1	1 Male; under 21 years old middle/higher SEG background	Traditional students - chemistry
2	D	6	2 male, 4 female; all under 21 years old middle/higher SEG background	Traditional students - all programmes
2	E	2	1 male, 1 female; both lower SEG background	Non-traditional students (lower SEG background) - all programmes
Total		12 (5 of whom, 42%, were non-traditional)		

¹² This amendment to the research design was approved by the University Ethics Committee.

2.1.3 Sampling/recruitment staff focus groups

Sampling frames for staff focus groups were established on a convenience basis and using informal knowledge and contacts built up by the authors and staff in the Centre for Educational and Academic Development (CEAD) through their work in developing e-learning across the university.

Focus group invitations and information sheets about the study were emailed to teaching staff from the three programmes inviting them to participate in a focus group. Four teaching staff focus groups with 12 participants were held.

Table 2 Summary of Staff focus groups (held and planned)

Sampling criteria (MEG = more experienced with e-learning group, LEG = less experienced with e-learning group)	Number in each focus group
Chemistry (more experienced group 'MEG')	2
Chemistry (less experienced group 'LEG')	No attendance – focus group abandoned
Nursing (more experienced group 'MEG')	3
Nursing (less experienced group 'LEG')	4
Management (more experienced group 'MEG')	3
Management (less experienced group 'LEG')	No attendance – focus group abandoned
Total focus group participants	12

2.1.4 Data analysis

The focus groups and semi-structured interviews were carried out by a single moderator in each case; both researchers undertook the qualitative data analysis and shared the analysis with the research team for discussion and development. As described by Fielding & Thomas (2001), qualitative data analysis consists of systematic consideration of the data in order to identify themes and concepts.

The student interviews were transcribed verbatim by an administrative assistant and the transcripts were coded thematically using ATLAS t.i v 5 software and the list of codes was then refined (deleting or merging duplicate codes or redundant categories) and finally arranged into hierarchical relationships with the aim of clearly identifying the key themes in the data. A visual representation of the coding structure is given in Chart 1. Using the same theoretical approach to analysis as for the student data, i.e. thematic analysis, the staff focus groups were analysed using manual coding following Morse (1994).

Where extracts from focus groups are reproduced in this report, the symbol '....' indicates material edited out to preserve confidentiality, [] indicates explanatory material included, bold typeface denotes the moderator's speech. The researchers systematically analysed the data; broad emerging themes were identified before subsequent coding. Thematically similar segments of text both within and between interviews were then identified. Consideration was given to the internal consistency of responses, the frequency and extensiveness of participants' responses and also the specificity of responses.

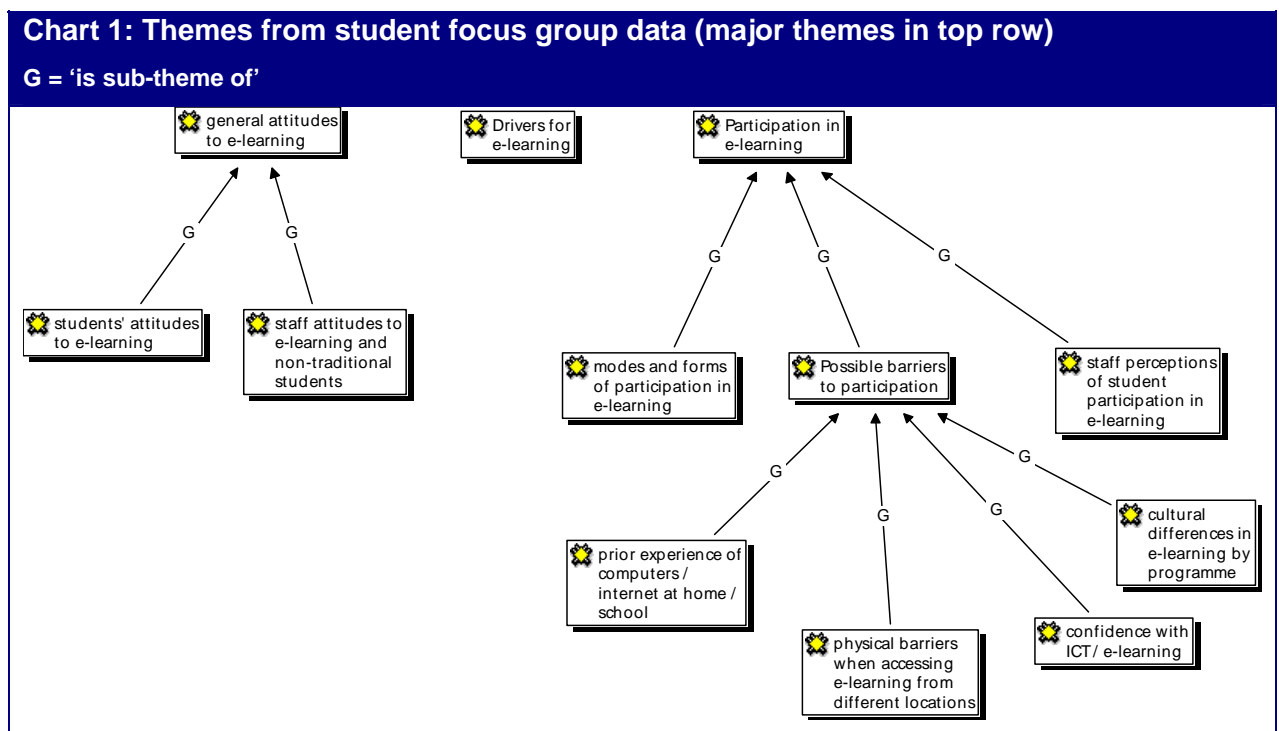
Participants quotes are used to illustrate data findings, particular relationships or themes or are representative of general discussion unless noted not to be.

2.2 Qualitative data – findings from staff and students

The findings from the student and staff focus groups are presented together and a summary from both findings given in the conclusion of this chapter. Three themes were derived from the qualitative data:

- attitudes to e-learning
- drivers for e-learning
- participation in e-learning

These themes have a number of sub-themes which are described below in Chart 1 and in corresponding section headings in the text.



2.2.1 General attitudes to e-learning

Traditional and non-traditional students seemed generally positive towards e-learning and recognised many benefits from it. There were two main sub-themes to 'general attitudes to e-learning': 'students' views of e-learning' and 'staff attitudes to e-learning and non-traditional students'.

2.2.1.1 Students' attitudes to e-learning

Some of the main benefits of e-learning identified included convenience, flexibility, variety and improving ICT skills as shown in these two extracts; the first is from a non-traditional student and the second is from a traditional student:

"The accessibility issue I think is key and just being able to give students the opportunity to learn in different ways". (Non-traditional student (lower SEG background) FG E)

“M: we had a group coursework [which] was to create an online Wiki and we had to do a lot of research going into creating a share portfolio and again, that was a really interesting way of conducting it I felt, because its different than writing a report up, it was, it kind of went with the territory because obviously share prices change everyday and so to reflect that you were having to constantly update your portfolio and explain why you’d chosen certain things and you were marked not just on the actual mathematics of it and the finance element but how it was presented and things like that, so it was giving you other skills as well”. (Traditional student, management, FG D)

Some negative views were also expressed about e-learning and these focused on issues such as technical glitches with ULearn or not liking the interface, the perception that e-learning could be impersonal or repetitive and the desire to have more face to face contact time with fellow students or teachers. On the whole it did not seem that e-learning was a major concern for students; they seemed reasonably happy with the e-learning offered. A demand for more e-learning was not apparent but students did want e-learning of good quality which complemented face to face learning and which offered them more choice or flexibility in how they study.

“So just kind of complement what you’ve already learnt almost, to run like parallel with, because then you have the choice, you can learn how you want to learn if you know, because people learn in different ways”. (Non-traditional student (mature) management, FG A)

2.2.1.2 Staff attitudes to e-learning and non-traditional students

As we have described, staff knowledge and experience of e-learning varied considerably as did their attitudes to e-learning. Some staff described e-learning as “cold and impersonal” (nursing MEG), having “no interaction” (nursing LEG) and being a “lonely option” (nursing LEG); this went across the chemistry MEG and nursing LEG staff groups where participants tended to feel that learning should focus on interacting face to face with students.

“When they’re in practice environment... is to physically interact with people and my concern is that more we associate them with [E]learning and... I do worry you lose physical interactive skills or that we as tutors are unable to monitor the physical interactive ability of those people”. (Staff: nursing LEG)

“So the negative aspects to it, you’re not having the personal approach and with NSS¹³ scores, students give higher NSS scores if they’re having personal praise from lecturer. If they see their lecturer, they talk to them and if they’re able to ask questions”. (Staff: chemistry MEG)

Yet it was also clear from the nursing MEG focus group that students did interact with each other and with their lecturers, when using ULearn:

¹³ The Annual National Student Survey assessing U.K. HEI student satisfaction on a wide variety of dimensions.

"I probably get 2 emails a day from one student or another telling me how they've done and obviously I hear about the ones who haven't done very well. ...I assumed if they were going off and doing it on their own and I think most of the capable ones certainly do that but then I've found students who aren't coping that they often seek out those who they know have done it. So I'll get an email or phone-call from somebody who is struggling, they'll say that they met up with student X who tried to help them...they have worked in pairs and such to get the work done and to explain to each other how they're getting on." (Staff: nursing MEG)

One area where there was agreement across the staff groups was around monitoring of students working online. While the expectation among staff was that students would use e-learning flexibly, their experience often contradicted these expectations. This perception was apparent across the staff groups and seemed to indicate a tension for staff between allowing flexibility in where students learn and concerns about the quality of study time or work produced off campus.

"One of the advantages of e-learning is that it's really transportable isn't it? So they're not stuck to a classroom. There might be a disadvantage, they might be watching TV when they're doing it on their laptop wherever, they may have kids running around." (Staff: nursing MEG)

M: You get the issue of plagiarism as well which can be a problem.

F: But that can be monitored with the technology as well". (Staff: chemistry MEG)

And in the management group, experience of monitoring students' use of the staff's carefully made podcasts had led the lecturer concerned to question whether there really was demand for flexibility in terms of when and where students learn:

"I produced a video podcast which I made so they could download them to their i-phone ... but nobody did and the only person that did on my survey said he did it because he could...they said my ipod doesn't work ...or neither of them wanted to listen to work on the bus orI don't want to listen to a summary of a lecture on my way into town to go shopping...it [e-learning] doesn't take account of their social lives and how they want to incorporate this stuff". (Staff: management MEG)

However, this anecdote could equally be seen as illustrating the need to consult students in advance about what e-learning they want and ensuring that they are active participants in the design of e-learning.

2.2.2 Drivers for e-learning

The driver for e-learning which staff identified most readily was students' familiarity with technology and e-learning prior to arriving at university. Some staff felt that students' experiences of learning included e-learning prior to university and that these experiences had shaped the provision of teaching and learning in the university sector. These prior experiences

of ICT and e-learning were not always without their problems when it came to learning at university however.

“I may feel naïve about all this [e-learning] but they are native to it”. (Staff: nursing MEG)

So familiar were the students perceived to be with e-learning, that the chemistry staff participants described students using Facebook instead of ULearn as their preferred method of e-learning.

“They’ve been using it before they come to university so they’re up on it, they’d probably not want to switch to something like ULearn”. (Staff: chemistry MEG)

These extracts epitomise a tendency on the part of some staff to assume that their students are typically ‘digital natives’; arriving at university with a high level of ICT skills and ready to use technology as an integral part of their learning.

One member of staff was sceptical about the use of Facebook for learning purposes and also highlighted the problem (from a staff perspective) that staff might not have access to (for instance) a Facebook group based around a particular module because access is only granted at the students’ discretion.

“My 300 numbers on the second year degree, group assignments go through 60 groups on ULearn and only 32 of them engaged with ULearn. The others were talking through Facebook and other ways, so invisible to me. They weren’t e-learning, they were e-chatting and I wasn’t impacting”. (Staff: management MEG)

While only the nursing tutors mentioned that they felt less familiar with e-learning than their students, one management lecturer said the level of knowledge about how students learn generally was very poor:

“I think in many ways we’re very ignorant of how students learn”. (Staff: management MEG)

Across the staff focus groups, e-learning was perceived as offering a more flexible approach to learning and teaching in the context of reduced staff levels.,

“Gains in efficiency & flexibility of provision”. (Staff: management MEG)

But in the nursing LEG focus group, tutors felt e-learning opened up modes of learning which they felt unable to provide:

“E-learning offered the students an awful lot of opportunities...we couldn’t actually meet because we didn’t have the manpower to do it”. (Staff: nursing LEG)

E-learning was perceived by staff as offering more variety on modules such as allowing the participation of guest lecturers or researchers, using video or podcasts, to introduce novelty. It was also felt that personal contact could be maintained despite the use of e-learning and large groups,

“I’m always saying you can use technology in a way that can be beneficial for a student so they can have contact...even the questions and answers, the student can email or

message and then if it's relevant to entire group it can be passed around, which you're weren't using technology [sharing questions] would be more difficult". (Staff: chemistry MEG)

E-learning was also understood to offer shared and active learning for students,

"It can facilitate shared learning, group work, in terms of the more confident students with computers can sometimes help the less confident". (Staff: nursing MEG)

Staff did make a link between e-learning and non-traditional students in the sense that e-learning could facilitate different styles of learning and this appeared to be particularly important in disciplines where teaching large cohorts of students with culturally diverse learning styles could be difficult for lecturers to manage:

"Some of our students are Chinese and not particularly keen at putting their hands up...some of our lectures are quite long, lengthy, 3 hours, it's pretty tiring for delivery and the recipient...so time to break with some questions [using voting system & handset] so you can step back on response to those and so they can get a non-threatening... you can feel for how they're doing...". (Staff: management MEG)

However, the data from the focus groups did not support the view that WP is a driver for e-learning. While there was some awareness amongst staff that e-learning might be advantageous to non-traditional students in certain circumstances they rarely made explicit connections between e-learning and non-traditional students or WP and there were no instances of particular e-learning activities being introduced or adapted in any way for the particular benefit of non-traditional students.

2.2.3 Participation

Participation in e-learning is key to the successful implementation and embedding of e-learning within learning and teaching – students cannot benefit from e-learning if they do not use it, do not use it very often, or only use it in limited ways. There were two sub-themes under the theme of participation and four secondary sub-themes.

Table 3: Summary of themes and sub themes re participation in e-learning (see also Chart. 1)

Major theme	Sub theme	Secondary sub-theme
Participation	Modes and forms of participation in e-learning	
	Possible barriers to participation in e-learning	<ul style="list-style-type: none"> • Prior experience with ICT/e-learning • Physical barriers/accessing e-learning from different locations • Confidence with ICT/e-learning • Cultural differences in e-learning by programme
	Staff perceptions of student participation in e-learning	

2.2.3.1 Modes and forms of participation in e-learning

Modes of participation in e-learning which were mentioned in the staff and student focus groups included downloading lecture notes and materials, webcasts and webinars, e-portfolios (Pebble Pad), electronic voting, live (synchronous) chat and asynchronous discussion boards and the use of social media websites (e.g. Facebook) or platforms outside ULearn but within the University (e.g. Chemistry Society websites).

Discussion boards

Discussion boards seemed to be the most frequently discussed way of participating in e-learning. Both traditional and non-traditional students were generally in favour of anonymity when contributing to online discussions:

"I would be hesitant if it was, you know, if literally all of my course mates could see what I had written." (Non-traditional student (lower SEG background, chemistry)

Students wanted teachers to be clear in their instructions about how to use the discussion boards, to reply within a reasonable period of time to student postings and to be consistent in their use of e-learning.

"I like e-learning, the discussion element where you can ask questions and people choose to reply; the only problem I find with that is that like a lot some lecturers aren't on board with it". All programmes (non-traditional students (lower SEG background) FG E

One mature student made it clear that she did not find discussion boards useful and would be unlikely to participate in them unless they were linked to assessment.

"Because I know like most of my modules they all have obviously the discussion board, I don't take part in those ones, don't see the point in them ones (laughs), because they're not being marked or anything so I don't really see the point in wasting my time and doing a discussion". (Non-traditional students (mature) FG A)

Social media sites

The use of social media sites for studying across the chemistry and management programmes (e.g. Facebook) seemed to be quite common:

'...did you ever just email somebody or make a post or whatever and say 'could somebody give me a link to something useful on this'?

"Yeah, I did do that with the last semester with a module, I said 'I'm stuck on this bit' and one of my friends was like 'you're supposed to go on this website' and I was like 'yes!', I got completely, I got completely confused about where to get this certain piece of information from and my friend, she just said, she go, posted the link on my wall¹⁴ and said 'go to this site here and it gives you all information that you need', which was

¹⁴ The participant is referring to the 'wall' feature on Facebook where messages for a particular person or group can be posted.

really helpful, I mean it meant that I could actually finish the course off" (Traditional students, chemistry, FG C)

Feedback and assessment online

Receiving feedback through ULearn and/or online was generally popular and some students saw that feedback given in this way had advantages over traditional forms of feedback as it could be more personalised, more legible and easily stored for the students' reference. This is illustrated in the following quote:

"I think, ULearn is useful for that because in our HR module that we've just had, we each had to submit an essay plan for our assignment via ULearn and then we each got quite a big module, probably 200 people on it or something, and we each got an individual page of feedback." (Traditional student FG D)

There were some examples of assessment online (for example in the use of MCQs) or being required to take part in a discussion activity) and students generally seemed positive about this. There were mixed views on whether e-learning was something that was primarily done alone or with others - probably because this depends on the nature of the activity; students may prefer to do MCQs on their own but clearly use and enjoy collaborative e-learning whether formally (through a discussion board on ULearn) or informally (through Facebook, email or texting).

Most students were positive about all the forms of e-learning referred to with the exception of Pebble Pad which attracted several negative comments. Analysis of the qualitative data did not reveal any discernible differences between traditional and non-traditional students from the in their attitudes to different modes and forms of e-learning.

Staff modes of participation

There was a variety of experience in the staff focus groups (even though focus groups were structured into more and less experienced groups) and this confirmed the students' observations that lecturers had widely varying levels of engagement with e-learning. Some used ULearn to post lecture notes, or as a repository of resources with some use of podcasts, others had customised ULearn to include personalised feedback. Adapting to e-learning had been a challenge for them personally,

"I've got a big learning curve to go through!" (Staff: nursing LEG)

Students were aware that e-learning was being embedded within programmes and to some extent that teaching staff who did not engage with e-learning were considered problematic :

"A lot more people have started, a lot more of the lecturers have started to put their notes online which is helpful. Some of them still don't which is irritating when half of them do and half of them don't – it's annoying sometimes". (Non-traditional student (lower SEG background), chemistry)

The nursing group felt that their engagement with e-learning was variable and often at a basic level. They felt that nursing staff were not adopting e-learning and in one case were not sure of the university strategy on e-learning,

“Certainly quite a few of the midwifery lecturers who wouldn’t have a clue and still using acetates¹⁵ one of them...which makes my eyes roll”. (Staff: nursing MEG)

“We’ve been contacted about having to...they want us to upload all of our lecture notes...and put it onto ULearn...I’m not sure if it’s a pilot or...” (Staff: nursing LEG)

“Would never have gone on it if I wasn’t involved in teaching a module that did it”. (Staff: nursing LEG)

Clearly, for many staff, ICT skills were at a very basic level:

“The concept of a computer and I don’t like computers”. (Staff: nursing LEG)

E-learning was a challenge for staff to engage with not least because of the perception that facilitating modules using ULearn meant investing more time than normal combined with a perceived lack of institutional support for e-learning:

“There’s no clear divisional time or support to encourage you”. (Staff nursing LEG)

“a colleague who’s used voting stuffit’s a bit of fun and interactive but at the same time she said she’d never again would she do it because of the time it took to get it up and then the IT problems they had with it”. (Staff: nursing LEG)

2.2.3.2 Possible barriers to participation in e-learning

A number of other potential barriers to participation in e-learning were discussed in the focus groups; they included physical access to computers and internet, prior experience with ICT and e-learning at school and the availability of computers and the Internet at home when growing up. Some interesting differences emerged between non-traditional students and traditional students although these were subtle and findings can only be generalised with extreme caution given the small and somewhat unrepresentative sample of students in the focus groups.

Prior experience with ICT and e-learning at school and at home

Only one mature student (aged 21) participated in a student focus group. Therefore both traditional and non-traditional students participating in the focus groups had completed school (particularly the middle or later stages of secondary school) at a time when ICT, and to some extent e-learning, had become relatively well established aspects of teaching and learning. The experiences of older mature students are likely to be quite different but we do not have any data on these from the focus groups (their perspective is more adequately captured in the survey data though).

All students reported that they had considerable experience with ICT at school or college, and arrived at university with at least basic ICT skills, such as competency in the major MS Office application (Word and Excel), navigating the Internet and carrying out online searches. This extract from traditional students confirms some experience of ICT at school and at home and views like this were commonly expressed by students:

‘...did you use computers and the Internet at school?’

¹⁵ A basic form of slide used with overhead projectors.

All: Yeah.

And would you say that it was a big part of your schooling?

All: Yeah.

F: *for me, I don't have a laptop, we have like a home computer, but to be honest didn't really use the Internet that regular[ly] because our school work for sixth form really wasn't about that, it was more text based wasn't it, like now you're needing the Internet for online journals and stuff but for me anyway in my school like a little bit for research but not as much as you use at Uni, I go on it everyday here". (Traditional students, FG D)*

Most of the non-traditional students had also had experience of computers and the Internet at home and at school. For instance, this mature student:

'...could I ask you, did you have a computer and internet access at home when you were growing up?

"Yes".

'And what about school, was there probably quite a lot of computer use I would imagine?'

"Yeah, I think, I think the Internet really kicked in when I was just about to do my GCSEs so it all really went on line after that"

'So you, you had to use computers a lot in relation to study'.

"Yes"

(Non-traditional student (mature) management student, FG A)

This student had been in full-time paid employment prior to starting her programme, in a post requiring good ICT skills. It is possible that mature students may regain ground lost in schooldays through experience in the workplace. However the prior experience of non-traditional students with computers and the Internet was clearly somewhat more uneven than that of the traditional students. One non-traditional chemistry student had had limited exposure to ICT and computers at school and at home; which she clearly linked to her lack of participation in e-learning:

'So in fact you've both had computers and the Internet at school and college'.

"Yeah, but I'd only be using them in an IT lesson which would be like an hour a week, so that's why I'd never used the ULearn stuff, I've probably never emailed anyone until I came to Uni"¹⁶.

'So it's really quite restricted then for just specific IT'.

"I mean I know for a fact like you've just said, that you'd go on and test yourself on online stuff, well I know that's available because we got told about it but I never knew how it worked so I never used it, so, its until I came to university that I've actually used things like that".

¹⁶ Authors' underlining.

(Non-traditional student (lower SEG background) chemistry FG 2)

One student from a lower SEG background explained that she did not get access to a computer at home until she was 16 or 17 years old and had to financially contribute to that herself;

'And did you have access to a computer at home for most of your school age'.

"..I didn't until I was um I think 16 or 17 and I paid for half of the computer myself because my mum and dad don't can't use the Internet or anything now so they had no need for it so with like".

(Non-traditional student (lower SEG background) FG E)

Notwithstanding the limitations of the small sample there did seem to be a clear difference between non-traditional students and traditional students on the issue of access to ICT and e-learning when growing up, with non-traditional students having had later and/or less access both at home and at school. However, these students did not appear to believe that the level of access to ICT and e-learning at home or at school had disadvantaged them in any way and they felt fairly confident about their ICT skills and using e-learning.

Accessing e-learning from different locations /physical access to equipment

Both traditional and non-traditional students reported owning their own laptops or PCs and all either lived on campus (where they could access RESNET, the ultra high speed internet access provided free by the university) or in privately rented shared accommodation where they shared the costs of a broadband package. Sharing the costs of the latter made it relatively cheap, while prices of PCs and laptops have fallen steeply in recent years. No student reported not being able to afford either a computer or internet access in their term time home.

The preferred locations for e-learning seemed to be from home (i.e. wherever the student lives during term time) although students did note that to some extent this depended on the nature of the work.

'Just thinking for a moment about where you access e-learning, would you have a preference for you know, doing e-learning on campus or at home or somewhere else or would it just depend on what it is that you're doing?'

"Yeah, I think it depends, if I'm doing coursework or whatever I'll use it at home when I'm writing things out just to access the notes and things like that, to cross reference things, and also generally they put the coursework up online as well, so instead of me having to try and get hold of a copy I can just bring it up on the computer and it's there, I don't have to print out loads of pieces of paper" (Traditional student, chemistry, FG C)

There were no apparent differences between traditional students and non-traditional students in terms of preferences for locations for accessing e-learning.

Accessing e-learning from parental home during holidays

Internet access at the parental home for three non-traditional students was problematic to some extent or had only just been resolved. One student mentioned that her parents had connected to the Internet very recently until which time, when she returned home in the holidays, she had had to use a local library for internet access. Another said that there was one computer connected to the Internet in his parental home and that there was often competition to use it with other members of the family. A third student said that:

'My parents don't have internet at home now so they've stopped it because I'm obviously not there and so when I do go home I find it really difficult because I don't have access to the Internet obviously I can go to the library but I live in a village with no train station and I haven't got a car at [the] moment and things like that so I actually find it really difficult when I'm at home so I don't know if I wanted to do my coursework and I wanted to access the journals for example I find that really difficult so sometimes it's being aware that some people don't have access to it at home and it might be a minority but then they still exist so I don't have a theory on that at all really but it is just something to think about that not everyone has access at home". (Non-traditional student (lower SEG background), FG D)

This student owned her own laptop but was evidently inconvenienced, if not disadvantaged, by her lack of internet access and clearly this was a barrier to participation in e-learning.

Accessing e-learning from campus

Analysis of the qualitative data suggested that most students seemed satisfied with computer and internet access on campus at libraries and in departments. One student mentioned that she wished to use facilities on campus so that they could use their free printing allowance rather than print off large documents at home where she would have to pay her own printing costs. In chemistry there is some e-learning software (for constructing and manipulating models of molecules) which is mainly or exclusively available on Departmental computers only (rather than online). This might potentially create a disadvantage for those living off campus but this did not appear to be a major problem for any of the focus group participants.

Accessing e-learning from home (off campus)

Those students not living on campus or at the parental home during term time are generally living in privately rented shared accommodation. Most of those in this situation who participated in the focus groups did not report any problems with access to the Internet and a shared broadband connection seemed adequate for accessing the Internet (and therefore e-learning) whilst increasing affordability of that access.

Accessing e-learning from placements

No problems were reported in relation to accessing e-learning from placements for chemistry or management students. It is likely that if any nursing students had participated in the focus groups, they would have reported difficulties as we know from the literature (O'Driscoll et al. 2007), and the staff focus group data in this study, that there are many barriers to accessing e-learning from clinical placements in the NHS and privately owned care homes. Staff in the nursing focus group (MEG) understood that access to e-learning for nursing students was difficult due to the long shifts while working in placement; the lack of ICT facilities in different forms of accommodation and the consequent lack of internet access:

"They don't have IT facilities while they're on campus that's available to them but a lot of them living out even in accommodation in hospitals don't have IT facilities and certainly a large number of them live in private accommodation don't have the internet. They're working very long shifts in placements, they don't have the time to go back to the hospital library to use the IT facilities". (Staff: nursing MEG)

A further barrier to the nursing students' access to e-learning on placement was that:

“Several of the (NHS) trusts have put in firewalls¹⁷ and such robustness that the students were actually unable to access the university websites [from the NHS]”. (Staff: nursing LEG)

Current level of skills and confidence with ICT/e-learning and views on support (experienced or needed)

Traditional students seemed to be very confident with ICT and with using ICT for e-learning as shown in this interview extract with one traditional student:

‘Okay. As far as the e-learning aspect in particular of IT, did you feel confident using those?’

“Yes, I mean when we first started in chemistry I think, we got introduced to the website, the lecture note website quite quickly so we could go on there and get the information off their and its set out in a way that’s its quite easy to find what you need for each course”. (Traditional student, chemistry FG C)

Traditional students did not feel that they needed any additional support in relation to either ICT skills or e-learning, with the possible exception of support in library skills/using online journals. Non-traditional students also seemed quite confident with ICT and e-learning although there was a sense that some had only achieved this through a ‘catching up’ process after starting university. They did not explicitly identify a need for more support with either ICT or e-learning. There was one reference to a perceived assumption by the university that all students have a reasonable level of ICT skills and that there was no obvious source of further support in ICT or e-learning, other than large sessions where there was little opportunity to ask questions.

“Yeah, I think we sat in a lecture room, I think there was 400 of us and he just went through on the screen and clicked buttons and we all just watched, so then everybody then went home and had their own little play around”.

‘And did you think that was enough?’

“Yeah, I think so, but then I didn’t have any problems with it, but I guess if you did have problems there wasn’t really anyone that you could then ask. Because it was done in a massive lecture with 400 people, and obviously no-one has got computers on them, so when they go home and practice”

‘Yeah, that’s what I was thinking’

“And you’ve got no-one to turn to”. (Non-traditional student, (Mature), management, FG A)

Nursing staff focus group data suggest that staff perceive nursing students, (the majority of whom are mature), to lack confidence in using ICT and accessing e-learning. Nursing teachers perceived that nursing students' had different needs in relation to e-learning compared to other students as they had much greater demands on their time from family, relationships or

¹⁷ A firewall is part of a computer system or network that is designed to block unauthorised inward or outward access: e.g. internet access may be restricted to certain websites designated by the organisation. In this case the NHS Trust’s firewall had apparently not been set to allow access to the University of Surrey/ULearn.

marriages. Domestic responsibilities of mature students were perceived by both management and nursing focus group participants as affecting mature students' availability to study.

"Another mature student (mother) said 'all that stuff on ULearn was brilliant because I never get a chance to do anything at uni after 4pm". (Management MEG)

"Single mother I'm supervising she says 'Only ever get to ULearn when I'm in [uni]' – no internet connection at home". (Staff: management MEG)

"Part-time diploma students are time poor, if I can't do it at lunchtime at the hospital on the hospital computer I can't do it". (Staff: nursing MEG)

"They have to cram in either evening or weekend and work on top of their five days plus". (Staff: management MEG)

Having responsibilities at home meant that there was sometimes a resistance to learning outside university which was another challenge for staff:

"The most testing cohort I've had was a group doing their nursing diploma part time ... and their attitude was 'I'm a part timer, I do my ten to four, I then collect my children, I go home and I do nothing else. I certainly don't have time to sit this paper even though it's online!". (Staff: nursing MEG)

Staff felt that mature students such as these needed ICT skills and computer literacy because they had been out of education for a long time. Such students needed support but so did their mentors in the clinical areas:

"From the qualified nurses, quite a challenge I found because if a student needed to have a facilitator on ULearn, always that's a challenge for both student and staff". (Staff: nursing MEG)

Despite the fewer numbers of non-traditional students in management, some lecturers indicated that they were familiar with teaching non-traditional students, (by which they generally meant mature students), and felt that:

"Mature students are proactive in management in seeking support". (Staff: management MEG)

"Mature students have far higher level of motivation skills and awareness than the traditional student". (Staff: management MEG)

Chemistry and management staff perceived that lecturers' limited knowledge of who might be non-traditional among their teaching groups was a limiting factor to the help that teaching staff could provide. They said that they could not identify non-traditional students through

demographic data because it was not accessible to them. The only way of judging whether a student in a large class was non-traditional was by their appearance:

“Yes there are a few Mrs¹⁸ on these levels so yes...but it’s only a handful....fingers of two hands maybe at most would be my perception”. (Staff: management MEG)

“I mean it’s obvious if you’ve got a student who’s mature but it’s not necessarily, you certainly can’t tell if a student is lower(class)...”. (Staff: chemistry MEG)

As a result of their experiences in teaching non-traditional students, tutors perceived that these students required certain skills to use e-learning:

“So I think we would have got the flexibility of timing is certainly useful for them, but I agree with what (colleague’s name) was saying earlier about the fact that the biggest problem with the student having the IT ability to do it and the confidence, I think sometimes you can do the basics but its when you get stuck at home that it all falls apart and there isn’t the support therefore.

Well that is interesting because yeah, the working at home is the advantage to those in some cases so, but then if you’re at home how do you access the support if you get stuck.

“Pre registration students, they, when they initially register onto the programme they do have initial problems trying to access ULearn, once they’re over that hurdle they think that its brilliant and then their expectations are everything will come to ULearn, but no it doesn’t.....and at once they’re at home and connected at home its not really an issue.” (Staff: nursing LEG)

Cultures of e-learning across programmes

Clearly, to a large extent, students will only participate in the e-learning which is provided by their programme and which they are encouraged to use. It was evident that there were different ‘cultures’ across programme areas regarding e-learning. In management e-learning seemed to have become an integral part of learning and teaching whereas in chemistry there were very few examples of e-learning being used apart from the molecule modelling software and the chemistry departments’ own microsite, which incorporates some e-learning (such as lecture notes and associated materials), and which was mentioned favourably by several students:

‘Sure, okay. Can you think of any general advantages or disadvantages of e-learning as compared to traditional face to face learning?’

“I mean in chemistry it’s useful that we’ve got our own website which has all the notes on it and things like that, so if you miss a lecturer or you want to use it for other things, all the information is there”. (Traditional student, chemistry, FG C)

¹⁸ ‘Mrs’ referred to students who were married women and therefore in the lecturers’ eyes, non-traditional. Married men were not identifiable in this way.

No nursing students participated in the focus groups but in the nursing staff focus groups, both MEG and LEG participants gave an idea of the considerable amount of e-learning occurring in nursing, though perhaps it would be fair to say that it was not yet as integrated into teaching and learning as in management (see below). Students were to some extent aware of these differences both within programmes and between modules as the following extract shows,

"I think in management there is quite a lot already of e-learningI do feel like I say if the staff were more on board with it and again you were anonymous with that as well I think that would definitely increase other people's use of it. But I do think management do quite a lot to be fair". (Non-traditional student (lower SEG background) FG E)

"And each faculty does it differently and kind of management is clearly well ahead of FHMS in terms of e-learning". (Non-traditional student (lower SEG background) FG E)

Students were also aware of staff attitudes to e-learning and especially their competence in relation to it. Students made some references to teaching staff as either not interested in e-learning or lacking the necessary technical knowledge to create or manage e-learning effectively. It would not be surprising if student attitudes to e-learning were to some extent shaped by their perceptions of staff attitudes/ competencies in relation to e-learning.

2.2.3.3 Staff perceptions of student participation in e-learning

Staff made some positive statements about the value of e-learning yet very few of the participants had completed formal evaluations apart from two lecturers in management. One member of staff described a (perhaps) excessively innovative teaching session:

"I went on a course last year and there was a brilliant session I signed up for ULearn that group if you like option, they'd done some research on...having a web 2.0 classroom so not only e-learning and distance learning, whether that's campus based, out in the classroom or distance learning they had a web ...classroom where you had a one projector up which was a social network tool so you were twittering effectively, anyone could post anything, then you had the lecturer lecturing but because people then put their hand up and asked questions, the questions would come via the screen, now they were either up publicly or they were...by the lecturer, the lecturer was talking and then go 'okay a really nice question has been raised here, I'll just go back a bit', most of what happened was chaos". (Staff: Management, MEG).

This member of staff explained that her evaluation found that:

"... students hated it as well (laughs) they hated it and they felt it was contrived and it was like trying to fit them into, like (teacher's name) said you know, the university has tried to be all clever and show off and it just, why don't you give us a lecture for (expletive deleted) sake". (Staff: management MEG)

However one might again see this not as a rejection of e-learning by students but rather an example of students being inadequately consulted or involved in the design of the e-learning

which seemed technologically, rather than pedagogically driven. Few staff seemed to have considered the possibility of involving students as active participants in the design of e-learning activities.

The quote above illustrating how a lecturer in management had realised, after asking his students, that his podcasts were not being utilised had led to a sense of frustration. A conversation developed in the management focus group about where students learned and the differences in perceptions about learning held by lecturers and students:

“All that lovely stuff which is about a temporal dimension to learning where it’s assumed that the properties of the technology, it’s entirely deterministic; it doesn’t take into account their social lives and how they want to incorporate this stuff [e-learning]”

“We academics see ULearn as this wonderful environment where learning can take place and automatically assume that students will be doing the same and we build our teaching strategies around that and get frustrated when part of the group...”

“Don’t use it”

“Don’t use it and no-one downloads our podcasts”

“They watch them on their computers”. (Staff: management MEG)

Some staff sensed that initial interest in ULearn often petered out:

“I have used forums, discussion forums for students, and what I found was that initially they asked quite a few questions which I answered and then all the other students could see it was a good thing rather than doing it by email. But it eventually petered out because there are no marks attached and students are kind of obsessed but only doing things that they get accredited for”. (Staff: chemistry MEG)

And this lack of enthusiasm was because, in the eyes of some lecturers:

“We probably see the students incorrectly in that we think they want to learn whereas they don’t really want to learn, the vast majority of them, they just want degrees at the end of the day”. (Staff: chemistry MEG)

2.3 Online survey of students

2.3.1 Methods

2,650 undergraduate students (the entire population) in nursing, chemistry and management were identified from central planning data held by the University and this formed the sampling

frame. Due to the low cost of online surveys and because a low response rate was anticipated, all students in the sampling frame were invited to participate in an online survey, via their university email addresses, in June 2010. In this survey, because all on the sampling frame were sampled, the population and the sample are in fact the same but are referred to hereafter as 'the sample'. The final response rate was 15% (300 students completed all questions and a further 99 students partially completed the survey).

2.3.2 Respondent characteristics and possible sources of bias

Sources of bias may include missing data (e.g. on SEG background), and non-response. The fact that just three programmes were sampled is a limiting factor in generalising the findings to the whole undergraduate population. Response was skewed towards students in years one and two of their programmes (who accounted for just under three-quarters of all respondents) and in the case of nursing, 70% of respondents were in year one. Given that there may be an period of adjustment or rapid learning with respect to ICT and e-learning at the beginning of the programme (as our survey results seem to indicate; see Tables 17 and 18) first year students might be less likely to have used, or be familiar with, e-learning than students nearer the end of their programme.

Table 4: Respondents' year of programme - by programme area

Counts Break % Respondents	Base	year of course (from PD)			
		1	2	3	4
Total	399	178 45%	117 29%	60 15%	44 11%
programme area (nursing chem or management) PD					
chemistry	55	9 16%	18 33%	16 29%	12 22%
management	189	60 32%	55 29%	42 22%	32 17%
nursing	155	109 70%	44 28%	2 1%	- -

The survey sample (and the response) are heavily skewed towards females (75% of respondents are women) and again this is a potential source of bias if wanting to generalise to the whole undergraduate population.

Nonetheless, because the survey provides new knowledge in an area which is little researched, the findings should be of considerable value. At the time of writing there does not appear to be any other published survey of non-traditional students' views on e-learning where different types of non-traditional students are compared in a systematic way.

2.3.2.1 Socio-economic background

34% of respondents were from middle/higher SEG backgrounds, 23% of respondents were from lower SEG backgrounds; and SEG background was unknown for 43% of respondents¹⁹. The proportion of students from lower SEG backgrounds was considerably higher in nursing (35%) than in chemistry (22%) or management (13%).

2.3.2.2 Age/mature status

38% of respondents were mature (on the broadest definition i.e. 21 or older). The proportion of mature students was highest in nursing where they were a large majority (68%). In chemistry and management the proportion of mature students were much lower but mature students still made up a significant proportion of those programmes (20% and 15% respectively).

¹⁹ This is calculated from planning data for those who took part in the survey.

Table 5 (below) showed that the mean age at course start of students in the sample is 22.52 years and that the mean median and mode were similar in the sample and response i.e. the response is representative of the sample on the basis of age.

Table 5: age of sample and survey respondents

Source of data	Mean age at programme start	Median age at programme start	Mode age at programme start	n
sample	22.52	19	18	2,650
response	23.29	19	18	399

Table 6 below shows that due to the fairly young age profile of the sample and response, there were few older mature students in the survey (59% of mature students in the population were under 32 years of age). This may mean that differences between mature and non-mature students were underestimated in this survey.

Table 6: Age profile of mature students at programme start.

Counts Break % Respondents	Age at course start (from survey)										
	under 21	21-24	25-28	29-32	33-36	37-40	41-44	45-49	50-53	54-57	58-61
mature (SIMPLE in 2 categories) PD data re status at progstart											
mature	3 2.0%	51 34.7%	22 15.0%	11 7.5%	18 12.2%	8 5.4%	16 10.9%	10 6.8%	6 4.1%	1 0.7%	1 0.7%

2.3.2.3 Response by programme area

Table 7 : Response by programme area

Programme Area	Frequency in sample	Percentage of sample	Frequency in response	Percentage of responses	difference between proportion in sample and response	% of sample in each programme who responded
Chemistry	229	9	55	14	5	24
Management	1,290	49	189	47	-2	15
Nursing	1,131	43	155	39	-4	14
Total	2,650	100	399	100	n/a	15

Table 7 (above) shows that although there were some differences in response rate by programme (chemistry students were somewhat overrepresented in the response and nursing and management students were slightly underrepresented), response was largely in line with the sample profile in terms of programme.

Table 8: Dimension of non-traditional status by programme area (*SSR at 1% level) (Q3 * Q8, Q10, Q12)

Counts Break % Respondents	Base	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Total	399	135 34%	91 23%	173 43%	151 38%	248 62%	24 6%	326 82%	49 12%
programme area (nursing chem or management) PD									
chemistry	55	25 45%	12 22%	18 33%	8 15%	47 85%	1 2%	48 87%	6 11%
management	189	72 38%	25 13%	92 49%	37 20%	152 80%	-	164 87%	25 13%
nursing	155	38 25%	54 35%	63 41%	106 68%	49 32%	23 15%	114 74%	18 12%

Table 8 (above) shows that chemistry seemed to have the fewest non-traditional students²⁰ (22% from lower SEG backgrounds; 15% mature students and 2% (1 person) who was a SNTQ. Management has 13% of students from lower SEG backgrounds; 20% mature students and no SNTQs. Nursing has the highest proportion of non-traditional students with over a third (35%) from lower SEG backgrounds; a large majority of students who were mature (68%) as well as 15% who were SNTQs. Data in relation to SEG is problematic in that there is a large number of students for whom SEG background is unknown and the proportion of unknowns in each discipline varies considerably (33% in chemistry, 41% in nursing and 49% in management).

2.3.2.4 Non-traditional entry qualifications

For the purposes of this project three categories of qualifications were considered relevant; students entering with A Levels or equivalents, students with 'other' qualifications which were considered to be equivalent to A Level and students entering with 'non-traditional qualifications' such as GNVQ and/or GCSEs.

Only 4% of the sample and 6% of respondents (24 people) had 'non-traditional' entry qualifications (hereafter referred to as students with non-traditional qualifications, abbreviated as 'SNTQs') and all but one if these were in nursing. Even within nursing, SNTQs were a relatively small, though significant minority (15%). Valid analyses with such a small base is difficult so the focus of the survey analysis is around SEG background and mature status but the results relating to SNTQs are included.

2.3.2.5 Proportion of non-traditional students in sample, population and response

Tables 9a and 9b: Non-traditional 'profile' of sample and survey response					
Sample (Base=2,650)			Survey response (Base=399)		
Table 9a	n	%	Table 9b	n	%
a) lower SEG group background	473	17.85	a) lower SEG group background	91	22.80
b) mature	917	34.60	b) mature	151	37.80
c) number of students in a) and also in b)	195	7.36	c) number of students in a) and also in b)	42	10.50
d) Total confirmed non-traditional (mature/lower socio-economic group)	1,204	45.43	d) Total confirmed non-traditional (mature/lower socio-economic group)	200	50.12
e) Proportion of sample whose SEG background is unknown	1,342	50.64	e) Proportion of survey response whose SEG background is unknown	173	43.40
f) Estimated proportion of 'unknowns' in sample who are from a lower SEG background = 17.85	240	9.05	f) Estimated proportion of 'unknowns' in survey response who are from a lower SEG background = 22.80	39.44	9.88
			g) (=d+f) Total estimated non-traditional (mature/lower socio-economic group) in	239	59.89

²⁰ A considerable number of students are non-traditional on more than one criteria so the total number of non-traditional students per programme cannot be determined by adding these proportions together.

g (=d+f) Total estimated non-traditional (mature/lower socio-economic group) in sample	1,444	54.48	survey response		
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Leaving the small number of SNTQs on one side the proportion of non-traditional students in the sample is 45% (i.e. those who were either lower SEG background or mature). However this is of course an underestimate as there were a large number of respondents for whom SEG background is unknown (1,342 or 50.6% of the sample). We could estimate the proportion of lower SEG students in this 'unknown' group by assuming that they are similar to those for whom SEG is known; this would put the proportion of non-traditional students (as defined on criteria of mature status or being from a lower SEG) at 54%²¹.

Table 10: Shows that mature students more likely to be lower SEG background/SEG background unknown for more than half of mature students (*SSR at the 1% level)

Counts Break % Respondents		Base	SEG band (high or low) PD		
			middle and higher	lower	not known
Total		399	135 34%	91 23%	173 43%
mature (SIMPLE in 2 categories) PD data re status at progstart	mature	151	26 17%	42 28%	83 55%
	not mature	248	109 44%	49 20%	90 36%

There is a strong association between SEG background and mature/non-mature status. Just 17% of mature students were from middle/higher SEG backgrounds compared to 44% of non-mature students. It is very striking that the SEG background of 55% of mature students is unknown in the survey response) compared to just 36% of those who were non-mature. The missing data derives from gaps in the university planning dataset but missing data on SEG background is an issue across HE and is not particular to the University of Surrey.

2.3.2.6 Gender

Although gender is not a dimension of non traditionality, there is considerable evidence that female students have distinctive experiences in HE and there is some research indicating that they feel less confident with technology than their male counterparts so it is worth noting that they make up nearly three quarters of survey respondents (74%). Although females were slightly overrepresented in the response the gender imbalance mainly derives from the overrepresentation of females in the undergraduate programmes that we examined (females were 69% of all the undergraduate in these programmes and they form a majority in each of the programmes). In nursing, females were 92% of the sample and, as nursing has a large undergraduate population, this has contributed to the under representation of males in the survey.

²¹ If the SEG background of the 'unknowns' is the same as those for whom SEG background is known then 17.85% of the 1,342 'unknowns' (240) would be from a lower SEG background. If we add that 240 to the 1,204 who are already confirmed as non-traditional students we get 1,444 which, as a proportion of the total (2,650), is 54%. The figure of 54% is still be an underestimate because the 'unknowns' are more likely to be mature students and there is an association between mature students and lower SEG background. If other categories of non-traditional students were added to the calculation then the proportion of non-traditional students in the undergraduate population would certainly be well in excess of 54%. The same estimation method can be used with the survey response (Table 9b).

Table 11: Gender of respondents by programme (*SSR at 1% level)

Counts Analysis % Respondents	Total	Gender (PD)	
		female	male
Base	399	294 74%	105 26%
programme area (nursing chem or management) PD			
chemistry	55	33 60%	22 40%
management	189	119 63%	70 37%
nursing	155	142 92%	13 8%

Females form a majority of survey respondents and of the undergraduate population on each of the programmes in the study and their predominance in nursing continues.

2.3.2.7 Ethnicity of respondents by programme

Table 12 : Ethnicity of respondents by programme

Counts Analysis % Respondents	Base	programme area (nursing chem or management) PD		
		chemistry	management	nursing
Total	298	42	138	118
Ethnic origin (from survey)				
White (White British)	167 56%	26 62%	69 50%	72 61%
White (Irish)	4 1%	-	1 1%	3 3%
Other White background	38 13%	4 10%	28 20%	6 5%
Mixed (White and Black)	2 1%	-	-	2 2%
Mixed (White and Black African)	1 0%	-	-	1 1%
Other mixed background	5 2%	1 2%	1 1%	3 3%
Asian or Asian British	14 5%	3 7%	7 5%	4 3%
Indian	2 1%	-	2 1%	-
Other Asian background	13 4%	3 7%	2 1%	8 7%
Black or Black British	7 2%	1 2%	2 1%	4 3%
Caribbean	3 1%	-	-	3 3%
African	7 2%	1 2%	2 1%	4 3%
Other Black background	1 0%	-	1 1%	-
Chinese	18 6%	3 7%	13 9%	2 2%
My ethnic group is not listed here (you can write it in on the next question)	16 5%	-	10 7%	6 5%

Overall, 56% of respondents were of White British ethnicity with management having the lowest proportion in this category (50%). 'Other white backgrounds' was the next largest ethnic group and the remainder of respondents seem fairly thinly spread over the other ethnic categories (for ease of presentation categories with no respondents were omitted).

2.3.3 Findings from student survey

An summary of results for key questions are presented below. *Unless otherwise indicated results refer to 'all respondents'*; breaks by particular segments are labelled as such and 'non-traditional students' is used to refer to the three non-traditional student groups which were the focus of this project; students from lower SEG background; mature students; and SNTQs).

Tables marked '*SSR' show evidence of a statistically significant relationship at a particular using the chi-square statistic. For example, Table 13 (next page) shows a statistically significant relationship at the 1% level. In simple terms this means that there is only a 1% (one in a 100) chance that the differences between subgroups occurred by chance. Questions that do not show a significant relationship using chi-square are marked as '*NSTS'.

2.3.3.1 Prior experience of computers/internet at home/school

Table 13: Use of computers/internet at secondary school by SEG, mature/non-mature and entry qualification level (*SSR at 1% level) (Q23)

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re statu...		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Did you use computers / the internet at secondary school ...									
Frequently (more than 10 hours a week or more)	117 30%	55 41%	22 25%	40 23%	19 13%	98 40%	- -	109 34%	8 17%
Occasionally (5 to 10 hours per week)	136 35%	52 39%	26 30%	58 34%	32 21%	104 43%	3 13%	122 38%	11 23%
rarely (less than 5 hours per week)	78 20%	16 12%	18 20%	44 26%	37 25%	41 17%	4 17%	54 17%	20 42%
I did not have access to a computer / the internet at secondary school	61 16%	10 8%	22 25%	29 17%	61 41%	- -	17 71%	35 11%	9 19%

30% of respondents used computers/internet at secondary school 'frequently' when growing up and a further 35% did so 'occasionally'; 20% did so rarely. 16% of respondents said that they did not have access to a computer/internet at secondary school.

A quarter of those from lower SEG backgrounds reported not having access to a computer/internet at secondary school compared to just 8% of those from middle/higher SEG backgrounds. Just 13% of mature students used computers/internet frequently at secondary school compared to 40% of non-mature students. Such a difference might be expected given that computers and the Internet became commonplace in schools from around the early 1990s.

41% of mature students did not have any access to computers/internet at secondary school whereas all non-mature students reported having at least some access. 71% of SNTQs said that they did not have any access to computers/internet at secondary school compared to just 11% of A Level entrants.

Table 14: Use of computers/internet at home (when growing up) by SEG, mature/non-mature and entry qualification level (*SSR at 1% level) Q22.

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at pro...		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Did you use computers / the internet at home when you were growing up?									
Frequently (more than 10 hours a week or more)	158 40%	75 56%	23 26%	60 35%	30 20%	128 53%	- -	150 47%	8 17%
Occasionally (5 to 10 hours per week)	107 27%	38 29%	20 23%	49 29%	21 14%	86 35%	- -	86 27%	21 44%
rarely (less than 5 hours per week)	40 10%	9 7%	10 11%	21 12%	19 13%	21 9%	5 21%	31 10%	4 8%
I did not have access to a computer / the internet at home when I was growing up	87 22%	11 8%	35 40%	41 24%	79 53%	8 3%	19 79%	53 17%	15 31%

As Table 14 (above) shows, there were large differences by SEG background, mature status and entry qualification with regard to prior experience of computers/internet at home.

Lower SEG background respondents were five times more likely than middle/higher SEG respondents to report that they did not have access to computers/internet at home when growing up; (40% and 8% respectively). With regard to mature students the differences were greater - more than half of mature students (53%) did not have any access to computers/internet when growing up compared to just 3% of non-mature students. On entry

level qualification we see the biggest difference of all; 79% of SNTQs did not have access to computers/internet when growing up compared to just 17% of A level entrants.

2.3.3.2 Prior experience of e-learning

44% of respondents had no experience of e-learning before starting their course; 42% had a little experience and 13% said that they had had a lot of experience.

Table 15: Experience of e-learning prior to starting programme (*SSR at 5% level) Q24.

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Before starting your current course at the University of ...									
I had no experience of e-learning before starting my current course	174 44%	47 35%	42 48%	85 50%	79 53%	95 39%	18 75%	132 41%	24 50%
I had a little experience with e-learning before starting my current course	166 42%	66 50%	34 39%	66 39%	52 35%	114 47%	6 25%	141 44%	19 40%
I had a lot of experience with e-learning before starting my current course	52 13%	20 15%	12 14%	20 12%	18 12%	34 14%	- -	47 15%	5 10%

Again, quite large differences were found when analysing the results by non-traditional status; 48% of lower SEG background students have no prior experience of e-learning compared to 35% of middle and higher SEG background students; a narrow majority of mature students (53%) have no prior experience of e-learning compared to 39% of non-mature students. A large majority of SNTQs (75%) had no prior experience of e-learning; more than double the proportion of their A Level entry counterparts (41%).

These findings suggest that e-learning is a new experience for a large proportion of all students but even more so for non-traditional students. In addition, the latter have less experience of ICT at school and at home. These three factors together may therefore add up to a considerable disadvantage in relation to e-learning.

2.3.3.3 Confidence with ICT and e-learning

Table 16: Confidence with ICT by non-traditional status (*SSR at 1% level) Q19.

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
To what extent do you agree or disagree with the following statement 'Generally speaking, I am confident about using i...									
strongly agree	157 40%	74 56%	34 38%	49 28%	42 28%	115 47%	2 8%	147 46%	8 17%
agree	201 51%	51 38%	42 47%	108 63%	86 58%	115 47%	17 71%	154 48%	30 63%
neither agree nor disagree	22 6%	3 2%	12 13%	7 4%	14 9%	8 3%	2 8%	15 5%	5 10%
disagree	7 2%	3 2%	- -	4 2%	4 3%	3 1%	1 4%	4 1%	2 4%
strongly disagree	7 2%	2 2%	1 1%	4 2%	3 2%	4 2%	2 8%	2 1%	3 6%

A large majority of respondents were confident with ICT; 91% of all respondents agreed or strongly agreed with the statement that 'I am confident about using information technology' but breaking the results down by traditional/non-traditional status shows that students from lower SEG backgrounds, mature students and SNTQs were all considerably less confident than their traditional equivalents, although the differences were mostly between the proportions in the 'agree' and 'strongly agree' categories.

2.3.3.4 Self-rated ICT skills at start of programme and 'now'

A greater proportion of non-traditional students rate their ICT skills as 'poor/below average' at the start of programme than do traditional students (e.g. 15% of lower SEG background students compared to 6% of middle/higher; 21% of mature students compared 8% of non-mature students). Half (50%) of SNTQs rated their ICT skills at the start of the programme as poor compared to just 8% of A Level entrants.

Table 17: Perceptions of ICT skills at start of programme (*SSR at 1% level) Q21.

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Please indicate which of the following best describes you...									
Excellent / well above average	84 21%	53 40%	9 10%	22 13%	28 19%	56 23%	3 13%	77 24%	4 8%
Average	254 65%	72 54%	66 75%	116 67%	89 60%	165 68%	9 38%	216 67%	29 60%
Poor / well below average	51 13%	8 6%	13 15%	30 17%	31 21%	20 8%	12 50%	25 8%	14 29%
Not sure / don't know	4 1%	- -	- -	4 2%	1 1%	3 1%	- -	3 1%	1 2%

Table 18: Perceptions of ICT skills now (survey in June 2010) (*SSR at 1% level) Q20

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at prog...		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Please indicate which of the following best describes you...									
Excellent / well above average	136 35%	64 48%	22 25%	50 29%	44 30%	92 38%	4 17%	118 37%	14 29%
Average	250 64%	69 52%	65 74%	116 67%	101 68%	149 61%	20 83%	200 62%	30 63%
Poor / well below average	6 2%	- -	1 1%	5 3%	4 3%	2 1%	- -	3 1%	3 6%
Not sure / don't know	1 0%	- -	- -	1 1%	- -	1 0%	- -	- -	1 2%

It is clear that non-traditional students perceive a greater increase in their ICT skills from programme start up to the date of the survey (June 2010) than do traditional students (e.g. lower SEG background respondents have a 14% increase between start of programme and the time of the survey; for those of higher/middle SEG background the increase is less than half of that at 6%).

Hardly any respondents consider that they now have poor/well below average ICT skills and a large majority of traditional students and non-traditional students consider that they currently have at least average ICT skills. However large difference remain between traditional students and non-traditional students; e.g. 48% of middle/higher SEG students consider that they have excellent/well above average ICT skills compared to just 25% of lower SEG students and the same pattern (to varying extents) is seen in relation to mature students and SNTQs. It is clear that there is a convergence between traditional and non-traditional students when comparing start of programme and current self-rated ICT skills but differences remain. Of course we should remember that this question captures self rated ICT skills and this reflects an element of confidence as well as being an indication of competence with ICT.

The implications of these findings may be that non-traditional students are on a steeper learning curve with regard to information and communications technology, particularly near the start of their programme. They may therefore be less likely to engage with e-learning since confidence with ICT and confidence with e-learning are clearly linked; ICT skills are as necessary for accessing e-learning as reading and writing are for engaging in 'traditional' learning and digital literacy or illiteracy is therefore an issue.

2.3.3.5 Need for support for e-learning

Perhaps reassuringly just 7% of respondents said that they had particular needs for help or support in relation to e-learning although over a fifth (21%) replied 'not sure/don't know'.

Table 19: Need for support for e-learning by SEG background, mature, entry level qualification (*SSR at 5% level) (Q26)

Counts Break % Respondents	base	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD			
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other	
Do you consider that you have particular needs for help o...										
No	276 72%	106 82%	63 72%	107 65%	93 64%	183 78%	12 55%	234 75%	30 64%	
Not sure / don't know	80 21%	19 15%	20 23%	41 25%	38 26%	42 18%	7 32%	61 19%	12 26%	
Yes	26 7%	5 4%	4 5%	17 10%	15 10%	11 5%	3 14%	18 6%	5 11%	

The proportion of non-traditional students who said 'not sure/don't know' is higher in all non-traditional students groups than for traditional students e.g. 23% of lower SEG background, 26% of mature students and 32% of SNTQs said 'not sure/don't know'.

2.3.3.6 E-learning locations and computer/internet access

Accommodation type in term time

Table 20: Term time accommodation by non-traditional dimensions (*SSR at 1% level) Q28

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
which of the following best describes where you live during term time									
On campus	97 26%	45 35%	14 16%	38 23%	16 11%	81 35%	- -	89 29%	8 17%
Private rented accommodation	169 45%	51 40%	43 50%	75 46%	70 49%	99 43%	10 48%	132 43%	27 59%
Live in parental home	63 17%	23 18%	16 19%	24 15%	22 15%	41 18%	2 10%	59 19%	2 4%
other accommodation	46 12%	8 6%	13 15%	25 15%	36 25%	10 4%	9 43%	28 9%	9 20%

During term time 26% of respondents live on campus; 45% in private rented accommodation; 17% in parental homes and 12% in 'other' accommodation. The different patterns of accommodation by traditional/non-traditional status are striking and are statistically significant. In particular, traditional students (whether from middle/higher SEG backgrounds or non-mature status) were much more likely to live on campus in term time (three times more likely for non-mature and two times more likely for middle/higher SEG background respondents). None of the SNTQs live on campus during term time which is almost certainly because of the fact that they were all nursing students. The accommodation differences on the basis of SEG background remain even if nursing students are excluded from the analysis.

These differential patterns of accommodation have major implications for e-learning; those who live on campus have access to RESNET in their accommodation and also have much more convenient access to computer/internet access in their departments and in the University library. They were thus able to enjoy free high-speed access to e-learning and were also able

to make full use of their free printing allowance to print any hard copies of learning materials which they feel they need.

Internet access in term time and out

The vast majority of respondents have broadband access where they live in and out of term time. In term time 88% have broadband access at home; 7% have 'dial up/basic internet access' at home; 19% have access in practice placement; 32% have access in their department; 53% have access through the library on campus; 9% have access in an 'other' location. Out of term time 89% have broadband access at home; 6% have 'dial up/basic internet access'; 7% in placement; 9% in their department; 18% have access in the library on campus and 9% have access in an 'other' location.

Lower SEG background respondents were less likely to have broadband access where they live out of term time (perhaps because of a slightly lower rate of take up in the parental home).

Table 21: Internet access in and out of term time (term time shown first) (*SSR at 1% level). Qs 30 and 32

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Please indicate which forms of access to the internet yo...									
Broadband access where you live	327 88%	114 90%	80 93%	133 83%	124 87%	203 88%	20 95%	271 89%	36 78%
Basic or 'dial-up' internet connection where you live	26 7%	5 4%	7 8%	14 9%	7 5%	19 8%	- -	19 6%	7 15%
In practice placement	72 19%	19 15%	22 26%	31 19%	38 27%	34 15%	9 43%	56 18%	7 15%
In your department	121 32%	50 39%	24 28%	47 29%	30 21%	91 40%	4 19%	108 35%	9 20%
Library on campus	197 53%	65 51%	51 59%	81 51%	71 50%	126 55%	10 48%	168 55%	19 41%
Other form of access	33 9%	19 15%	7 8%	7 4%	12 8%	21 9%	3 14%	28 9%	2 4%
Please indicate which forms of access to the internet yo...									
Broadband access where you live	332 89%	123 97%	77 90%	132 83%	127 89%	205 89%	20 95%	275 90%	37 80%
Basic or 'dial-up' internet connection where you live	24 6%	3 2%	6 7%	15 9%	9 6%	15 7%	- -	15 5%	9 20%
In practice placement	26 7%	6 5%	9 10%	11 7%	16 11%	10 4%	5 24%	15 5%	6 13%
In your Department	34 9%	11 9%	4 5%	19 12%	16 11%	18 8%	1 5%	26 8%	7 15%
Library on campus	68 18%	21 17%	19 22%	28 18%	31 22%	37 16%	5 24%	54 18%	9 20%
Other form of access	32 9%	13 10%	10 12%	9 6%	10 7%	22 10%	2 10%	28 9%	2 4%

2.3.3.7 Accessing E-learning

89% of respondents said that their current way of accessing e-learning was from a laptop or desktop personal computer (PC) at home; nearly all of the remainder preferred a desktop or laptop on campus. The follow-on question, regarding how respondents would prefer to access the Internet, showed a very similar pattern of responses which established that respondents were nearly always able to use their preferred way of accessing e-learning (i.e. from home). There appeared to be few if any differences on the basis of non-traditional characteristics, although there was perhaps a slight preference from lower SEG background and mature students to work on campus rather than at home. Although it is difficult to be conclusive as to why this is, some of the open-ended comments suggested that the preference related to the wish to work in an environment relatively free from distractions on campus. Several open-ended comments flagged up that the computers on campus (such as in the library) were slow and insufficient in number to meet demand. There were also several open-ended comments mentioning the benefits of e-learning at home (comfort convenience being able to look after domestic responsibilities whilst also studying) but some comments also suggested that the advantages of studying at home could potentially be offset by distractions in the home.

Table 22a Current way of accessing e-learning (*NSTS) Q50a				Table 22b preferred way of accessing e-learning (*NSTS) Q51a			
Counts Break % Respondents	From a desktop or laptop computer at home			Counts Break % Respondents	From a desktop or laptop computer at home		
	This is my preferred way of accessing e-learning	This is my second preference for accessing e-learning	This is my third preference for accessing e-learning		This would be my preferred way of accessing e-learning	This would be my second preference for accessing e-learning	This would be my third preference for accessing e-learning
base	254 89%	25 9%	8 3%	base	256 91%	21 7%	5 2%
SEG band (high or low) PD				SEG band (high or low) PD			
middle and higher	89 87%	9 9%	4 4%	middle and higher	92 91%	8 8%	1 1%
lower	62 89%	5 7%	3 4%	lower	59 86%	7 10%	3 4%
not known	103 90%	11 10%	1 1%	not known	105 94%	6 5%	1 1%
mature (SIMPLE in 2 categories) PD data re status at progstart				mature (SIMPLE in 2 categories) PD data re status at progstart			
mature	103 91%	8 7%	2 2%	mature	104 95%	5 5%	1 1%
not mature	151 87%	17 10%	6 3%	not mature	152 88%	16 9%	4 2%
Entry Qualifications simple category PD				Entry Qualifications simple category PD			
SNTQs	16 94%	1 6%	- -	SNTQs	17 100%	- -	- -
A level entrants	207 88%	20 9%	8 3%	A level entrants	209 90%	17 7%	5 2%
other	31 89%	4 11%	- -	other	30 88%	4 12%	- -

2.3.3.8 Access to computers and the internet

Overall, 95% of respondents agreed or strongly agreed that 'Generally speaking, I am able to access a computer and the Internet when I need to'. That is clearly extremely positive but nonetheless, some large differences can be seen between non-traditional students and traditional students. For example, 80% of respondents from middle/higher SEG backgrounds strongly agreed with the statement compared to 60% of those from lower SEG backgrounds; mature students were slightly less likely to strongly agree with the statement and SNTQs were more positive on this item than their A Level entrant equivalents.

Table 23 : Access to computers/internet by traditional students/non-traditional students (*NSTS) Q34									
Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
To what extent do you agree or disagree with the following statement 'Generally speaking, I am able to access a comp...									
Strongly agree	253 69%	101 80%	50 60%	102 65%	95 67%	158 70%	16 76%	209 69%	28 61%
Agree	97 26%	23 18%	30 36%	44 28%	40 28%	57 25%	3 14%	77 26%	17 37%
Neither agree nor disagree	11 3%	2 2%	3 4%	6 4%	4 3%	7 3%	2 10%	8 3%	1 2%
Disagree	6 2%	- -	1 1%	5 3%	2 1%	4 2%	- -	6 2%	- -
Strongly disagree	1 0%	- -	- -	1 1%	1 1%	- -	- -	1 0%	- -

2.3.3.9 Perceived availability of e-learning and perceived importance

Table 24: Perceived availability of e-learning on programmes (*NSTS) Q36

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
How would you describe the amount of e-learning that has ...									
All of my modules have some e-learning available	169 47%	61 48%	35 42%	73 48%	66 47%	103 47%	9 43%	137 46%	23 52%
Most of my modules have some e-learning available	100 28%	28 22%	25 30%	47 31%	40 28%	60 27%	6 29%	82 28%	12 27%
A few of my modules have some e-learning available	71 20%	26 21%	19 23%	26 17%	28 20%	43 19%	4 19%	60 20%	7 16%
There is no e-learning available on any of my modules	14 4%	9 7%	-	5 3%	3 2%	11 5%	1 5%	13 4%	-
Don't know / not sure	8 2%	2 2%	4 5%	2 1%	4 3%	4 2%	1 5%	5 2%	2 5%

Only 4% of respondents reported that there was no e-learning available on any of their modules; 47% report that all of their modules have some e-learning and 28% said that most of their modules have some e-learning. There appear to be very few differences on the basis of non-traditional characteristics.

Table 25: Perceived availability of e-learning on programmes by programme area (*SSR at 1% level). Q36

Counts Break % Respondents	Total	programme area (nursing chem or management) PD		
		chemistry	management	nursing
How would you describe the amount of e-learning that has ...				
All of my modules have some e-learning available	169 47%	10 19%	112 67%	47 33%
Most of my modules have some e-learning available	100 28%	19 37%	34 20%	47 33%
A few of my modules have some e-learning available	71 20%	17 33%	18 11%	36 25%
There is no e-learning available on any of my modules	14 4%	5 10%	1 1%	8 6%
Don't know / not sure	8 2%	1 2%	2 1%	5 3%

The survey confirms the evidence from the qualitative phase of the project which suggested that there were significant programme differences in the amount of e-learning available.

87% of management undergraduates said that all or most of their modules have some e-learning available; the equivalent proportion for nursing is 66% while for chemistry it is 56%.

Table 26 (below) shows that 84% of respondents considered e-learning to be a fairly or extremely important part of their course. Just 5% of respondents overall agreed that e-learning is fairly unimportant or not important. There were some differences between traditional students and non-traditional students with the latter tending to be more positive towards e-learning.

Table 26: Attitudes to e-learning in programme (*NSTS) Q35

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Please indicate the extent to which e-learning is part of...									
E-learning is an extremely important part of my course	141 39%	43 34%	36 43%	62 41%	63 45%	78 35%	12 57%	110 37%	19 43%
E-learning is a fairly important part of my course	162 45%	61 48%	35 42%	66 43%	57 40%	105 48%	8 38%	135 45%	19 43%
E-learning is neither important nor unimportant on my course	35 10%	9 7%	10 12%	16 10%	12 9%	23 10%	1 5%	30 10%	4 9%
E-learning is a fairly unimportant part of my course	11 3%	6 5%	-	5 3%	4 3%	7 3%	-	10 3%	1 2%
E-learning is not an important part of my course	9 2%	6 5%	-	3 2%	2 1%	7 3%	-	9 3%	-
Don't know / not sure	4 1%	1 1%	2 2%	1 1%	3 2%	1 0%	-	3 1%	1 2%

2.3.3.10 Attitudes to participation in e-learning

This question investigates students' attitudes to participation in e-learning *where it is available* and so is hopefully capturing a more general tendency towards participation and is less influenced by the e-learning available on particular programmes than other questions in the survey dealing with participation.

Table 27: Attitudes to participation in e-learning (*NSTS) Q39

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at pro...		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Base	356	125	81	150	139	217	21	293	42
How would you describe your level of participation in e-l...									
When e-learning is available on a module I always participate	144 40%	52 42%	28 35%	64 43%	66 47%	78 36%	11 52%	116 40%	17 40%
When e-learning is available on a module I sometimes participate	164 46%	61 49%	42 52%	61 41%	52 37%	112 52%	8 38%	136 46%	20 48%
When e-learning is available on a module I almost never participate	12 3%	2 2%	3 4%	7 5%	3 2%	9 4%	-	10 3%	2 5%
When e-learning is available on a module I never participate	4 1%	2 2%	1 1%	1 1%	1 1%	3 1%	-	4 1%	-
Don't know / not sure	32 9%	8 6%	7 9%	17 11%	17 12%	15 7%	2 10%	27 9%	3 7%

40% of respondents said that when e-learning is available on a module they always participate and a further 46% said that they sometimes participate; just 4% said that they almost never or never participate when e-learning is available.

Non-traditional students were somewhat more likely to say that they participate in e-learning when it is available. 47% of mature students said that they always participate in e-learning when it is available compared to 36% of non-mature students; 52% of SNTQs said that they always participate compared to 40% of A Level entrants. Lower SEG background respondents

are less positive on this question than the other non-traditional students; they were somewhat less likely than middle/higher SEG background respondents to say that they always participate in e-learning when it is available.

Reported participation in any e-learning in the last 12 months

Table 28: Participation in e-learning in last 12 months (*NSTS) Q40

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at pro...		Entry Qualifications simple category PD			
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other	
During the last 12 months have you participated in any fo...										
Yes	277 78%	100 80%	68 84%	109 73%	113 82%	164 76%	18 86%	226 77%	33 79%	
Not sure / Don't know	41 12%	12 10%	8 10%	21 14%	12 9%	29 13%	1 5%	35 12%	5 12%	
No	37 10%	13 10%	5 6%	19 13%	13 9%	24 11%	2 10%	31 11%	4 10%	

Table 28 (above) shows that: 78% of respondents said that they had participated in some form of e-learning at Surrey in the last 12 months.

Participation in e-learning (on the basis of this question) appears to be slightly higher for non-traditional students; 84% of lower SEG background respondents reported that they have participated in some form of e-learning in the last 12 months (compared to 80% of middle/higher SEG background students). 82% of mature students as (compared to 76% of non-mature students) said that they have participated in some e-learning in the last 12 months; 86% of SNTQs (compared to 77% of A Level entrants) said that they have participated in some form of e-learning in the last 12 months. However, when we look at participation in particular e-learning activities (Table 29 and Chart 2 below) a very different picture emerges in which non-traditional students report lower participation in nearly every form of e-learning.

Forms of e-learning participated in

Table 29: Forms of e-learning participated in last 12 months (*NSTS) Q37

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Please indicate if you have taken part in any of the fol...									
Downloaded lecture notes / lecture content	302 84%	109 87%	67 81%	126 83%	110 78%	192 87%	15 71%	250 84%	37 84%
Multiple choice tests / questionnaires	213 59%	75 60%	47 57%	91 60%	86 61%	127 58%	13 62%	170 57%	30 68%
Submitted work online	196 54%	83 66%	33 40%	80 53%	50 35%	146 66%	5 24%	165 56%	26 59%
Discussion board on ULearn	176 49%	74 59%	29 35%	73 48%	46 33%	130 59%	2 10%	149 50%	25 57%
Participated in any activity on ULearn	166 46%	63 50%	41 49%	62 41%	57 40%	109 50%	8 38%	130 44%	28 64%
Received feedback on work online	142 39%	52 41%	29 35%	61 40%	43 30%	99 45%	4 19%	114 39%	24 55%
ULearn work groups	130 36%	48 38%	28 34%	54 36%	41 29%	89 40%	5 24%	107 36%	18 41%
Podcasts or online videos	107 30%	39 31%	21 25%	47 31%	40 28%	67 30%	6 29%	81 27%	20 45%
PebblePad	106 29%	43 34%	15 18%	48 32%	21 15%	85 39%	2 10%	92 31%	12 27%
Discussion board on social media site (e.g. Facebook, BEBO) relating to your course	92 25%	34 27%	13 16%	45 30%	28 20%	64 29%	3 14%	73 25%	16 36%
Wikis	67 19%	27 21%	6 7%	34 22%	19 13%	48 22%	1 5%	52 18%	14 32%
Chat room	41 11%	11 9%	5 6%	25 16%	16 11%	25 11%	1 5%	30 10%	10 23%
Blogs	35 10%	11 9%	4 5%	20 13%	9 6%	26 12%	1 5%	28 9%	6 14%
Other form of e-learning activity	28 8%	12 10%	4 5%	12 8%	16 11%	12 5%	2 10%	24 8%	2 5%

Looking at the overall pattern (all respondents) in Table 29 we can see that a large majority of respondents (84%) report having downloaded lecture notes and 59% said that they have used MCQs. 54% said that they submitted work online; 39% reported receiving feedback online; 49% said that they have used a discussion board on ULearn and over a quarter said that they had used a course-related discussion board on a social media site. Just under half (46%) reported participating in at least one activity on ULearn in the last 12 months and 36% said that they had participated in ULearn work groups. Reported participation in wikis (19%) synchronous 'live' chat (11%) and blogs (10%) was relatively low.

Breaking the results down by traditional/non-traditional status shows that non-traditional students were considerably less likely to have participated in most of the forms of e-learning listed in the question. Although on a simple chi-square analysis differences are not statistically significant, Lower SEG background respondents were much less likely than middle/higher SEG background respondents (-26%) to have submitted work online; used a ULearn discussion board (-24%); or used a discussion board on a social media site (-11%). On nearly every item, mature students were less likely than their non-mature counterparts to say that they have participated and the same was true for SNTQs.

However, there were some exceptions to the pattern; e.g. mature students and SNTQs more likely than traditional students to have used MCQs and traditional students and non-traditional students have similar participation rates for other 'basic' e-learning activities, such as downloading lecture notes or materials.

An explanation of the participation in e-learning which is consistent with the findings in Tables 28 and 29 is that non-traditional students used e-learning in different ways to traditional students; whilst they have a similar 'headline' rate of participation to traditional students, non-traditional students may be more likely to restrict their participation to more basic forms of e-learning (this is explored further in the discussion section).

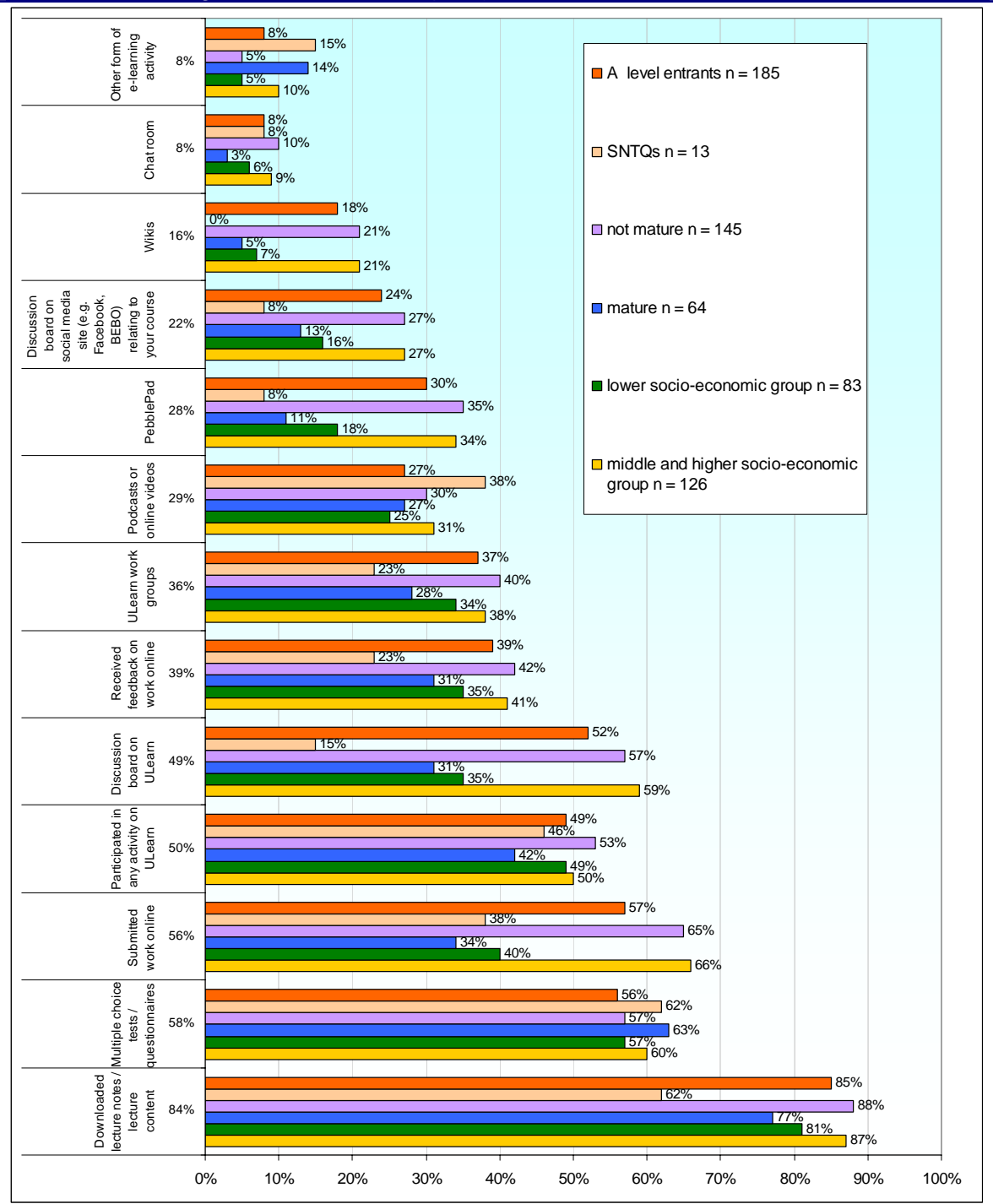
The fact that the large differences in participation between all groups of non-traditional students and traditional students were not apparently statistically significant (using chi-square) may possibly be explained by the complexity of the analysis; many variables are being analysed simultaneously by eight categories of student. A simpler bivariate analysis (analysing the results simply by 'traditional' or 'non-traditional' status) might produce a different result with regard to statistical significance.

The data in Table 29 were also analysed by year of programme to determine whether this might be an explanatory variable. When looking just at year 3 respondents, the differences between lower socio-economic group and middle/higher socio-economic group are somewhat diminished but difference between mature and non-mature students remain very pronounced. A hypothesis which might explain this is that students from lower SEG backgrounds 'catch up' with their traditional counterparts in relation to participation in e-learning whereas mature students tend not to.

In summary we can see very large differences between traditional and non-traditional students in terms of participation in e-learning but further analysis, beyond the scope of this report, would be needed to conclusively determine the significance of these differences and to exhaustively test possible explanations for them.

Chart 2 (below) represents the data from Table 29 in graphic form.

Chart 2: % of respondents who said they have participated in various forms of e-learning in last 12 months (Q37)



In a separate question (not shown in table or chart). 66% of respondents said that most of their experience of e-learning was on ULearn and a further 18% said that all of their experience of e-learning had been on ULearn

Social/individual Mode of participation in e-learning

Table 30: Social/individual mode of participation in e-learning (*NSTS) Q44

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Thinking about the e-learning that you have participated ...									
Alone	222 76%	84 82%	54 75%	84 71%	83 71%	139 79%	15 88%	184 77%	23 66%
With other students	43 15%	8 8%	14 19%	21 18%	23 20%	20 11%	1 6%	34 14%	8 23%
With tutor and students	26 9%	9 9%	4 6%	13 11%	11 9%	15 9%	1 6%	21 9%	4 11%
Other	1 0%	1 1%	- -	- -	- -	1 1%	- -	1 0%	- -

A large majority of respondents (76%) felt that the e-learning they had participated in over the last 12 months had been on their own; 15% thought that it had been primarily with other students and 9% thought that it had primarily been with both tutors and students. Lower SEG background respondents seem somewhat less likely to report having participated in e-learning alone; as do mature students. SNTQs were more likely than A Level entrants to say that they had participated alone in e-learning.

Participation in e-learning/blended learning

55% agreed that ‘some of my studying was face to face and some was online’; 19% said that ‘most of my study was online with little face to face teaching’ and 15% felt that ‘e-learning was used in the classroom, mixed in with face to face teaching’ (10% responding ‘other’). There were few differences between traditional and non-traditional students on this question.

Table 31: Participation in e-learning/blended learning (*NSTS) Q46

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Thinking about the last 12 months: Which of the following...									
Some of my studying was face to face and some was online	161 55%	56 55%	36 51%	69 58%	65 56%	96 55%	9 53%	128 54%	24 69%
E-learning was used in the classroom, mixed in with face to face teaching	55 19%	15 15%	14 20%	26 22%	27 23%	28 16%	6 35%	44 18%	5 14%
Most of my study was online with little face to face teaching	45 15%	20 20%	9 13%	16 14%	13 11%	32 18%	- -	40 17%	5 14%
Other	30 10%	11 11%	12 17%	7 6%	11 9%	19 11%	2 12%	27 11%	1 3%

E-learning and assessment

Table 32: e-learning and assessment (*NSTS) Q48

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD			
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other	
Was the e-learning you participated in the last 12 mon....										
The e-learning I participated in was sometimes linked to assessment	123 43%	48 47%	26 37%	49 42%	50 43%	73 42%	11 65%	98 41%	14 40%	
The e-learning I participated in was often linked to assessment	103 36%	28 27%	33 47%	42 36%	43 37%	60 34%	4 24%	84 35%	15 43%	
The e-learning I participated in was rarely linked to assessment	44 15%	19 19%	7 10%	18 15%	12 10%	32 18%	1 6%	39 16%	4 11%	
The e-learning I participated in was never linked to assessment	18 6%	7 7%	4 6%	7 6%	10 9%	8 5%	1 6%	15 6%	2 6%	
Other	1 0%	-	-	1 1%	-	1 1%	-	1 0%	-	

43% of respondents felt that the e-learning they participated in was sometimes linked to assessment and a further 36% felt that it was often linked to assessment. This could be taken as indicating (or perhaps confirming) that e-learning has become a key part of learning and teaching which in turn underlines the importance of understanding how e-learning is experienced by traditional and non-traditional students.

2.3.3.11 Perceived benefits of e-learning

There were large positive majorities in favour of most statements; 80% agreeing or strongly agreeing that 'e-learning improves my understanding of the topic covered' and 75% agreeing or strongly agreeing that 'e-learning helps me learn more effectively'; 69 % of respondents agreed that 'e-learning improved my experience of e-learning'.

Table 33a: Perceived benefits of e-learning (all respondents) Q53

Counts Analysis % Respondents	Total	Response					
		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree	Not sure / don't know
Elearning improves my understanding of the topic covered	282	76 27%	150 53%	43 15%	7 2%	2 1%	4 1%
Elearning helps me to learn more effectively	282	72 26%	138 49%	55 20%	11 4%	3 1%	3 1%
Elearning helps me to manage my study time	282	64 23%	101 36%	77 27%	30 11%	6 2%	4 1%
Elearning helps me to balance my study with other demands (such as family or work)	282	62 22%	100 35%	77 27%	35 12%	5 2%	3 1%
Elearning made it more convenient for me to study the topics covered	282	98 35%	120 43%	49 17%	8 3%	4 1%	3 1%
Elearning offers me flexibility in choosing when I study	282	92 33%	119 42%	45 16%	15 5%	8 3%	3 1%

Table 33b: Perceived benefits of e-learning continued (all respondents) Q56

Analysis % Respondents	Total	Response					
		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree	Not sure / don't know
Elearning offers me variety in how I learn	276	25%	50%	18%	4%	1%	1%
Elearning makes it easier to interact with other students	276	17%	38%	26%	13%	4%	3%
Elearning makes it easier to interact with my tutor(s)	276	13%	36%	30%	12%	6%	3%
Elearning makes it easier to get feedback on my work	276	13%	35%	29%	14%	4%	4%
Elearning improves my experience of learning	276	21%	48%	21%	5%	2%	2%

In order to facilitate comparison across multiple items data regarding perceived benefits of e-learning are presented in terms of mean scores in Table 34 (next page). This table shows that most respondents, traditional and non-traditional were positive on most items (no means below 3.12 on any item for any group or sub-group).

Table 34: Perceived benefits of e-learning (Q53 and Q56)

Higher mean = stronger agreement with statement (5 =strongly agree, 4 =agree, 3 neutral, 2 = disagree, 1=strongly disagree; don't know is coded as zero so that it is neutral in calculating the mean). Shown in descending order of mean for all respondents.

	Base	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
A. E-learning made it more convenient for me to study the topics covered	4.03	3.90	3.83	4.28	4.04	4.03	4.41	4.01	4.00
B. E-learning improves my understanding of the topic covered	3.99	3.94	3.87	4.11	4.07	3.94	4.47	3.96	3.94
C. E-learning offers me flexibility in choosing when I study	3.93	3.91	3.80	4.04	4.05	3.85	4.41	3.92	3.76
D. E-learning helps me to learn more effectively	3.91	3.90	3.70	4.04	3.96	3.87	4.41	3.88	3.82
E. E-learning offers me variety in how I learn	3.89	3.98	3.67	3.95	4.04	3.80	4.44	3.84	4.00
F. E-learning improves my experience of learning	3.76	3.72	3.68	3.84	4.00	3.61	4.44	3.71	3.73
G. E-learning helps me to manage my study time	3.62	3.50	3.52	3.79	3.68	3.58	4.00	3.60	3.56
H. E-learning helps me to balance my study with other demands (such as family or work)	3.60	3.43	3.58	3.78	3.85	3.44	4.18	3.55	3.68
I. E-learning makes it easier to interact with other students	3.44	3.44	3.21	3.58	3.49	3.42	3.63	3.42	3.52
J. E-learning makes it easier to interact with my tutor(s)	3.31	3.36	3.12	3.38	3.24	3.36	3.50	3.31	3.21
K. E-learning makes it easier to get feedback on my work	3.29	3.24	3.15	3.41	3.38	3.23	3.69	3.24	3.42

A= SSR at 5% level
 B = SSR at 10% level
 C= NSTS
 D= SSR at 10% level
 E = NSTS
 F = NSTS

G = SSR at 10% level
 H = SSR at 10% level
 I = SSR at 5% level
 J = SSR at 10% level
 K = SSR at 5% level

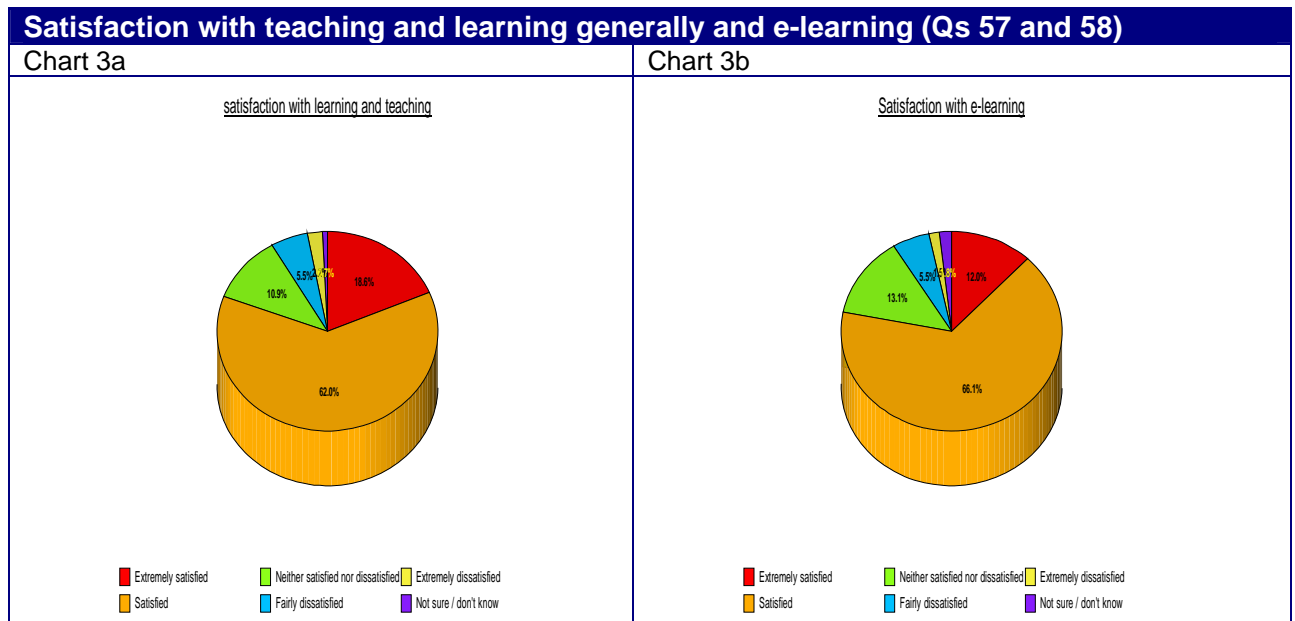
Overall, respondents were most positive on 'e-learning made it more convenient for me to study the topics covered' and least positive on 'e-learning makes it easier to get feedback on my work'.

Non-traditional students were more positive on many aspects of e-learning e.g. mature students and SNTQs have higher means on all items including 'e-learning helps me to manage my study time'; 'e-learning offers me flexibility' and 'e-learning made it more convenient for me to study the topics covered'. This perhaps lends some support to the idea that mature students may benefit disproportionately from the flexibility that e-learning can offer in terms of where and when they study; the gap between mature and non-mature students was largest on 'e-learning helps me to balance my study with other demand such as family or work (3.85 for mature and 3.44 for non-mature).

Lower SEG background respondents have higher means than those from middle/higher SEG backgrounds on two items (e-learning helps me to manage my study time and e-learning helps me to balance my study with other demands such as family or work), and this is (again) consistent with the idea that non-traditional students can benefit disproportionately from e-learning. However lower SEG background respondents were slightly less positive than middle/higher SEG background respondents on the remaining items.

2.3.3.12 Satisfaction with teaching, learning and e-learning

Charts 3a and 3b (below) show that a large majority of respondents (81%) were satisfied with teaching and learning generally; satisfaction with e-learning was a little lower at 78% and the proportion who were extremely satisfied with e-learning was considerably lower than the equivalent proportion for teaching and learning generally.



Tables 35 and 36 (next page) show that most non-traditional students were considerably more satisfied with both teaching and learning generally and e-learning than were traditional students; this is particularly apparent when looking at the proportion of all non-traditional students groups who were 'extremely satisfied'. The exception to this is that lower SEG background students have a slightly lower mean satisfaction with e-learning than their middle/higher SEG background counterparts.

Table 35: Satisfaction with teaching and learning break (*SSR at 10% level) (Q57)

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
satisfaction with learning and teaching									
Extremely satisfied	51 19%	11 11%	17 26%	23 21%	32 31%	19 11%	7 44%	35 15%	9 28%
Satisfied	170 62%	67 68%	38 58%	65 60%	62 60%	108 64%	7 44%	144 64%	19 59%
Neither satisfied nor dissatisfied	30 11%	11 11%	4 6%	15 14%	4 4%	26 15%	1 6%	25 11%	4 13%
Fairly dissatisfied	15 5%	7 7%	4 6%	4 4%	4 4%	11 6%	1 6%	14 6%	- -
Extremely dissatisfied	6 2%	2 2%	2 3%	2 2%	2 2%	4 2%	- -	6 3%	- -
Not sure / don't know	2 1%	1 1%	1 2%	- -	- -	2 1%	- -	2 1%	- -

Table 36: Satisfaction with e-learning (*SSR at 10% level) (Q58)

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status a...		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Base	274	99	66	109	104	170	16	226	32
Satisfaction with e-learning									
Extremely satisfied	33 12%	9 9%	10 15%	14 13%	20 19%	13 8%	6 38%	24 11%	3 9%
Satisfied	181 66%	68 69%	39 59%	74 68%	67 64%	114 67%	7 44%	153 68%	21 66%
Neither satisfied nor dissatisfied	36 13%	12 12%	6 9%	18 17%	11 11%	25 15%	2 13%	28 12%	6 19%
Fairly dissatisfied	15 5%	6 6%	7 11%	2 2%	2 2%	13 8%	- -	15 7%	- -
Extremely dissatisfied	4 1%	3 3%	1 2%	- -	1 1%	3 2%	- -	3 1%	1 3%
Not sure / don't know	5 2%	1 1%	3 5%	1 1%	3 3%	2 1%	1 6%	3 1%	1 3%

Table 37 (below) summarises satisfaction with teaching and learning generally and e-learning amongst traditional and non-traditional students (means). Mean satisfaction with *teaching and learning* for all respondents is 3.87; all non-traditional students have higher mean satisfaction. Satisfaction with *e-learning* for all respondents is 3.76 and mature students and SNTQs have higher means while students from lower SEG backgrounds have slightly lower mean satisfaction.

Table 37: Satisfaction with learning and teaching and e-learning (Qs 57 and 58). Higher = MORE POSITIVE (5 =extremely satisfied, 4 = very satisfied, 3 neither satisfied nor dissatisfied, 2 = fairly dissatisfied, 1=extremely dissatisfied; not sure/don't know is coded as zero so that it is neutral in calculating the mean)

Means Respondents	Base	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category (sub A level or not) PD		
		middle and higher	lower	not known	mature	not mature	sub a	a level	other
satisfaction with learning and teaching	3.87	3.76	3.92	3.94	4.13	3.71	4.25	3.81	4.16
Satisfaction with e-learning	3.76	3.72	3.62	3.89	3.90	3.68	4.00	3.76	3.69

2.3.3.13 Barriers to e-learning

Table 38 (below) presents a summary of the barriers to e-learning experienced by respondents as a whole (traditional students and non-traditional students).

Table 38 Have any of the following prevented or discouraged you from participating in e-learning on your course? (multiple choice question - responses do not total 100) (Q61)

Counts Analysis % Respondents		
Base	308	
	100%	
I did not get enough training or support for using e-learning	64 21%	<ul style="list-style-type: none"> • 21% felt that insufficient support or training had been a barrier to their participation. • A similar proportion of respondents (20%) felt that lack of access to computers/internet on campus had prevented or discouraged them from engaging in e-learning and 19% said that teachers not being positive about e-learning was a barrier. • 14% considered lack of time to be a barrier and the same proportion reported that dislike of ULearn was a barrier. • 10% said that they were discouraged or prevented from participating in e-learning because they did not see how it would help them with their studies and the same proportion said that lack of access to computers/internet at home was a barrier. • 9% of respondents were not confident with ICT generally and the same proportion said that not liking the type of e-learning offered was a barrier to their participation.
I could not get access to computers / internet on campus	63 20%	
Teachers are not positive about e-learning	60 19%	
I do not have time to do e-learning	42 14%	
I do not like ULearn	42 14%	
I do not see how e-learning will help me in my studies	32 10%	
I could not get access to computers / internet at home	31 10%	
I am not confident with e-learning generally	29 9%	
I do not like the type of e-learning offered	29 9%	
I am not confident with information technology generally	25 8%	

Barriers to e-learning by SEG background

Table 39 (below) presents a summary of the barriers to e-learning experienced by students broken down by SEG background.

Table 39: Barriers to e-learning by socio-economic group (Q61)

Counts Break % Respondents	Total	SEG band (high or low) PD		
		middle and higher	lower	not known
Base	308	110	71	127
I did not get enough training or support for using e-learning	64 21%	24 22%	15 21%	25 20%
I could not get access to computers / internet on campus	63 20%	24 22%	14 20%	25 20%
Teachers are not positive about e-learning	60 19%	28 25%	12 17%	20 16%
I do not have time to do e-learning	42 14%	13 12%	9 13%	20 16%
I do not like ULearn	42 14%	21 19%	11 15%	10 8%
I do not see how e-learning will help me in my studies	32 10%	16 15%	8 11%	8 6%
I could not get access to computers / internet at home	31 10%	4 4%	8 11%	19 15%
I am not confident with e-learning generally	29 9%	8 7%	9 13%	12 9%
I do not like the type of e-learning offered	29 9%	12 11%	5 7%	12 9%
I am not confident with information technology generally	25 8%	2 2%	11 15%	12 9%

- Lack of support/training is perceived as the largest barrier by lower SEG respondents, resonating with the findings from other questions in the survey showing that this group has less prior experience of computers/internet at home when growing up, and at school and less confidence with ICT and with e-learning. This group were much more likely to say 'don't know' when asked if they had a particular need for support.
- Lower SEG background respondents were less confident with ICT generally (15% not confident compared to just 2% of those from middle/higher SEG backgrounds) and less confident with e-learning (13% not confident compared to 7% from middle/higher SEG backgrounds).
- Responses suggest that physical access at home is a greater problem for lower SEG background respondents (11% said that accessing computers/internet at home is a barrier compared to just 4% of middle and higher SEG students). Access to PCs/internet on campus is perceived as a barrier by lower SEG background students; but it is slightly less of a problem for them than it is for middle and higher SEG background students perhaps because of lower SEG background respondents' preference to work at home.
- Lower SEG background respondents seem more positive about e-learning despite these barriers; only 7% said that they did not like that type of e-learning offered and just 15% said that they did not like ULearn – the equivalent figures for middle/higher SEG respondents were 11% and 19% respectively). Only 11% of lower SEG background respondents said that they do not see how e-learning will help them in their studies compared to 15% of middle/higher SEG background respondents.

Barriers to e-learning by mature/non-mature student status

Table 40 (below) presents a summary of the barriers to e-learning experienced by students broken down by mature/non-mature status.

Table 40: Barriers to e-learning by mature/non-mature student status (Q61)

Counts Break % Respondents	Total	mature (SIMPLE in 2 categories) PD data re status at progstart	
		mature	not mature
Base	308	117	191
I did not get enough training or support for using e-learning	64 21%	25 21%	39 20%
I could not get access to computers / internet on campus	63 20%	22 19%	41 21%
Teachers are not positive about e-learning	60 19%	10 9%	50 26%
I do not have time to do e-learning	42 14%	21 18%	21 11%
I do not like ULearn	42 14%	9 8%	33 17%
I do not see how e-learning will help me in my studies	32 10%	8 7%	24 13%
I could not get access to computers / internet at home	31 10%	11 9%	20 10%
I am not confident with e-learning generally	29 9%	17 15%	12 6%
I do not like the type of e-learning offered	29 9%	11 9%	18 9%
I am not confident with information technology generally	25 8%	19 16%	6 3%

- Not getting enough support for using e-learning was the most frequently cited barrier for mature students (for non-mature students it is 'teachers are not positive about e-learning').
- Access to computers/internet on campus was the second greatest barrier cited by mature students but it appears to be slightly less of an issue for mature students (19% cited this as a barrier compared to 21% of non-mature students) perhaps because mature students have a preference for e-learning at home and possibly because many were nursing students who have (in theory) internet access in placements and spend less time on campus.
- Lack of time was perceived as a much bigger barrier to e-learning for mature students (18%) than non-mature (11%) perhaps because mature students were more likely to have family/paid employment roles to juggle.
- Lack of confidence with information technology is a much greater barrier to e-learning for mature students than it is for non-mature (15% and 6% respectively said that this is a barrier for them); this pattern of lower confidence amongst mature students is also evident in relation to e-learning (15% of mature students not confident compared to just 6% of non-mature students).
- 10% of mature students and 9% of non-mature students said that they could not get access at home.
- Mature students seem more positive about some aspects of e-learning (only 8% said that they don't like ULearn compared to 17% of non-mature students; just 7% of mature students said that they do not see how e-learning will help them in their studies compared to 13% of non-mature). Only 9% of mature students perceived that teachers were not positive about e-learning compared to 26% of non-mature students.

Barriers to e-learning by highest entry qualification

Table 41 (below) presents a summary of the barriers to e-learning experienced by students broken down by category of entry qualification.

Table 41: Barriers to e-learning by highest entry qualification (Q61)

Counts Break % Respondents	Total	Entry Qualifications simple category PD		
		SNTQs	A level entrants	other
Base	308	18	254	36
I did not get enough training or support for using e-learning	64 21%	2 11%	57 22%	5 14%
I could not get access to computers / internet on campus	63 20%	6 33%	48 19%	9 25%
Teachers are not positive about e-learning	60 19%	2 11%	55 22%	3 8%
I do not have time to do e-learning	42 14%	2 11%	33 13%	7 19%
I do not like ULearn	42 14%	1 6%	36 14%	5 14%
I do not see how e-learning will help me in my studies	32 10%	- -	26 10%	6 17%
I could not get access to computers / internet at home	31 10%	1 6%	27 11%	3 8%
I am not confident with e-learning generally	29 9%	5 28%	19 7%	5 14%
I do not like the type of e-learning offered	29 9%	- -	26 10%	3 8%
I am not confident with information technology generally	25 8%	3 17%	17 7%	5 14%

- There were just 18 respondents to this question who are SNTQs, analysis on this dimension of non-traditionality can be extrapolated to all SNTQs (the population) with only limited confidence.
- With that caveat in mind, the differences between SNTQs and their A level entry counterparts appear to be very striking. The barrier most frequently cited by SNTQs is not being able to get access to computer/internet on campus (33% compared to 19% of A Level entrants).
- The second biggest barrier for SNTQs was a lack of confidence with e-learning generally (28%); this was a barrier for just 7% of A Level entrants.
- SNTQs were also less confident with ICT generally than were A Level entrants (17% of the former consider this a barrier compared to just 7% of the latter).
- SNTQs were less likely to say that they did not receive enough help or support with e-learning than respondents as a whole (perhaps because were more likely to have sought and used available support or possible because of lower expectations of support).

Summary – barriers to e-learning

Table 42 (below) summarises student responses regarding perceived barriers to e-learning for both traditional students and non-traditional students. The differences between groups are statistically significant.

Table 42: Barriers to e-learning: overview of non-traditional students' responses (*SSR at 1% level) (Q61)

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Base	308	110	71	127	117	191	18	254	36
Q61									
I did not get enough training or support for using e-learning	64 21%	24 22%	15 21%	25 20%	25 21%	39 20%	2 11%	57 22%	5 14%
I could not get access to computers / internet on campus	63 20%	24 22%	14 20%	25 20%	22 19%	41 21%	6 33%	48 19%	9 25%
Teachers are not positive about e-learning	60 19%	28 25%	12 17%	20 16%	10 9%	50 26%	2 11%	55 22%	3 8%
I do not have time to do e-learning	42 14%	13 12%	9 13%	20 16%	21 18%	21 11%	2 11%	33 13%	7 19%
I do not like ULearn	42 14%	21 19%	11 15%	10 8%	9 8%	33 17%	1 6%	36 14%	5 14%
I do not see how e-learning will help me in my studies	32 10%	16 15%	8 11%	8 6%	8 7%	24 13%	- -	26 10%	6 17%
I could not get access to computers / internet at home	31 10%	4 4%	8 11%	19 15%	11 9%	20 10%	1 6%	27 11%	3 8%
I am not confident with e-learning generally	29 9%	8 7%	9 13%	12 9%	17 15%	12 6%	5 28%	19 7%	5 14%
I do not like the type of e-learning offered	29 9%	12 11%	5 7%	12 9%	11 9%	18 9%	- -	26 10%	3 8%
I am not confident with information technology generally	25 8%	2 2%	11 15%	12 9%	19 16%	6 3%	3 17%	17 7%	5 14%

2.3.3.14 Student demand for e-learning

Overall 44% of respondents would like to see a little or as lot more e-learning; 31% would like it to stay the same; 6% would like a little less; 3% a lot less; 2% would like none and 14% said that they didn't care about the amount of e-learning on their programme.

As Chart 4 and tables 43a and 43b (next page) show, mature students and SNTQs were somewhat more likely to say that they want more e-learning while lower SEG background respondents were somewhat less likely than middle or higher SEG background respondents to say that they want more e-learning (this continues the pattern of mature and SNTQs being more positive to e-learning with lower SEG background respondents being slightly less positive).

Chart 4: Views on how much e-learning there should be in programmes (by traditional students/non-traditional students)

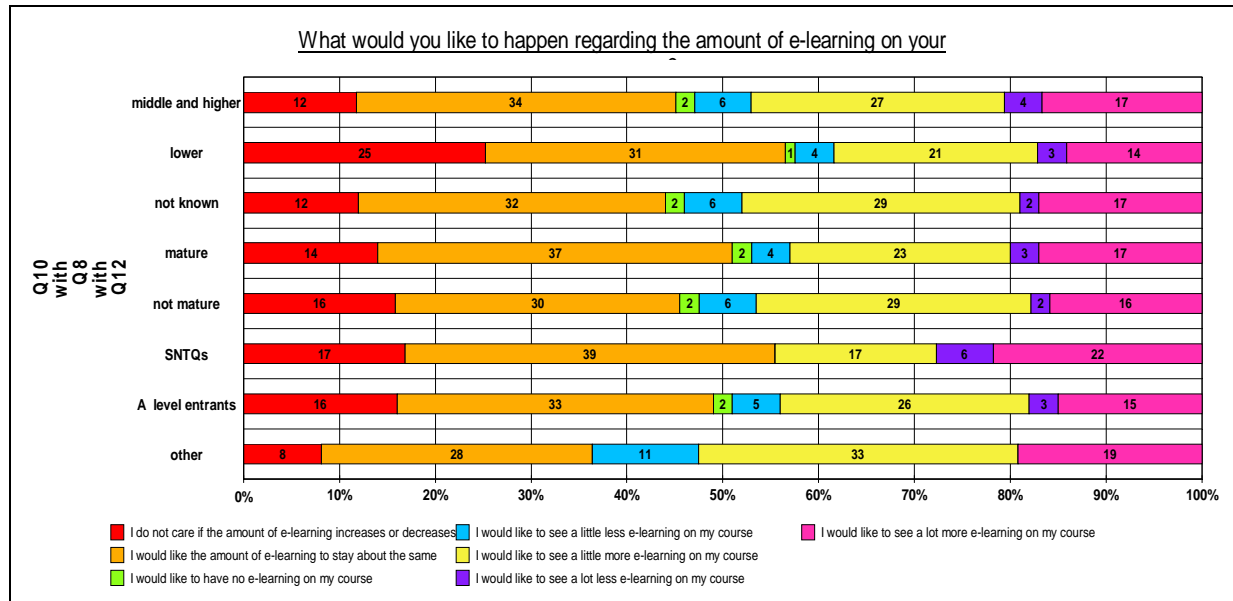


Table 43a: Amount of e-learning desired/demand for e-learning (means) (higher mean = more demand for e-learning; minimum score 0, maximum score 6) (Q63)

Means Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
	4.68	4.82	4.08	4.90	4.71	4.66	4.67	4.61	5.19

Table 43b: Amount of e-learning desired/demand for e-learning (means) (*NSTS) (Q63)

Counts Break % Respondents	Total	SEG band (high or low) PD			mature (SIMPLE in 2 categories) PD data re status at progstart		Entry Qualifications simple category PD		
		middle and higher	lower	not known	mature	not mature	SNTQs	A level entrants	other
Base	306	109	71	126	115	191	18	252	36
I would like to see a lot more e-learning on my course	50 16%	18 17%	10 14%	22 17%	20 17%	30 16%	4 22%	39 15%	7 19%
I would like to see a little more e-learning on my course	81 26%	29 27%	15 21%	37 29%	26 23%	55 29%	3 17%	66 26%	12 33%
I would like the amount of e-learning to stay about the same	99 32%	37 34%	22 31%	40 32%	42 37%	57 30%	7 39%	82 33%	10 28%
I would like to see a little less e-learning on my course	17 6%	6 6%	3 4%	8 6%	5 4%	12 6%	- -	13 5%	4 11%
I would like to see a lot less e-learning on my course	8 3%	4 4%	2 3%	2 2%	4 3%	4 2%	1 6%	7 3%	- -
I would like to have no e-learning on my course	5 2%	2 2%	1 1%	2 2%	2 2%	3 2%	- -	5 2%	- -
I do not care if the amount of e-learning increases or decreases	46 15%	13 12%	18 25%	15 12%	16 14%	30 16%	3 17%	40 16%	3 8%

3 Discussion

3.1 Focus groups with staff

Staff, on the whole, had limited knowledge of the demographic makeup of the students they were teaching and tended to greatly underestimate the number of non-traditional students amongst those they were teaching. Several staff talked about non-traditional students in terms of there being only a few in each cohort or that non-traditional students constituted only a few per cent of the undergraduate population. Analysis of survey data (which closely reflected the population in terms of non-traditional characteristics) showed that this was extremely wide of the mark; non-traditional students are likely to make up a majority of the undergraduate population across the three programmes studied. Nursing is perhaps unique as a programme because of the large proportion of nursing students who are non-traditional (35% from lower SEG backgrounds and a massive 68% being mature). However, even on management and chemistry programmes, which staff perceived as having a very traditional demographic profile, survey data showed a sizeable proportion of non-traditional students (22% of chemistry students were from lower SEG backgrounds and 15% were mature; 13% of management students were from lower SEG backgrounds and 20% were mature (see Tables 8, 9a and 9b). Coldwell et al. (2008), Young (2008) and Miller and Lu (2003) all suggest that staff who are involved with designing e-learning for non-traditional students should be aware of the students' demographic profile.

Many staff have limited awareness of the different types of non-traditional students whom they may teach; this was often limited to more 'visible' categories of non-traditional students such as mature students (who may sometimes be distinguishable by their age) and those with learning difficulties (who may sometimes become 'visible' if, for instance, they make a member of staff aware that they have dyslexia). Some staff were able to go beyond 'visible' groups of non-traditional students to discuss part-time students' learning needs in the context of e-learning, students from lower SEG backgrounds and international students. Awareness of non-traditional students was higher in nursing due to the fact that such students form a majority in that programme but even in nursing 'non-traditional' was too often simply equated with 'mature' (and particularly with mature women).

Staff's approach to teaching did not seem to be informed by the demographic profile of their students; there was little evidence that an awareness of difference had led any of the staff participants to alter their teaching and learning strategies for non-traditional students whether in face to face teaching or e-learning. This is because (as touched on above) they were often not aware of the demographic profile of their students. However, even if staff did know the demographic profile of their students, they would not seem to be clear about what response they would make; the university does not seem to provide any guidance in relation to this and more generally staff do not feel supported by the university to spend more time on improving the quality of teaching for non-traditional students. This would seem consistent with the findings of Malcolm and Zukas (2000:1) that there are strong structural pressures working against inclusive pedagogy. They argue that:

"The opportunity presented by "massification" to promote inclusionary pedagogic practice in higher education has been overshadowed by the pressure to teach vastly increased numbers of students on less money and produce the right kind of evidence of effective teaching".

The findings from the staff data suggest that the integration of e-learning into programmes has been uneven. As Lingard (2007) notes, the fact that most HEIs have VLEs does not tell us what proportion of staff are regularly using e-learning and our evidence suggests that for many staff e-learning is an extremely peripheral issue and it was relatively easy to identify, within each programme, staff who were confident with e-learning and a group who had little or no experience of it. The barriers to staff take up off e-learning are discussed by Lingard; they include a lack of time, a lack of resources, lack of ICT skills, concerns that e-learning may

impact negatively on attendance at face to face teaching sessions and a lack of intuitional support for innovation in teaching and learning. Clearly, not all staff who participated in our focus groups felt prepared or competent to offer e-learning to students who they sometimes perceive as being more expert than they are with technology. This resonates with Stiles' (2004:87) statement that:

"Traditional models of teaching and learning as practised in higher education may well be inadequate for the 'new' higher education and the need for adoption of active pedagogies which may well be unfamiliar to, or at least unpractised by, many academic staff".

Stiles stresses the need for much increased staff development and institutional support so that the potential of e-learning to benefit non-traditional students (and indeed all students) can be realised:

"Diversity raises questions of curriculum, pedagogy and assessment, all of which, as practised, remain deeply conservative. Despite the increasing potential of technology to support diversity and widened participation, currently its use reflect the same conservatism". (Stiles 2004:99).

Staff felt that the introduction of e-learning has been brought about by drivers such as the fact that many students (whether digital natives or immigrants) were using computers, the Internet and other technologies as an integral part of their lives and expect to continue to use such technologies as part of their education. Staff were also aware (as referred to by Malcolm and Zukas (2000) in relation to traditional teaching) that e-learning may be driven by a wish to help staff 'manage' larger cohorts through more efficient administration of submission of work and feedback. Findings from staff could be seen as confirming the view of Johnson et al.(2008) that WP is not a key driver of e-learning in HE but rather non-traditional students may, in the view of some staff, be a constraint on the development of e-learning in that staff may perceive that such students will struggle with e-learning, for example because of poorer ICT skills.

It was also clear from the focus groups that many staff were extremely interested in the experience of non-traditional students and how this experience may be improved through e-learning or indeed through face to face teaching. There was what might be described as an unsatisfied demand for time and development opportunities so that staff would feel confident on both pedagogical and technical levels to be more responsive to the needs of non-traditional students. Many staff were very sympathetic to the challenges faced by non-traditional students and it was clear that there was a passion amongst many staff for improving teaching and learning across the board.

3.2 Focus groups with students

The limited numbers and range of non-traditional students in the student focus groups (predominately young and with no participation at all from nursing students) means that the findings from the qualitative data can only be extrapolated to non-traditional students with very limited confidence.

The focus groups showed that traditional and non-traditional students on the whole seemed confident with ICT and e-learning. However those from lower SEG backgrounds had clearly had less experience of ICT in the home and at school and mature students may also be 'catching up'; to some extent once they start their programme. Despite this, attitudes of non-traditional and traditional students to e-learning were generally positive. They both frequently use basic aspects of e-learning such as downloading lecture notes and generally participated in e-learning where it was available. There is some evidence of greater barriers for non-traditional students in access to computers especially when off campus, when at the parental home during holidays and in juggling domestic and family commitments with studying. Non-traditional students did not seem to perceive themselves as having a distinct experience with regard to e-learning; the barriers which they identified were perceived as minor inconveniences rather than serious disadvantages or exclusion.

Participation for both traditional students and non-traditional students appeared to be structured significantly by the culture of the programme (specifically how much e-learning is available and/or required on each programme).

The seemingly positive attitudes of students to e-learning in the qualitative findings are not sufficient evidence of student satisfaction with e-learning. This is because of the unrepresentative nature of those participating and, secondly because, in order to make informed choices about how much or what type of e-learning they want, students need to be familiar with what e-learning could potentially do to improve their learning experience. While some students had obviously thought about e-learning a good deal, they were not particularly well informed about the range of e-learning that is available or the ways in which it might be developed to improve the student experience and in particular the non-traditional student experience.

3.3 Online survey of students

The findings from the online survey are from three undergraduate programmes and one of these (nursing) is known to be quite atypical in terms of its proportion of non-traditional students. The response rate was 15% which, while not unusual for an online survey, does create a risk of non-response bias and project resources did not allow this bias to be assessed (for instance by following up a sample of non-responders and comparing them to those who did respond). Nonetheless 399 responses were obtained and these were representative of the population from which they derive in terms of demographic and non-traditional characteristics which should increase confidence in the findings. The number of SNTQs in the sample (4%) and in the response was small (6%; n=24) so findings from this group must be interpreted with particular caution. Relatively little is known about non-traditional students' experiences of e-learning and there are few if any surveys which attempt to systematically investigate this. There does not appear to be any research which systematically compares differences between groups of non-traditional students in relation to e-learning so the findings from this research are potentially of great interest to educators and researchers.

Most of the survey analysis presented used a chi-square analysis to assess whether there are significant differences between different groups of traditional and non-traditional students. The use of chi-square with survey data is perhaps best understood as indicative rather than conclusive (Holt et al. 1980), particularly when complex tables are used. Survey data could have been analysed on a simple traditional/non-traditional student basis (i.e. combining the categories of lower SEG background, mature students and SNTQs) to form a simpler bivariate (two variable) analysis but one of the aims of the project was to examine differences between different groups of non-traditional students as well as between traditional and non-traditional students.

As discussed in 2.3.2.5, analysis of the population data (the data held by the university, on which the survey sample was based) suggests that at least 45% of undergraduate students on chemistry, nursing and management programmes were non-traditional students on the criteria of either being mature (on the broadest definition of 21 or over at programme start) or being from a lower SEG background. The proportion of non-traditional students is almost certainly higher than this though because the 45% does not include other types of non-traditional student and SEG data is not held for just over half of students. It seems clear then that a majority of students were in fact 'non-traditional' on at least one criteria and this is in sharp contrast with the perceptions of staff in programmes other than nursing that non-traditional students were a relatively small minority amongst the undergraduate population. This underlines the importance of understanding the experience of non-traditional students and the attitudes and needs which may arise from those experiences. That statement might apply equally to face to face teaching and e-learning but the focus of this research is the latter.

The survey data show that non-traditional students do have experiences, attitudes and needs in relation to e-learning which were often significantly different from those of traditional students

and also show that there is considerable variation between groups of non-traditional students with regard to e-learning.

Non-traditional students report that they have less prior experience with ICT both at home and at secondary school (e.g. 25% of lower SEG respondents said that they had had no access to computers at secondary school compared to just 8% of those from middle/higher SEG backgrounds). Relatedly, non-traditional students were also less likely to have had experience with e-learning prior to university. The fact that U.K. students from lower SEG backgrounds have had less experience with ICT at home is perhaps not surprising; ONS statistics show a clear relationship between class background and home ownership of PCs and access to the internet. Even in 2010 there are 7 million households without an internet connection (ONS 2010) and many of the young people at university today were likely to have grown up at a time when this aspect of the digital divide was even wider. Many mature students have completed their schooling without ever having had access to a computer, although some may have subsequently gained ICT experience in the workplace or on their own home PCs.

The findings regarding inequality of access to ICT in schools are consistent with Journell's (2007) review of literature in the U.S. which established that children attending public schools in areas which have a predominantly lower SEG population had significantly less experience of ICT than their more affluent counterparts and also confirms the findings of Miller and Lu's (2003) survey of teachers who worked with e-learning and non-traditional students in HE in the U.S.

As our survey findings showed that non-traditional students have less prior experience with ICT it is perhaps unsurprising that they also felt significantly less confident with ICT at university than their traditional counterparts (e.g. 56% of students from middle/higher SEG backgrounds strongly agreed that they were confident with ICT compared to just 38% of lower SEG backgrounds; 28% of mature students strongly agreed that they were confident with ICT compared to 47% of non-mature students). These results must be viewed in the context that a majority of traditional students and non-traditional students said that they either agreed or strongly agreed that they were confident with ICT - but nonetheless there were significant differences between traditional and non-traditional students in confidence with ICT.

The distinctiveness of non-traditional students' experiences of e-learning is further evidenced in the fact that non-traditional students were much more likely than traditional students to consider that their ICT skills had improved since starting their programme. This suggests that non-traditional students were starting university with a lower level of ICT skills and are on a steeper learning curve at least for the earlier part of their programme. Clearly this would have implications for their likelihood of participating in e-learning, their confidence in doing so and their need for support. While only a minority of respondents considered that they had particular needs for support in relation to e-learning, non-traditional students were much more likely to say that they were unsure whether they needed support or not, perhaps consistent with an interpretation that non-traditional students may need support to engage in e-learning but were not sure what kind of support they needed (as indeed the open-ended responses to that question would seem to confirm).

Within literature which is critical of e-learning in HE (e.g. Johnson et al. 2008; Sims et al. 2005; Washer 2001) considerable attention has been paid to inequality in access to computers or the Internet brought about by the cost of that equipment; our survey findings suggest that access is not as big a problem as the literature might suggest (e.g. 95% of all students agreed or strongly agreed that 'generally speaking I am able to access a computer and the Internet when I need to' but some large differences can be seen between non-traditional students and traditional students (e.g. 82% of respondents from middle/higher SEG backgrounds strongly agreed with the statement compared to 58% of those from lower SEG backgrounds; mature students were slightly less likely to strongly agree with the statement). When asked about barriers to e-learning 11% of students from lower SEG backgrounds cited difficulty of accessing computers/the Internet at home compared to just 4% of middle and higher SEG students.

Even though many of the papers highlighting the lack of physical access to ICT as a barrier to e-learning are fairly recent (e.g. Johnson et al. 2008) they may already have become somewhat out of date on the issue of physical access due to the increasing speed and specification of broadband connections and PCs combined with sharp reductions in prices of computers and broadband access over the last few years. However, the wider critique of e-learning in HE which these papers and others have developed is still valid and it is certainly not the case that the cost of computers and internet access is no longer a problem for any non-traditional student but rather that it appears to be less of a problem than it used to be.

Many other inequalities in physically accessing computers and the Internet remain within HE. Survey findings show clearly that accommodation type is strongly correlated to traditional or non-traditional status and particularly to SEG background. Students from middle or higher SEG backgrounds were more than twice as likely to live on campus in term-time as those from lower SEG backgrounds (35% and 16% respectively), where they can access the University's high-speed broadband (RESNET) and have much more convenient access to departmental or library computing facilities (although the latter were reported by some students to be oversubscribed). Even if student nurses (who are somewhat atypical of the undergraduate population in terms of course structure and hence accommodation patterns) are excluded from the analysis this difference persists. As well as being less likely to live on campus and enjoy the relatively convenient internet access there, nursing students, a majority of whom are non-traditional students, have problems in accessing ICT or e-learning in placements which are well documented (e.g. O'Driscoll et al. 2007; Gerrish 2006; Gulati 2005; Atack & Rankin 2002). The survey shows that students from lower SEG backgrounds were slightly less likely to have broadband access out of term time and this might relate to some indications from student focus groups that access may occasionally be a problem for such students when returning to live in the parental home out of term time. While broadband access from a laptop or desktop PC may currently be the norm it is clear that technology continues to develop rapidly and each new device or form of accessing the Internet which emerges potentially widens the gap between some groups of non-traditional students and others who can more easily afford such technology and so enjoy more convenient access to the internet and therefore to e-learning.

Our survey found that 25% of respondents overall had participated in a discussion board on a social media site (e.g. Facebook, BEBO) relating to their course. This is consistent with the Sharpe et al.'s comment (2006:57) that:

"There is an increasing recognition that students are making use of their own technology as well as those provided for them and that they are doing this in ways that are not planned for, difficult to predict and may not be immediately visible to their teachers and researchers".

Although Sharpe et al. (2006) do not relate this to socio-economic differences it follows that students who may be wholly or partially excluded from 'official' e-learning because they cannot afford a computer for home use may also be excluded from the unofficial e-learning networks that some students were using and which were little understood (e.g. the use of Facebook groups around a particular module or activity). Our survey found that just 16% of lower SEG background respondents had participated in a discussion board on a social media site related to their course compared to 27% of those from middle/higher SEG backgrounds.

Many other differences between traditional students and non-traditional students emerged from our findings in relation to participation in, and attitudes to, e-learning. 78% of respondents said that they had participated in some form of e-learning at Surrey in the last 12 months and this was a little higher for most non-traditional students. 40% of respondents said that when e-learning is available on a module they sometimes participate and a further 46% said that they always participated and again this was slightly higher for mature students and SNTQs (lower SEG background respondents do not conform to this pattern; they were somewhat less likely than those of middle/higher SEG background respondents to say that they always participated in e-learning when it is available). However, examination of the type of e-learning participated in showed that while non-traditional students and traditional students have similar rates of participation in what might be considered the more 'basic' forms of e-learning (downloading lectures notes materials, multiple choice tests/questionnaires), on all other e-learning activities

(discussion boards, work groups, wikis, podcasts, chat rooms, blogs, submitting work online or receiving feedback online) non-traditional students were considerably less likely to have participated than traditional students. This applies to all the three categories of non-traditional students which form the focus of this research (students from lower SEG backgrounds, mature students and SNTQs).

If the evidence presented in the literature review (Journell 2007; Heemskerk et al. 2005) that students from lower SEG backgrounds use computers in school differently than more affluent students, with a greater incidence of less challenging rote exercises or presentation of existing materials while wealthier schools encourage students to research, edit papers, and perform statistical analyses, can be generalised to the U.K. then such prior experiences may have a role in shaping the perceptions of students from lower SEG backgrounds towards ICT and e-learning in U.K. HE, so that non-traditional students might be less likely to participate in anything other than 'basic' forms of e-learning. Corresponding to traditional 'instructionist' pedagogies. Sharpe and Benfield (2005) reviewed a considerable amount of research suggesting that types of e-learning underpinned by constructivist pedagogies are experienced by all types of students as challenging. We might hypothesize that non-traditional students, who have less experience with ICT and e-learning, and less confidence, might experience e-learning based around constructivist approaches as more challenging than do traditional students and are thus less likely to participate.

However, to test this hypothesis would require further research with larger samples. In any event the fact that non-traditional students do have lower rates of participation in most forms of e-learning might be seen as supporting the views of Sims et al. (2005) or Johnson et al (2008) who are sceptical about e-learning as a means of empowering non-traditional students, or improving their learning experience, and might lend strength to their claim that the most advantaged students benefit disproportionately from e-learning.

The survey found differences in attitudes between traditional students and non-traditional students with regard to many aspects of e-learning. Non-traditional students were more likely to perceive benefits in e-learning (table 34) e.g. mature students and SNTQs have higher means on all items including 'e-learning helps me to manage my study time'; 'e-learning offers me flexibility' and 'e-learning made it more convenient for me to study the topics covered'. The gap between mature and non-mature students is largest on 'e-learning helps me to balance my study with other demand (such as family or work (3.85 for mature and 3.44 for non-mature. This would seem to support the hypothesis that mature students benefit disproportionately from the flexibility that e-learning can offer in terms of where and when they study. In terms of perceived benefits from e-learning.

Lower SEG background respondents have higher means than those from middle/higher SEG backgrounds on just two items (e-learning helps me to manage my study time and e-learning helps me to balance my study with other demands such as family or work), and this is (again) consistent with the idea that non-traditional students can benefit disproportionately from e-learning. However lower SEG background respondents were slightly less positive than middle/higher SEG background respondents on the remaining items.

Differences between different categories of non-traditional students

It was one of the aims of the project to investigate differences between non-traditional students groups in terms of experiences of e-learning rather than to discuss them in generic terms and we have therefore reported survey findings for most questions broken down by non-traditional categories of mature, lower SEG background and SNTQs. Discussion of non-traditional students in relation to e-learning in generic terms may be unhelpful because, as discussed in the literature review, there are many categories of non-traditional students and while they may have some common challenges in HE they do not necessarily have the same experiences, attitudes or needs.

The survey shows an overall pattern of all three groups of non-traditional students being more positive towards e-learning on many survey questions (despite apparently facing larger barriers

e.g. in terms of less previous experience with ICT and less confidence with ICT). Non-traditional students were on the whole more satisfied with e-learning than were traditional students and were also somewhat more likely to support an increase in the amount of e-learning on their programme.

However some differences can be seen between the categories of non-traditional students. For example, lower SEG background students were less positive than the other non-traditional students on some survey items (e.g. they are a little less satisfied with e-learning and a little less likely to think that the amount of e-learning should be increased).

SNTQs seem to experience problems with e-learning to a much greater extent than the two other categories of non-traditional students which we focussed on. This may be because they are more likely to be mature *and* from a lower SEG background perhaps multiplying the barriers they face in engaging with e-learning. It may be that preparation for HE via A level or equivalent involves developing better ICT skills than those who have vocational qualifications. However, as we have taken care to highlight, the sample of SNTQs is very small and so we cannot conclusively generalise these findings to SNTQs in general.

Overall, it is clear that the three categories of non-traditional students that this project focussed on are far more similar to each other, across the range of survey items, than they are to traditional students.

4 Conclusion

This research sought to answer the question 'How can the university use e-learning to improve the learning experience of non-traditional students?' and, mainly for pragmatic reasons, chose to focus on three categories of non-traditional students; those from lower SEG backgrounds, mature students and SNTQs.

The study found that university is not currently using e-learning to enhance the experience of non-traditional students in terms of either increasing the number of non-traditional students (i.e. WP) or in improving the learning experience of those non-traditional students already at the university. Although non-traditional students were certainly not excluded from e-learning in a general sense, many of the potential barriers to non-traditional students' participation in e-learning which were identified in the literature (and many which are not identified in the literature) were affecting non-traditional students at the University of Surrey. Non-traditional students clearly do have a significantly different experience of e-learning than traditional students and in many ways it would seem to be a less positive experience for non-traditional students. They have typically had significantly less experience of ICT or e-learning in their homes or schools, it seems likely that they have lower ICT skills than traditional students (at least at the beginning of their programmes), that they feel less confident about ICT and e-learning and (possibly) have a greater need for support. All of this may explain the striking finding of lower levels of participation in all forms of e-learning by non-traditional students apart from the most basic activities (such as downloading lecture notes) where rates of participation are similar between traditional students and non-traditional students.

Although some problems with physical access to computers/internet were apparent it would seem that the increased affordability of computers and internet access over the last few years (say 2005 to 2010) has diminished this form of the digital divide as most students report that they can access a computer and the Internet when they need to. However, as our data also showed, access it is still a real barrier for a minority of students and non-traditional students were over-represented in that minority. Inequalities in physical access to computers and the Internet are likely to re-emerge in new forms; as laptops and broadband access become widely affordable so new technologies become available which only some can afford (e.g. smart phones, iPads, PDAs or other mobile devices with high speed internet access).

Many non-traditional students would perhaps be considered as 'digital immigrants' rather than 'digital natives' in Prensky's (2001) terms but despite the fact that non-traditional students would seem to be have much greater challenges to participating fully in e-learning they were, generally speaking, more positive to e-learning than traditional students on a range of survey items aiming to measure the perceived benefits of e-learning and (with the exception of lower SEG students) were more satisfied with e-learning than traditional students. It is not entirely clear what the dynamics underlying these somewhat counter-intuitive findings are; there may be an element of non-traditional students wanting more flexibility in their teaching and learning to reflect the fact that many of them have demands on their time such as family and paid employment (traditional students may also experience such demands but perhaps with a lesser frequency and to a lesser extent). Another explanation might be that non-traditional students have marginally lower expectations of e-learning or teaching and learning generally and so are more easily satisfied. Further research would be needed to find reliable answers on this but it is perhaps encouraging that non-traditional students remain positive and interested in e-learning and (to a slightly greater extent than traditional students) would like to see more e-learning on their programmes.

Some authors have taken a critical approach to e-learning in HE, highlighting how it may in fact amplify inequality and exclude non-traditional students and there is also considerable literature which reports or suggests many ways in which e-learning can be used to improve the learning experience of non-traditional students in HE contexts, so that, in the terms of Heaton-Shrestha et al.(2004), e-learning can be used to both 'widen access' (i.e. increase the number of non-

traditional students in HE) and to 'enhance success' for those non-traditional students already in HE.

With regard to the former strand (using e-learning to widen participation in a direct sense of encouraging more non-traditional students to enter HE) the literature shows that e-learning has been successfully used by HEIs to make links locally with deprived areas or groups with low rates of participation in HE, for instance through offering short fully online courses using work-based learning materials in ICT or other key skills (Lim 2003, Noble et al. (2001).

With regard to the second strand mentioned by Heaton-Shrestha et al. (2004), 'enhancing success' of non-traditional students already participating in HE, the literature offers a wide variety of ways in which universities can use e-learning to improve the learning experience of non-traditional students. These include offering more e-learning so that non-traditional students can have greater flexibility in where, when and how they learn, using VLEs to track and support students with low or no participation (as such students are more likely to be non-traditional students) and using online mentoring resources to deliver peer-based subject support to non-traditional students or to help them through the initial period of adjustment to the culture of HE (Edirisingha. et al. 2004). Several suggestions are made about how e-learning resources should be designed so as to be inclusive and maximise the chances of participation from non-traditional students. Young 2008; Hughes 2007b; Heemskerk et al. 2005 and Stiles 2004 discuss various aspects of designing e-learning (in all its forms) in ways which are congruent or consistent with the culture of all those participating; or at least in ways which are not dominated by the culture or one group. This is in respect of pedagogical approach, content and structure.

The university is not currently using e-learning to enhance the experience of non-traditional students in either of the senses described above ('widening access' or 'enhancing success'). There is some conflicting evidence about whether WP is a significant driver of e-learning in HE but this would certainly not seem to be the case currently at the University of Surrey.

Our research suggests that there is little awareness amongst staff of how e-learning can be used to improve the learning experience of non-traditional students at the University of Surrey. Levels of staff engagement with e-learning vary widely across and within programmes and there are a variety of barriers to further uptake such as the common staff perception that e-learning is time-consuming and that the university does not reward innovation in teaching and learning.

The vast majority of teaching staff, though undoubtedly committed to their students, were not on the whole aware of the non-traditional element amongst them. Most teaching staff were not conversant with the different aspects of non-traditionality (mainly recognising just a small number of mature students and those with learning difficulties as non-traditional) and they hugely underestimate the number of non-traditional students amongst those whom they teach. In fact, our analysis of survey data from this project and of data held by the university, shows that non-traditional students are almost certainly a majority of the undergraduate student population in the three programmes included in the project. Coldwell et al. (2008:1) state that: *"when designing online learning for a diverse population, student demographics should be taken into account to maximise the benefits of the learning experience"* and Young (2008) supports this view. Clearly staff awareness of the demographic profile of their students (including non-traditional students) needs to be raised to enable design of e-learning which may improve the learning experience of non-traditional students.

Thinking more carefully about the design of e-learning would be likely to have benefits for all students and it is also worth remembering that poor e-learning design can unintentionally disadvantage some groups of students who are not considered non-traditional such as women²² (Heemskerk et al.2005).

²² A breakdown of all the findings on this survey by gender would no doubt be of interest but as we had to focus on non-traditional students this was not possible but the data is available for such analysis.

Even if staff were fully conversant with the demographic profile of their students and the types and numbers of non-traditional students it would not seem that many would know how to change the e-learning that they design or moderate so as to be sensitive to the needs of these students and so improve their e-learning experience. Although there is considerable literature available which could inform this process (see literature review) staff do not receive training in this respect and in any case many do not feel supported by the university to invest time in improving e-learning (or teaching generally).

Developing pedagogical awareness with regard to e-learning or face to face teaching is a complex matter and progress in this area will likely only be achieved with strong institutional support or perhaps a fundamental change in the way in which staff development in relation to teaching is viewed. As Elton and Johnson (in Stiles 2004:94) bluntly express it:

"...until management gives adequate time and resources for all academic teachers to engage in the kind of training and continuing professional development which the latter consider essential for every profession except their own, and academics are then prepared to engage in it, little of significance will change".

Institutional support to develop pedagogy in relation to e-learning would be justified in probable improvements to e-learning and teaching generally; practices that are effective for non-traditional students are likely to be effective for all learners (Stiles 2004). Holland and Arrowsmith (2000) found that where the pedagogic and technical challenges associated with e-learning on a VLE had been successfully addressed this also impacted positively on traditional methods of delivery. It would not seem realistic or consistent to expect e-learning to improve non-traditional students' learning experience if face to face teaching and learning was not also moving on the same direction. Though the focus of this report has of course been e-learning, many of the questions raised about e-learning in relation to non-traditional students could usefully be considered in relation to face to face teaching and learning.

It would also seem to require a reconception of the student as an active participant in the design of e-learning so that non-traditional students can act as 'cultural informants' (Young 2008:13) feeding back to teachers regarding how e-learning can be used to improve non-traditional students' learning experiences.

Although we have briefly reviewed literature relating to a range of non-traditional students the research has clearly focussed on just three groups of non-traditional students. Further research with other groups of non-traditional students (e.g. international students or those with physical or learning disabilities) would no doubt suggest many further ways in which their e-learning experience could be improved through e-learning but as we have not carried out research with these groups we do not make specific recommendations in relation to them.

With these conclusions in mind we make recommendations which we hope will enable linking e-learning and WP policies more clearly in the future and signpost a path for the development of e-learning which will improve the learning experiences of non-traditional students.

5 Recommendations

The following recommendations suggest how the conclusions may be addressed effectively as part of the institutional “strategic, co-ordinated and holistic approach” proposed by the WP Strategy (objective F13-14) and in a way which is consistent with the Learning and Teaching Strategy, 2010-17. The recommendations have been developed by the research team, drawing on the research findings and literature, in discussion with the project steering group. We also suggest which roles or groups may be relevant in taking forward these actions, thus constituting an initial plan for embedding our recommendations in practice.

Staff Development

1. Increase institutional, Faculty and staff awareness of the existence of non-traditional students and the challenges these students may face (in keeping with objective H 18 of the WP Strategy to “raise staff awareness”). This would provide a useful foundation for current and future design and use of e-learning.

To support this objective, regularly updated student demographic summaries should be made readily available to staff so they have an increased understanding of their students. Summaries of this sort are currently available via the Management Information System but may need to be simplified further and more proactively ‘marketed’ to staff. The University may wish to explore the possibility of including an additional question in the National Student Survey (NSS) at Surrey which asks about satisfaction with e-learning. The results from this question, (and the results of the NSS generally), analysed by categories of learners could be made available to help develop staff understanding of the experience of the non-traditional learner. This type of information could help to guide evidence-based design and use of e-learning (and curriculum design in general), as well as informing further research and studies conducted in the University.

Action: Planning (in that simpler summaries than those currently available on MIS might be necessary).

Action: Associate Dean Learning and Teaching (in ensuring that these summaries are better disseminated/cascaded) and issue raised at Faculty Teaching and Learning Committee.

2. Consideration of e-learning and approaches appropriate to the non-traditional student learning experience to be included within Faculties’ existing planning and evaluation processes. The aim would be to ensure that e-learning is an integral part of all learning and teaching activity.

Action: Widening Participation and outreach subcommittee.

3. Consideration of non-traditional students and the role/impact of e-learning to be explicitly incorporated into validation and periodic review procedures (including changes in documentation to guide this) to ensure that these issues are addressed formally and strategically and at the outset.

Action: Registry.

4. Foster a supportive culture that encourages academic staff to re-think their current teaching practice, including use of e-learning, so that they meet the needs of non-traditional students. This necessitates acknowledgement that development of practice may require additional time and/or resources. Development of practice in relation to this may be incorporated into staff appraisal as part of the alignment of appraisal with the learning and teaching strategy.

Action: Central H.R; DVC, Associate Dean & Faculty Teaching and Learning Committee.

5. Ensure that Faculty staff understand where to go for advice and support in relation to e-learning for non-traditional students. This is currently being incorporated into the 'Integrated Strategy for Improving Progression and Retention for specific cohorts' in development by University Learning and Teaching Committee (ULTC), lead by Centre for Educational and Academic Development (CEAD), and Library and Learning Services (LLS).

Action: ULTC, CEAD and LLS and Faculties.

6. Expand discussion and focus on e-learning, as part of the non-traditional student learning experience, within professional development opportunities provided by CEAD. This will help embed consideration of non-traditional learners into e-learning practice. Opportunities include the PG Certificate in Academic Practice (PG-CAP), e-learning courses and help sheets (an example is given in Appendix 1: Good Practice Guidelines).

Action: CEAD.

Student support

7. In keeping with objective D9 of the WP Strategy ("maintain effective induction procedures for students"), promotion of online resources and support available at Surrey could be included within induction, pre-entry days and the existing In2Surrey Scheme. Examples may include a skills audit to help students identify the level of their digital literacy skills, and to prompt them to use the available support to develop skills or ask for extra support where needed.

Action: Marketing (developing pre-entry materials).

8. Develop a student digital literacy skills strategy which sets expectations for all students and provides support to develop these skills, to ensure that all students have opportunities to reach a baseline standard of digital literacy and to address differences in competence and confidence with technology.

Action: LLS including SPLASH, supported by IT Services (ITS).

9. Raise visibility of existing online resources and support for non-traditional students that may be of particular benefit to them in developing their ICT skills and/or learning skills. These groups including Library and Learning Services which includes SPLASH.

Action: LLS, including SPLASH (Student Personal Learning and Study Hub) and Additional Learning Support (ALS), and ITS.

10. Extend existing student mentoring schemes (led by Students' Union) to incorporate support for use of technology and digital literacy for non-traditional students in particular.

Action: Students Union.

11. Consider offering certain groups of non-traditional students financial assistance for ICT equipment for use on campus and/or remotely to ensure equity of access. These measures could include a laptop loan or subsidised purchase scheme, and an additional printing allowance.

Action: Student Information and Advice Service (SIAS).

12. Consider the feasibility of recycling redundant university PCs/laptops to students who need them, perhaps under the auspices of the Student Union, subject to concerns about data protection being satisfactorily addressed.

Action: Student Union and IT services.

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Appendix 1 : Best Practice Guidelines for Staff – designing e-learning with non traditional students in mind

E-learning for all: Good practice guidelines for an inclusive learning experience

The University of Surrey has a relatively diverse student body with an estimated 54% of students considered to be 'non-traditional' on criteria of either being mature or from a lower socio-economic group background. Many other categories of students are generally considered and while these guidelines are based on research into the two categories mentioned, they are likely to be applicable to non-traditional students in general.

A Project supported by the Widening Access Fund was carried out in 2009/2010 to investigate how the university can use e-learning to improve non-traditional students' learning experiences. The project focused on three categories of non-traditional students (mature students, those from lower socio-economic group backgrounds, and those with non-traditional entry qualifications other than A-levels) in three subject areas (nursing, management and chemistry)

These guidelines, based on the findings of the project, are aimed at teaching staff. They have been produced to help teaching staff understand the needs of non-traditional students and to design and use e-learning in a way which is consistent with maximising participation and an inclusive approach to non-traditional students. These guidelines relate mainly to online and computer- based technologies (not classroom technologies) and are in addition to the support and guidance already offered about use of e-learning.

It is important to preface these guidelines with these key points:

- Some groups of non-traditional learners are less visible than others, and therefore **it is easy to underestimate the number and types of non-traditional students** you may have. The University is planning to provide more information to help you understand your students and their backgrounds.
- Across the whole student body there are students from both traditional and non-traditional backgrounds who have positively engaged with e-learning and others who have had less successful experiences. However, this project demonstrates that **there are distinct differences between the experiences of non-traditional and traditional students**, and these issues should be considered when designing and using e-learning.
- **Good practice in learning and teaching (which includes use of e-learning) improves the learning experience for all students**, and thus designing and delivering your teaching and use of e-learning with non-traditional students in mind will meet the needs and be of benefit to all students.
- Evidence gathered from the literature and through this project shows that use of **e-learning is an ongoing process and not a 'quick fix' that automatically improves the student learning experience**. In fact poorly designed e-learning can amplify or reinforce inherent limitations or issues.
- E-learning is **only one of many ways to improve and support the student learning experience**; effective teaching does not necessarily need to include technology.

GUIDELINES

Confidence with technology

It is a common misconception that all our students are 'digital natives' who are familiar and comfortable using different technologies but non-traditional students are quite likely to be 'digital immigrants'. Not all students have had access to a computer at home when growing up or at secondary school, and thus some may have had less opportunity to develop their skills and so feel less confident about using technology in their learning.

Think about:

- helping students to be responsible for their own skills development by making them aware of different opportunities to improve their IT and digital literacy skills (e.g. the Library and SPLASH offer a variety of sessions; IT Services provides online training)
- where possible, including a hands-on session for your students where they can use the technology for the first time in a supervised situation – this will help familiarise students as well as giving you the opportunity to pick up any problems
- making students aware of where to go should they have problems (e.g. IT Services user-support helpdesk if they are unable to log-in or access the software)

Access to technology

While students have access to computers on campus, students report that they are not always able to get access when they need to and some also find it more difficult to come to the campus than others. Some students have more limited access to computers and the Internet in other locations (such as the parental home or on work placements). This makes it less convenient or feasible for them to study using technology. They may need to share a computer with other members of their household, or have a computer but no internet access.

Think about:

- how frequently you will be expecting your students to use e-learning, and consider if this expected pattern of use would disadvantage a student who only had access to computers on campus
- if assignments are to be submitted electronically, set assignment deadlines for during the day – setting a midnight deadline may disadvantage students who only have access to computers by coming onto campus
- providing e-learning and assignment materials well in advance of when they are needed, so that students can, if appropriate, print them out on campus or save a copy for when they don't have access to a computer and/or the internet

Previous experience of e-learning

Non-traditional students are less likely to have prior experience of e-learning than traditional students. Therefore, they may be unsure as to what e-learning can offer to them and have less confidence in engaging with it for their study. Investing time in explaining the purpose, the benefits and the requirements will help to increase confidence and encourage greater levels of participation in more of your students.

Think about:

- encouraging students to be active participants in the design and content of e-learning and seek feedback/evaluation from them to ensure that e-learning is satisfactory for all
- ensuring that your use of e-learning is well-structured and complements the overall teaching and assessment goals – this will motivate students to participate
- including a brief induction when you start using technology: be explicit about why you are using e-learning, what benefits it will bring to your students and how it will help them to meet the learning objectives
- giving clear instructions and guidance as to what is expected of students – for example, how they should use online materials or what level of participation is expected in discussion rooms

- checking your students know where to go if they have questions about what they are supposed to do
- setting a small low-risk exercise as their first required interaction so that they can build their familiarity in a low-stakes situation
- using ‘tracking data’ – which shows when students have logged in and for how long – to help identify if students are not participating
- making time in your lecture or scheduling a drop-in session/clinic a few weeks into the course to check how things are going
- being positive about e-learning – continue to reinforce throughout your course why you are using e-learning and help students feel more confident about what you’re asking them to do

Time management

Non-traditional students may be more constrained with their time or have less flexibility in their choice of study time e.g. if they have family commitments or are in paid employment. Therefore, they value the flexibility that e-learning can offer in that it can make learning more convenient and help them manage their time of self-study to suit their circumstances. Equally, their need to be time efficient may require them to prioritise their time more rigorously, and thus e-learning should be used to help them achieve their learning goals and should not be experienced as an additional demand.

Think about:

- providing timetabling and deadline information online so students can easily plan their time
- providing resources online which can be accessed at a time of the student’s choosing – these may include lecture handouts, assignment briefs, links to journal articles
- using an online discussion as a forum for general questions so they can access support anytime; however, it is important to set expectations (e.g. when you will respond to questions, or to make it clear that the discussion is to facilitate peer support only)
- directing them to online resources to support learning offered by SPLASH and the Library

For more details about the project that informed these guidelines, see

For further support on professional development and support for developing your own practice with e-learning, please contact CEAD [contact details]

For more information about Widening Participation, please contact Debra Ibbotson or see the [Widening Participation website](#)

Appendix 2: List of abbreviations

Abbreviation	Description
HE	higher education
HEI	higher education institution
NSTS	no statistically significant relationship
SEG	socio-economic group
SNTQ	students with non-traditional qualifications
SSR	statistically significant relationship
VLE	virtual learning environment
WP	widening participation