

ICT Use in European universities

EUROPAEUM Survey¹

“Virtual is the shape of things to come” (Gilbert: 1996: p4)

1. Introduction

- 1.1 In recent years, the penetration of so-called Information and Communications Technologies (ICTs) – advanced, interactive and high-speed digital technologies, the Internet, the World Wide Web, - have become an essential part of our society and work– not least higher education. We are in a ‘digital society’.
- 1.2 Work and social patterns have been transformed. So too teaching and learning. Teaching no longer needs to be constrained by such factors as time and place. Moreover, student expectations are such that they prefer – even want - to study flexibly. Thus, in an increasingly global and consumerist culture, university education also becomes subject to ‘the forces of global flows, of capital, knowledge and information’ (Gilbert, 1996).
- 1.3 These shifts in the organisation of social, institutions and practices, coupled with technological innovation has lead to increasing demands on, and expectations of higher education. Widening participation, life-long learning, continuing professional development and enhanced skills acquisition are not all part of the university landscape, presenting significant challenges especially to the form of teaching and learning in what might once have been called ‘traditional’ universities.
- 1.4 Indeed, for many See for example (Gilbert, 1996, English and Yazdani, 1999, Rada, 2001) “Virtual is the shape of things to come” It is against this background, as universities adapt and come to terms with challenges of new technologies, adjusting the very form and function of teaching and learning, aiming to offer education of significant, qualitative difference in terms of content, delivery and access, that the Europaeum set out to do a survey of current attitudes to ICT and their usage in their partnership universities as part of its Future of European Universities Project, sponsored by DaimlerChrysler Services AG.

2. The European Study

¹ This survey was coordinated by Dr Paul Flather (Mansfield College, Oxford) and Dr Richard Huggins (Oxford Brookes University)

2.1 In this survey we wanted to examine the current experiences of the use of ICTs by academic staff and students from across a range of leading European universities. Data and responses for this survey were generated in two ways. First, we designed a web-based questionnaire focussed on a range of key issues that had emerged from recent writing on the topic. This was made available to a range of staff and students in all participating universities. The survey took about 10 minutes to complete, and in all 800 replies were received by January 2003.

2.2 Students and staff from the following took part:

- The University of Oxford
- Universiteit Leiden
- Rheinische Friedrich-Wilhelms-Universität Bonn
- Università degli studi di Bologna
- Institut Universitaire des Hautes Etudes Internationales
- Université Paris I Panthéon-Sorbonne
- Charles University, Prague
- Oxford Brookes University

In addition, a number of face-to-face interviews were conducted with a cross-section of students and staff from across all participating Universities. These two data sources combined produced a revealing snapshot of attitudes to, and use of, ICTs by staff and students in our range of European Universities. However, we continue to collect responses and will do so until the end of the year.²

2.3 This interim report summarises key findings. Overall, it appears both students and staff are alert to the opportunities provided by ICTs, including the increased ease of communication, access, speed and scope of information retrieval, plus improved processing, distribution and flexibility, in access to learning materials. However, academic staff in particular, noted the potential of reduced contact time with students, larger student cohorts, and student and staff at sea in an ocean of emails, electronic materials and time demands. Significantly, few staff or student respondents felt that their university was in the process of developing ICT facilities *sufficiently* to meet the needs and expectations of students, staff or external bodies such as business, government or professional bodies. All these responses are summarised and discussed below. Responses from both staff and students are grouped under four main themes: Access, Usage, Training and Development and Plagiarism.

3. Summary of Student Responses

3.1 Access

3.1.1 Students do not consider the importance of ICTs in their choice of either university or

² It is intended in further work, to compare results from individual universities with the overall results of the survey, for distribution (in confidence) to each participating university to identify significant variations

course of study. Even though 65% of respondents reported that they were aware of the importance of ICT skills *before* coming to university, 58% did not consider access to or the development of ICTs skills as relevant when choosing their university, 69% did not consider this a relevant consideration when choosing a subject to study, and 61% did not consider this relevant to their choice of course.

- 3.1.2 Nevertheless, access to ICTs and interest in the use of ICTs remains high. More than four out of five of the student respondents own their own computer. Students also often have network access from home as well as college: 75% have internet and domestic email access and 46% have access to the campus ‘intranet’ from home, 21% reported no internet access from home at all. This suggests a potential digital divide within universities which may be worth monitoring, although all universities provide online access to facilities on site.

3.2 Usage

- 3.2.1 In terms of usage, the respondents appear readily to use email for communication with staff and fellow students they study with (77%), friends (83%), and university administrative staff (59%). Aspects of the use of new technology they clearly value are for citing references, in interview, the ease of communication, the submission and return of assignments by email, and the ease of document and other material retrieval.
- 3.2.2 Levels of student accessing the university on campus intranet are also high with, only 14% reporting they never accessed this system, while one in three access it on a daily basis. Students emphasised this latter point strongly:

“It makes life easier. For example it means fewer trips to the library – you just reserve a book on-line and get email from the library when it is ready for collection”

- 3.2.3 Students report that they spend little actual time retrieving or downloading information from their university’s intranet, though they appreciate knowing materials can be on hand online, rather than lacking engagement.
- 3.2.4 Students do appear to spend more time using the internet for personal or entertainment activities than formal academic work. Some 42% use the network for such purposes for four hours, or more, a week. This compares with 91% of students who use it for less than one hour a day to retrieve course or lecture materials. This reflects the growing impact of the Internet as an entertainment resource. Universities will need to allow for this imbalance in usage.

3.3 Training and Development

- 3.3.1 The survey does confirm that students are indeed generally Internet literate, happy to use this technology for communication, information retrieval, (as well as

entertainment). However there will be real difference in the level of Internet and Computer usage which will need further exploration.

- 3.3.2 Students themselves also conceive of ICT skills as critical for success in both study and after university. How then do they rate the provision in universities, and the use of such technology by teaching staff? Overall students appear to feel that the extent and quality of provision could be better, with just 8% describing the quality of ICT used for teaching purposes at their university as 'excellent', and 21% as 'good'. So, more than two out of three feel there is room for improvement, some say considerable improvement.
- 3.3.3 In terms of the use of ICT in individual course teaching, only 3% describe it as 'excellent', and 21% as 'good'. One in three students of students report that lecturers use online resources in their classes and 96% of these found this helpful; and one in four students reported that lecturers use course-specific web pages to support their class-based learning, and 98% of these respondents liked receiving information in this way. One in four students reported that lecturers used an electronic course guide to support class-based learning, and, again, over 95% found this helpful and positive. Students appear to value the increased use of diverse and different teaching methods. One student reported:

"It seems that when teachers are using Power Point in their teaching, that they are using more examples from real-life. This makes the lecture or seminar usually livelier and more interesting."

- 3.3.2 Overall students clearly appear to want to see more use of ICT in their courses although a significant number, (19%), remain unsure. This suggests some concern that the benefits of improved communication may also lead to less direct contact with staff, with remote or distance learning replacing some 'traditional' teaching methods. More than four out of five students (84%) reported that ICTs have or are not being developed enough in Universities, as shown in this quote:

"My university is not a technically focused university. There are not enough access to facilities...students have to buy their own computers. And there is not enough support provided."

3.4 Plagiarism

- 3.4.1 Students appear divided over the contribution that the increased usage of ICTs may make to the critical and intellectual abilities of students. Less than one out of ten (8%) respondents strongly agreed that ICTs encouraged independent learning, whilst 9% also disagree with this statement. The technology is merely a mediator. As one student put it:

"It doesn't make any difference when it comes to originality"

This raises another issue, in terms of how teaching itself needs to change in the face of increased access, provision and use, of learning materials, and that there is no substitute to teachers ensuing critical engagement in the pedagogic issues involved in the application of ICTs.

Furthermore, a significant number of students (40%) either strongly or partly agree, that the use of ICT encourages plagiarism, raising again issues about how ICTs can affect, and undermine, academic integrity. As one undergraduate put it:

“Of course, no one admits it. But it is very easy to find essays and articles from other people on the Net, and because there is so much out there I think it can be very difficult for teachers to trace plagiarism.”

4. Summary of Staff Responses.

4.1 Access

4.1.1 Ownership of computers by staff is high (95%), as might be expected. Staff are more frequently networked to from home than students, 83% possessing access to email from home, and 52% having direct access to the university campus intranet at home. Academic staff strongly welcome the ease and speed of communication that networking bring: with 91% reporting that they use email to communicate with academic colleagues, 86% with administrative staff, 78% with students, and 78% with friends. One out of two staff report regular accessing of the campus intranet while almost 10% claim that they never access this part of the network.

4.2 Usage

4.2.1 Reviewing these findings, it is possible to note three types of ICT users – the *enthusiasts* who embrace the new technologies; the *pragmatists* who see the value for both students and staff and feel reasonably comfortable with increasing use; and the *sceptics* who still have a reluctance, and some even antipathy, to them. Thus, the ICT *enthusiasts* (12%) claim to spend three or more hours a week publishing on-line course materials while the majority of staff (58%) spend one hour or less undertaking this activity. Overall, the actual time invested in producing on-line learning materials appears relatively low, with 63% saying they spend one hour or less on producing course materials, lecture handouts and so on in an on-line form. Thus, staff appear to be using ICTs predominantly for communication between themselves, other staff and students.

A significant number are also happy to use Power Point presentations and on-line materials via lap-tops and networked PCs in the classroom. Few would go anywhere close to this lecturer who reports:

“All my lectures are given from a laptop. I download illustrations from the Internet. There are hundreds of movies on the Internet to illustrate what you

want to show and teach. For example, the flow of blood through the human body.”

- 4.2.2 Staff identify the advantages of using ICTs in teaching and learning, predominantly, as ease of access to materials, ease of information location, retrieval and distribution and also of communication between staff and students. In interviews staff also alluded to the increased ‘elegance of presentation’ that ICTs offer for lecturing staff, the increased use of visual materials, and the sheer volume of resources now readily available to staff and students.
- 4.2.3 Overall, staff appear more positive about the quality of the ICT facilities available for teaching purposes at their university than students do, with 59% reporting these facilities to be satisfactory or better. However, some also expressed concerns that increasing use of new technologies bring in their wake an information overload and a full inequality in standards. As one lecturer put it:

“I also see some huge disadvantages: now it is easy to get anything published. More and more material is put on the Net and it is getting more difficult to find the good ones, you will just get lost in the jungle of information out there.”

4.3 Training and Development

- 4.3.1 Some 7% reported that ICT facilities available for teaching purposes as ‘non-existent’ and 14% described their facilities as poor. 4% assess the integration of ICT into their course as excellent, 22% as good, and 36% as satisfactory. Some report no integration at all (16%) while a further 21% report poor integration of ICTs into their courses. Examining this question in more detail, we find that 19% regularly used online resources in their lectures, 31% sometimes did, and 33% did not. Some respondents cited a lack of equipment as a barrier to using online resources in lectures while a significant number, the *sceptics* again 17%, expressed an interest in knowing more about the potential benefits of using ICTs in this way. The 14% (*enthusiasts*) report that they always use course-specific web pages to support class-based teaching, 24% did often, 31% rarely; and 31% (the *sceptics*) not at all. Again 14% report that they always use an electronic course guides to support class-based teaching and learning, 19% often did so, 16% rarely and a majority (51%) never did do.

47% want to use more ICTs in their teaching, while only 11% stated that they did not want to do so. Staff generally feel that the use of ICT could be more developed in their university with only 12% disagreeing or partly disagreeing. Here are two staff comments :

“There is no interest and no investment in ICT. Staff have no understanding of the potential possibilities”

“It seems all right. But I am not at all in favour of this technology and I use it very little. I prefer to send letters than emails.”

There is clearly uncertainty about the extent of potential benefits and benchmarks:

- 4.3.2 For the future, staff expectations are not surprisingly very mixed. Some envisage ‘virtual environments of all kinds’, ‘increased flexibility and access’, ‘greater involvement of students’, and ‘distance learning revolutionised by virtual seminars’ in which student learning is deepened, broadened and globalised. Others are less sanguine, suggesting that the main shift will be “less direct contact between staff and students”, “lazier students”, “poorer standard of debate on ideas”, and deteriorating language skills.

Some clearly fear a collapse of traditional boundaries between staff and students. Staff report that email use by students encourages an expectation of immediacy that was, until recently, unusual, as conveyed in these statements:

“Teachers are getting more and more unnecessary emails from students. They are very informal and about things that you should think twice about before calling your teacher or writing a letter. And the students expect a reply straight away. It is very annoying.”

“Students often email me making long and detailed requests for references or supporting statements for job applications. The email will arrive at 10.00am detailing these demands and concludes ‘I can come and get the reference anytime I am downstairs in a pooled room now – shall I come up in five minutes?’ ”

- 4.3.4 In addition to such immediacy email use also appears to encourage a familiarity that staff can find problematic. Students, according to staff, appear less inhibited in terms of the nature of communication with staff. One colleague commented,

“Students now readily email me in a form that they would text (via a mobile phone) text their boyfriend or girlfriend. Its over-familiar, over-intrusive and, frankly, unintelligible.”

Staff also report that students will be much more demanding and “pushy” in email communication than in other forms of staff-student contact.

Students now ask more questions directly of faculty staff that, not long ago, they would have found answers for themselves. This will often involve silly, irritating little things like “is a book in the library?”, “do I have to read more than the course textbook”? “When is the library open?” or even “Where is the library?”

All this may also, of course, reflect deeper current societal changes in attitude towards deference and the student-lecturer relationship.

4.4 Plagiarism

- 4.4.1 Academics seems less sure about the qualitative impact of ICT use on the critical, creative and intellectual abilities of students, with 40% reporting that they are not sure if ICTs encourage originality in student work, and 29% believed they don't. One member of staff commented:

“It is very hard to say. Maybe? I don't know. Good students will do what is necessary. Maybe it will help students in the middle. But I really don't know.”

- 4.4.2 Staff have concerns that ICT use encourages plagiarism, with 65% agreeing that the use of ICTs encourages plagiarism, and only 13% disagreeing and 22% not sure. In the words of one lecturer:

“I think it is getting worse. Students are not as likely to plagiarise from books (they think it is more likely that the teacher has read the book than an article on the Internet). I am often suspicious.”

5. Conclusions

- 5.1 As would be expected, this survey suggests that academic staff and students are alert to the potential and importance of ICTs in university teaching and learning. However, there appear to be significant differences – between staff and students attitudes. Academic staff seem more interested in new technologies for what has been termed ‘passive’ (White, 1999), content orientated ways, sometimes little more than electronic presentations of traditional materials and activities. Students, on the other hand, are more interested in the ‘active’ (White, 1999) potential of new technologies in terms of communication and processing.
- 5.2 The survey also reveals, as we might expect, that ICTs have made a significant impact, with student expectations of provision and availability rising, probably faster than institutions are able to meet. While academic staff appear hesitant about both the impact and full range of advantages of ICTs, students appear increasingly familiar with the application of ICTs to everyday social life, and are increasingly expectant of similar applications in education – posing a real challenge for universities. This is a significant finding for all universities to note.
- 5.3 The survey also reveals a significant minority of staff who are *still sceptics* to using such technology in higher education. This group – perhaps one in seven – contrasts strongly with the one in five *enthusiasts* who are keen to pioneer best ways on using new technology in their work, and a middle group who are most comfortable with the benefits of email communication, document storage, and presentational benefits.
- 5.4 Both staff and students are also very well disposed, as you would expect, to the increased ease of communication between these two groupings and embrace this development as

positive. But this enthusiasm is tempered by concerns that this could come at the cost of reduced interaction between staff and students, which could reduce, qualitatively, the learning experience. The effacing of traditional boundaries between staff and students brings both a kind of democratisation of the relationship between staff and students, but also seems to engender tensions for staff, some of whom clearly fear for the survival of more traditional roles, functions and powers of academic staff.

5.5 Concerns expressed by both staff and students about the impact of ICTs on possible originality in student work - including a rise in plagiarism - and intellectual endeavour and the relationship between ease of Internet access and plagiarism, would seem of particular note. These issues pose questions for the qualitative experience of, and output from, university study and courses. This survey suggests these issues are likely to become more central to debates about the future of ICT use. As one lecturer commented:

“The Europaeum should encourage the less developed member universities to use more technology. They could help to generate some training, for example, and make them aware of the possibilities.”

5.4 It confirms that overall ICT use is patchy in terms of integration into different courses, staff attitudes to its value and use, and in terms of software and hardware available to both staff and students. Take-up, use and attitude, amongst staff remain varied and, in some cases, underdeveloped.

5.5 Overall, such a survey can – and does - only claim to provide a snapshot of current attitudes of usage and expectations of ICTs in universities. It prepares the ground for a more critical and deeper analysis of some of the issues raised and implied – including the extent and manner ICTs should best be used in teaching and learning, and to obtain the best pedagogic and intellectual use of such technology. As one lecturer put it during our interviews:

“I think there is too much tendency to think all ICT development is good, often without questioning what we are going to gain from it?”

References

1. English, S and Yazdani, M, (1999), “Computer-supported Cooperative Learning in a Virtual University” in *Journal of Computer Assisted Learning*, 15, pp2-13.
2. Fry, H, Ketteridge, S and Marshall, S, (1999), *A Handbook for Teaching and Learning in Higher Education: Enhancing Academic Practice*, London, Kogan Page.
3. Rada, R, (2001), *Understanding Virtual Universities* Bristol, Intellect.

4. White, S, (1999) "Using Information Technology for Teaching and Learning" in Fry, H, Ketteridge, S and Marshall, S, *A Handbook for Teaching and Learning in Higher Education: Enhancing Academic Practice*, London, Kogan Page, pp147-160