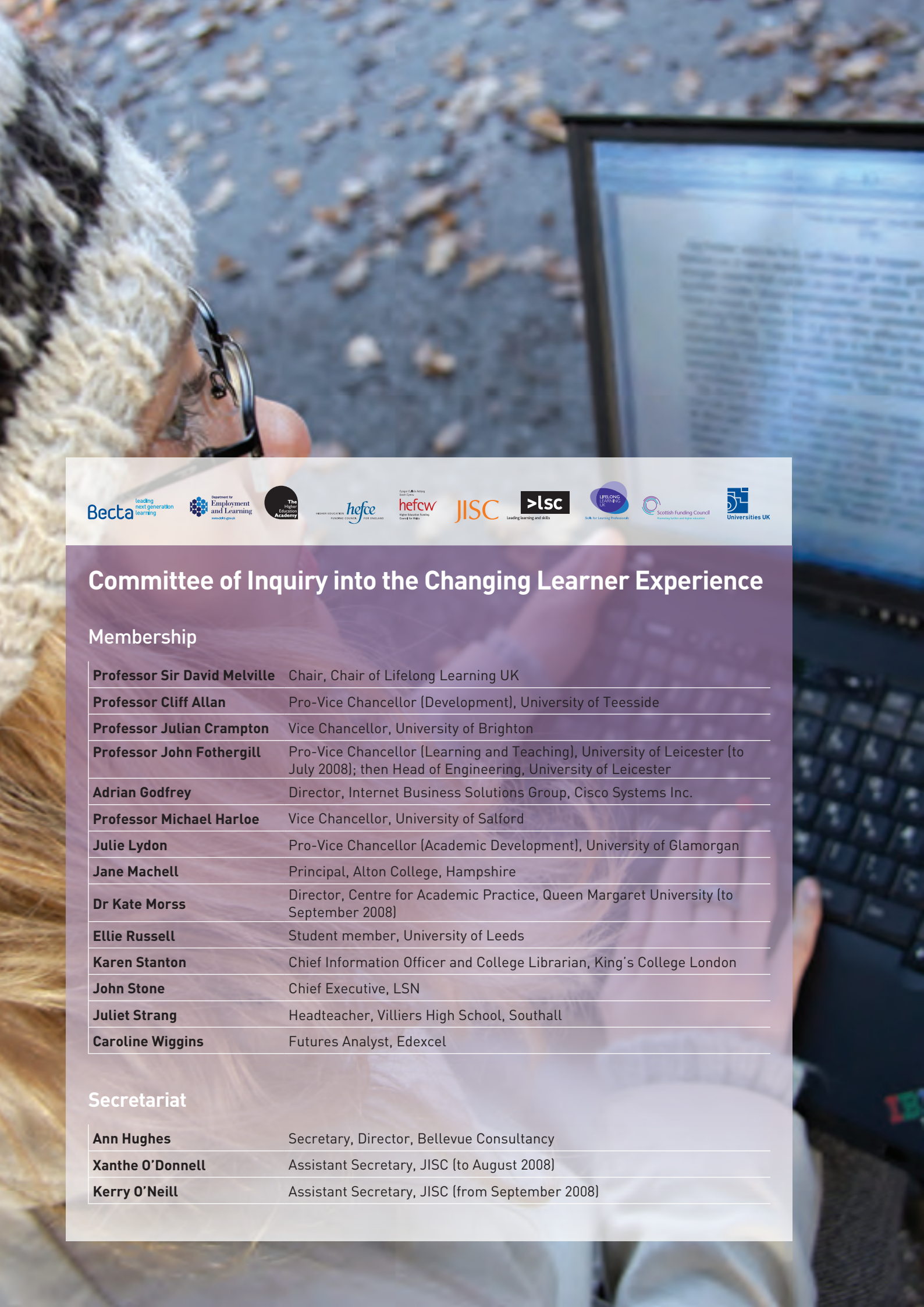
Higher Education in a Web 2.0 World

Report of an independent Committee of Inquiry into the impact on higher education of students' widespread use of Web 2.0 technologies

March 2009



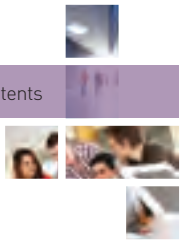
Committee of Inquiry into the Changing Learner Experience

Membership

Professor Sir David Melville	Chair, Chair of Lifelong Learning UK
Professor Cliff Allan	Pro-Vice Chancellor (Development), University of Teesside
Professor Julian Crampton	Vice Chancellor, University of Brighton
Professor John Fothergill	Pro-Vice Chancellor (Learning and Teaching), University of Leicester (to July 2008); then Head of Engineering, University of Leicester
Adrian Godfrey	Director, Internet Business Solutions Group, Cisco Systems Inc.
Professor Michael Harloe	Vice Chancellor, University of Salford
Julie Lydon	Pro-Vice Chancellor (Academic Development), University of Glamorgan
Jane Machell	Principal, Alton College, Hampshire
Dr Kate Morss	Director, Centre for Academic Practice, Queen Margaret University (to September 2008)
Ellie Russell	Student member, University of Leeds
Karen Stanton	Chief Information Officer and College Librarian, King's College London
John Stone	Chief Executive, LSN
Juliet Strang	Headteacher, Villiers High School, Southall
Caroline Wiggins	Futures Analyst, Edexcel

Secretariat

Ann Hughes	Secretary, Director, Bellevue Consultancy
Xanthe O'Donnell	Assistant Secretary, JISC (to August 2008)
Kerry O'Neill	Assistant Secretary, JISC (from September 2008)



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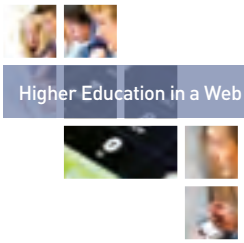


Chair's foreword

The genesis of this report was a discussion between colleagues in the Higher Education Academy and the Joint Information Systems Committee. It arose from the observation of exponentially increasing use of Web 2.0 technologies, particularly – but not exclusively – by those of school age. Alongside this was the perception that this use was not only changing behaviour – for example the crossover of the typical time watching TV in favour of time spent online – but was also changing attitudes. By 2007 such changes were, anecdotally, beginning to be noticed in students who had recently entered higher education, and not just in the way they spent their time and accessed the web, but also in their views of their place in the institution and their expectation of participation and influence.

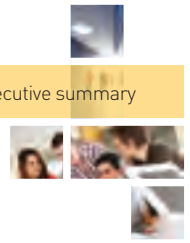
As we began to discuss the idea of an inquiry into the impact of this, we were immediately struck by the huge enthusiasm for the proposal from all sides. We were struck in equal measure by the view that, in such a rapidly changing world, it would be a daunting task. Thus we were able quickly to gain the support of all of the principal bodies and agencies in UK post-compulsory education, and we are grateful for the assistance provided by these bodies in various ways during our work. The report is, however, the work of an independent committee, and we take total responsibility for its content and conclusions. Since our objective was to transcend the particular and possibly transient technologies of the day, our aim in assembling the Committee membership was to seek those with a valuable perspective on both student and wider societal issues rather than on technical matters. Consequently, we were an eclectic mix of backgrounds and expertise from all facets of education as well as from the commercial world. I would like to express my personal thanks to the Committee for their not inconsiderable work and diligence in completing this task within our one year target timescale.

For almost all of us the work required a steep learning curve plus a continuous updating of the almost weekly developments and new research output in this field. Our method of working, therefore, was to bring in expert witnesses to almost all of our meetings. This, along with presentations from futurologists, gave us confidence that we were hearing a coherent story of both where we are and where we are going in the uses and potential for Web 2.0. Our presenters are listed in an appendix to the report and we are grateful to all of them for their openness and willingness to share their work with us, often prior to publication. It is invidious to pick out individuals, but we were particularly helped by the insights of Keri Facer, Stephen Heppell, Charlie Leadbeater, Ewan McIntosh and John Naughton.

Our hope is that this report provides a coherent and accessible account of the potential for Web 2.0 technologies in higher education and that our recommendations will enable higher education institutions (HEIs) and the agencies which support them to navigate their own paths in such interesting times.

Finally I would like to express my own gratitude and that of the whole Committee to our two assistant secretaries, Xanthe O'Donnell and Kerry O'Neill, and most especially to Ann Hughes, the committee secretary, who has managed us through such an interesting and enjoyable task as well as bringing coherence to our work in the form of the text of this report.

Sir David Melville
Chair
March 2009



Executive summary

Introduction

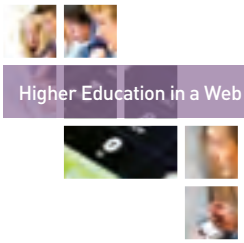
Supported by the principal bodies and agencies in UK post-compulsory education, the Committee was set up in February 2008 to conduct an independent inquiry into the strategic and policy implications for higher education of the experience and expectations of learners in the light of their increasing use of the newest technologies. Essentially, these are Web 2.0 or Social Web technologies, technologies that enable communication, collaboration, participation and sharing.

> *Web 2.0 – the Social Web:*
> *'Software that supports group interaction'*
>
> Shirky C, 2003

As we began our work, the online lifestyle of young people going into higher education was inescapable, and those working in it had sensed a clear change in their students' pre-entry experience. The time was ripe for an informed, impartial assessment of this and what it might herald for higher education policy and strategy. This was our remit. Since they represent the future, we took young learners as our baseline. We have, however, been concerned with learners of all ages.

We reviewed the findings of completed and, where they were available, ongoing studies related to our remit; took oral evidence from a range of practising academics and researchers; and commissioned briefings and studies, including one substantial piece of work on current and developing international practice in the use of Web 2.0 in higher education. We met six times in full session and held one event dedicated to hearing evidence.

We structured our Inquiry into a consideration of the prior experience of higher education learners, their expectations, and international practice in the use of Web 2.0 in higher education. From our findings in these three areas, we identified a number of critical issues, the exploration of which then informed our conclusions and recommendations.



Key findings

Prior experience of higher education learners

Today's learners exist in a digital age. This implies access to, and use of, a range of Social Web tools and software that provide gateways to a multiplicity of interactive resources for information, entertainment and, not least, communication. We looked at access to digital technologies and their use from the point of view of level and pattern, purpose, approach and consequences. Our key findings were that:

- The digital divide, the division between the digital 'haves' and 'have nots', has not been entirely overcome and persists in several dimensions: in access to, and engagement with, technology; the capability of the technology; and in individual competence
- Use of Web 2.0 technologies is nevertheless high and pervasive across all age groups from 11 to 15 upwards
- Using Web 2.0 technologies leads to development of a new sense of communities of interest and networks, and also of a clear notion of boundaries in web space – for example personal space (messages), group space (social networking sites such as Facebook) and publishing space (blogs and social media sites such as YouTube)
- There is an area within the boundaries of the so-called group space that could be developed to support learning and teaching
- The processes of engaging with Web 2.0 technologies develop a skill set that matches both to views on 21st-century learning skills and to those on 21st-century employability skills – communication, collaboration, creativity, leadership and technology proficiency
- Information literacies, including searching, retrieving, critically evaluating information from a range of appropriate sources and also attributing it – represent a significant and growing deficit area

Learner expectation

We looked at expectation from the perspectives of nature and level prior to entry to higher education and then response to the actuality on course. Our key findings were that:

- Present-day students are heavily influenced by school methods of delivery so that shifts in educational practice there can be expected to impact on expectations of approaches in higher education
- Face to face contact with staff – the personal element in study – matters to students
- Imagining technology used for social purposes in a study context presents conceptual difficulties to learners as well as a challenge to their notions of space. They need demonstration, persuasion and room to experiment in this context
- Staff capability with ICT is a further dimension of the digital divide, and effective use of technology, ie to enhance learning, is as much of an issue as practical operation, ie getting it to work
- Students' practical skills with ICT can be harnessed by staff to good effect in both domains – operation and effective use in delivery

Web 2.0 use in higher education now

We looked at the nature and extent of current deployment of Web 2.0 technologies in higher education and sought, in the process, to gauge the UK's position relative to that of other countries. Here we found that institutions of higher education in the UK are presently as advanced as any internationally in their developing adoption of Web 2.0, and that the UK is generally well served at present in the infrastructure – specifically broadband width – that is necessary to support Web 2.0 technologies. Other key findings were:

- Web 2.0 technologies are being deployed across a broad spectrum of university activities and in similar ways in the UK and overseas
- Deployment is in no way systematic and the drive is principally bottom up, coming from the professional interest and enthusiasm of individual members of staff
- In learning and teaching, usage is patchy but a considerable working base exists, as it does in other areas of university business, including administration, student support and advertising and marketing
- On the basis of the strength and reach of its broadband infrastructure at least, the UK is presently well placed to be at the forefront of future development
- Advice and guidance is available to institutions, but there is no blueprint for implementation of Web 2.0 technologies, and each is currently deciding its own path

Critical issues

The critical issues we have identified fall into three groups: immediate and fundamental; ongoing drivers to change; and fundamental over time. We believe addressing those in the first group to be key to capitalising on the momentum that exists in those in the second and realising the significant opportunity that lies in that in the third.

Immediate and fundamental

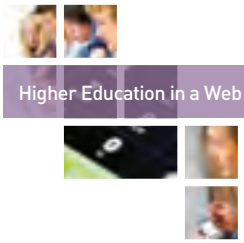
The issues here concern *the digital divide* and *information literacies*, and they are relevant to both staff and students.

The digital divide

Addressing the digital divide from the student perspective means ensuring access to technology for all and the development of practical skills in its use. This is a basic entitlement. For staff it means ensuring technical proficiency, reflection on approaches to learning and teaching, and the development of practice, and skills in practice, of e-pedagogy – learning with and/or through technology – so that when they choose to use technology, they can do so effectively.

Information literacies

Tackling information literacies from the student point of view means ensuring they possess the skills and understanding to search, authenticate and critically evaluate material from the range of appropriate sources, and attribute it as necessary. Allied to this is providing for the development of web-awareness so that students operate as informed users of web-based services, able to avoid unintended consequences. For staff, the requirement is to maintain the currency of skills in the face of the development of web-based information sources.



Ongoing drivers to change

This group comprises issues with ongoing momentum.

Tradition

Students are looking for traditional approaches, notably personal contact, in a modern setting, ie web-supported. The bridge between Web 2.0 in social use and in learning is as yet only dimly perceived by students, and only a little more clearly by staff. The fact that it is perceived, however, is likely to act as a spur to its construction.

Environmental factors

These are digitisation of learning materials, a receptive audience of learners and a cadre of teaching staff connecting the two through their interest in experimentation and innovation in approaches to learning and teaching.

Diversity in the learner population

e-Learning incorporating Web 2.0 offers the sense of being a contributing member of a learning community, which is one of the hallmarks of higher education. For learners unable to participate in an actual community for some, or even all, of the time – notably part-time, distance and, increasingly, work-based – Web 2.0 may be a reasonable proxy.

A richer educational experience

Learning that is active – by doing – undertaken within a community and based on individual's interests, is widely considered to be the most effective. Driven by process rather than content, such an approach helps students become self-directed and independent learners. Web 2.0 is well suited to serving and supporting this type of learning.

Practice in schools

Practice is variable, but the type of approach to learning outlined above – project- and group-based supported by technology – appears to be in the ascendancy and so likely to condition expectation in higher education.

Open source materials and online universities

The growth in both open source materials and online universities increases the choice available to students of all ages and in all locations. Adoption of approaches to learning and teaching that take account of the disposition and attitudes of the student population are more likely to ensure UK higher education remains an attractive choice.

Skills development

There is a match between what are seen as 21st-century learning skills, 21st-century employability skills and those engendered by engagement with Web 2.0 – communication, participation, networking, sharing. Employability skills, already high on higher education's agenda, are also being pursued vigorously through the changes to the 14 to 19 curriculum underway in all parts of the country.

Fundamental over time

The single issue here is *the role of the tutor.* Tutors are central to development of approaches to learning and teaching in higher education. They have much to keep up with, their subject for example, and developments in their craft – learning and teaching or pedagogy. To practise effectively, they have also to stay attuned to the disposition of their students. This is being changed demonstrably by the nature of the experience of growing up in a digital world. The time would seem to be right seriously and systematically to begin the process of renegotiating the relationship between tutor and student to bring about a situation where each recognises and values the other's expertise and capability and works together to capitalise on it. This implies drawing students into the development of approaches to teaching and learning.

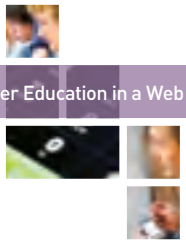
Conclusions

Web 2.0, the Social Web, has had a profound effect on behaviours, particularly those of young people whose medium and metier it is. They inhabit it with ease and it has led them to a strong sense of communities of interest linked in their own web spaces, and to a disposition to share and participate. It has also led them to impatience – a preference for quick answers – and to a casual approach to evaluating information and attributing it and also to copyright and legal constraints.

The world they encounter in higher education has been constructed on a wholly different set of norms. Characterised broadly, it is hierarchical, substantially introvert, guarded, careful, precise and measured. The two worlds are currently co-existing, with present-day students effectively occupying a position on the cusp of change. They aren't demanding different approaches; rather they are making such adaptations as are necessary for the time it takes to gain their qualifications. Effectively, they are managing a disjuncture, and the situation is feeding the natural inertia of any established system. It is, however, unlikely to be sustainable in the long term. The next generation is unlikely to be so accommodating and some rapprochement will be necessary if higher education is to continue to provide a learning experience that is recognised as stimulating, challenging and relevant.

The impetus for change will come from students themselves as the behaviours and approaches apparent now become more deeply embedded in subsequent cohorts of entrants and the most positive of them – the experimentation, networking and collaboration, for example – are encouraged and reinforced through a school system seeking, in a reformed curriculum, to place greater emphasis on such dispositions. It will also come from policy imperatives in relation to skills development, specifically development of employability skills. These are backed by employer demands and include a range of 'soft skills' such as networking, teamwork, collaboration and self-direction, which are among those fostered by students' engagement with Social Web technologies.

Higher education has a key role in helping students refine, extend and articulate the diverse range of skills they have developed through their experience of Web 2.0 technologies. It not only can, but should, fulfil this role, and it should do so through a partnership with students to develop approaches to learning and teaching. This does not necessarily mean wholesale incorporation of ICT into teaching and learning. Rather it means adapting to and capitalising on evolving and intensifying behaviours that are being shaped by the experience of the newest technologies. In practice it means building on and steering the positive aspects of those behaviours such as experimentation, collaboration and teamwork, while addressing the negatives such as a casual and insufficiently critical attitude to information. The means to these ends should be the best tools for the job, whatever they may be. The role of institutions of higher education is to enable informed choice in the matter of those tools, and to support them and their effective deployment.



Recommendations

We are making recommendations in four main areas: learner skills; staff skills; infrastructure; and inter-sectoral relationships. We look to each HEI individually to give consideration to the recommendations, especially those in the areas of learner and staff skills, and to act locally in others that have a wider dimension and are directed to national bodies.

Paragraph references are to the main body of the text.

We recommend that:

Area 1: Learner skills

- HEIs take steps to keep abreast of the prior experience and expectations of their student body (paragraphs 48–49; 69; 83)
- HEIs ensure access to appropriate technology for all students and continue to provide for the development of their technical skills (paragraphs 34–35; 69)
- HEIs, colleges and schools treat information literacies as a priority area and support all students so that they are able, amongst other things, to identify, search, locate, retrieve and, especially, critically evaluate information from the range of appropriate sources – web-based and other – and organise and use it effectively, attributed as necessary, in an appropriate medium (paragraphs 39–40; 42; 73)
- HEIs, colleges and schools also treat web awareness as a priority area and support all students so that they are able to participate in web-based activities and use web-based services on an informed basis (paragraphs 73; 75);
- JISC develops an ongoing research and support programme for institutions in best practice in developing information literacies and web awareness (paragraphs 73; 75)
- Becta increases its support for colleges and schools in developing all aspects of information literacy and web awareness (paragraphs 73; 75)

Area 2: Staff skills

- HEIs support staff to continue to reflect on research into learning so that they are able to make fully informed choices about their teaching and assessment methods (paragraphs 86; 88; 98)
- HEIs support staff to become proficient users of an appropriate range of technologies and skilled practitioners of e-pedagogy, incorporating both into initial staff training and CPD programmes (paragraphs 51–53; 70–71)
- HEIs explore ways in which the tutor/student relationship might be developed based on the Web 2.0 skills and attitudes of students (paragraphs 52; 89)
- HEIs provide ongoing support for staff to maintain the currency of their information literacies (paragraph 74)
- JISC uses its Regional Support Centres to assist colleges in the development of staff in the use of Web 2.0 technologies (paragraphs 51–53; 70–71)
- HEA develops a targeted staff support and CPD programme, cross-cutting its subject centres, aimed at identifying and spreading best practice in the use of Web 2.0 tools in pedagogy (paragraphs 51–53; 70–71)

- The Leadership Foundation considers the best way to include awareness of the full range of new technologies in their senior management development programmes (paragraphs 86; 98)
- JISC and Becta continue to support research into teaching and learning using Web 2.0 tools (paragraphs 86; 88; 98)
- TDA and LLUK consider ways in which Web 2.0 technologies are embedded into training programmes for new staff (paragraphs 51–53; 70–71)
- HEA works with Universities UK, Guild HE and the HE funding bodies to review the UK Professional Standards Framework for Teaching and Supporting Learning in Higher Education to ensure that it pays due regard to awareness of new and developing technologies, their capacities and impact on students and learning and teaching (paragraphs 51–53; 70–71;74; 80–81; 86; 98)

Area 3: Infrastructure

- JISC continues to ensure the availability of advice and guidance on the legal and regulatory and other considerations involved in engagement with Web 2.0 is widely publicised, including, and especially, to senior management in institutions (paragraph 66)
- JISC continues to develop a research and support programme into the use of Web 2.0 for all aspects of university business (paragraphs 56; 59; 62–65)
- HEA and JISC establish and maintain forums to provide for the sharing and development of ideas and practice in Web 2.0 technology in all spheres of university business (paragraphs 56; 59; 62–65)
- JISC works with the HE funding bodies and Universities UK to explore issues and practice in the development of new business models that exploit Web 2.0 technologies (paragraph 79)
- The HE funding bodies ensure that funding for investment in physical infrastructure and research at the national level is maintained and strengthened with a particular view to enabling and embedding the flexible use of technology and supporting the research and development programmes recommended in this report (paragraph 91)

Area 4: Inter-sectoral relationships

- JISC and Becta take the lead in establishing, with other sectoral bodies, forums for discussion and embedding of close working relationships between the schools, colleges and university sectors (paragraphs 48; 69; 83)



Section 1: Introduction



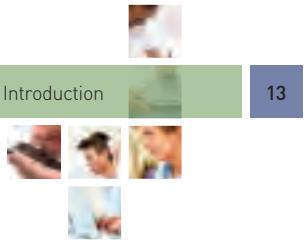
The Committee

1 The Committee was established in February 2008 to inquire into the strategic and policy implications for higher education (HE) of the changing experience and expectations of learners in the light of their increasing use of the newest technologies. Effectively, these technologies are the services and software of Web 2.0, or the Social Web, technologies that celebrate and build community, facilitate participation, and resource debate.[1]

2 The notion of an inquiry in this area sprang from discussions between the Higher Education Academy (HEA) and the Joint Information Systems Committee (JISC), picking up on the online lifestyle of those young people currently entering HE and sensing a clear change in their pre-entry experience. Other organisations lent their support so that the idea was ultimately backed by the principal bodies and agencies in UK post-compulsory education: alongside the HEA and JISC, Becta; the Department for Employment and Learning Northern Ireland (DELNI); the Higher Education Funding Council for England (HEFCE); the Higher Education Funding Council for Wales (HEFCW); the Scottish Funding Council (SFC); Lifelong Learning UK (LLUK); the Learning and Skills Council (LSC); and Universities UK. The Committee was, however, envisaged as autonomous and we have duly operated independent of any agenda set by any one or a group of these bodies.

3 Membership of the Committee, set out in full at the start of this report, was by personal invitation and designed to reflect the range of relevant perspectives rather than to secure representation of particular organisations.

4 The views, conclusions and recommendations we put forward in the report have been reached on the basis of an impartial but informed assessment of the evidence we have considered; and we look for them to engage a wide audience at the level of policy and strategy both inside and outside institutions of HE and across the UK as a whole.



Background

5 Our remit, encapsulated above in broad terms, provides the backdrop to the Inquiry. Essentially, this is the complete normalisation and integration of digital technology in general, and now Social Web or Web 2.0 type technology in particular, into the day-to-day lives of the current generation of young people. This is the generation born in the early 1990s, the i or google generation as they have been characterised. Box 1 provides some illustrative statistics.

Box 1

11 to 15 years old

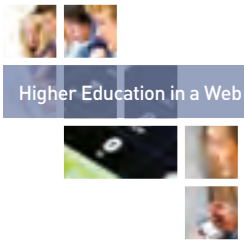
Having at least one social networking site	75%
Using email and instant messaging	90%
Playing online multiplayer games	60%
Owning an MP3 player	80%
Owning a mobile phone with camera	85%

Source: Learners' use of Web 2.0 technologies, Becta 2008

6 The past few years in particular have seen good quality, affordable personal communication tools such as mobile phones, laptops, PDAs (Personal Digital Assistants) and digital audio players – iPods and the like – develop apace. In parallel, there has been rapid exploitation of the dynamic, interactive capacity of the web. New, participatory web-based services have been developed that enable users to share information in all mediums – text, image, sound – and create their own content on the web. The timeline is striking, for example: Wikipedia (online encyclopaedia) 2001; del.icio.us (social bookmarking) 2003; MySpace 2003 (social networking); Facebook (social networking) 2004; Flikr (social media) 2004; Bebo (social networking) 2005; and YouTube (social media) 2005. Such services, typed as Web 2.0 or social software or social media, are working to bring about a culture of participation and collaboration. Users, most notably young people, who tend to be in the front rank for take-up of new devices, are shaping their lives and their behaviours, attitudes and approaches in line with the features of these technologies. They are, overwhelmingly, 'digitally-social' beings.

7 The developments in tools and technologies have been documented; those in the attitudes and behaviours of learners – especially young learners – in schools, colleges and universities, have been noted informally and researched to varying degrees through focused projects and surveys, some particular to institutions and others national. The projects in HE have tended to be small scale; and they have also been relatively few in number compared with those on practitioner use of technology in learning. Led by specialists in e-learning, all projects, irrespective of their focus, have tended to attract an audience that is predominantly one of peer practitioners.

8 The belief that the change in the experience of learners prior to entering HE that is in process, and what flows from it, properly demands more serious consideration and a higher profile than it has attracted to date, led to the establishment of the Inquiry. The Inquiry is intended to achieve both, as well as to serve to inform the further consideration of responses at the policy and strategic levels inside and outside institutions of HE.



Terms of reference

9 Box 2 shows our terms of reference in full. Briefly and broadly, they are to address the policy and strategic level implications for higher education institutions (HEIs) of the prior experience and expectations of learners, both those approaching and those recently entered full-time HE, in the light of their increasing use of the newest – Web 2.0 – technologies.

10 We have been concerned with learners of all ages but we have taken young learners as our baseline, these being the 'harbingers of change' whose 'habits, expectations and behaviours may anticipate what the rest of society will come to consider as its culture or norms'.[2] Put simply, young learners represent the future. It is they who 'will reinvent the workplace, and the society they live in'.[3]

Box 2

Terms of reference

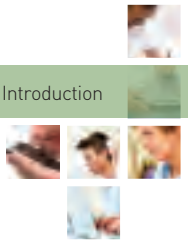
In the interests of informing ongoing policy and strategic level responses to changing learner expectations and experiences of the newest technologies, to inquire into how learners approaching and recently entered full-time HE, envisage drawing on such experiences and technologies in their HE experience and, taking account of experience gained with learners already on course, to identify and explore the key consequent issues for HEIs.

The Inquiry will have regard to:

a. The extent, nature and purpose of these groups' use of social networking and other new learning practices
b. Their expectations of HEIs in respect of the use of these technologies
c. Potential differences in the use of technologies according to the user's gender, class and age
d. The range of other changing learner experiences, including enrolment, timetabling, module choice, communication with tutors, and the rising use of Virtual Learning Environments
e. The implications for HEIs across the range of their concerns, including ICT services, marketing, recruitment, induction, approaches to learning and teaching (pedagogy), outreach and widening participation, guidance, staff development, quality in all dimensions (from the perspective of accessing the learner voice), and physical space
f. The implications for provision for other groups of learners, eg those in workplace learning, those from overseas, mature learners, part-time learners
g. International comparisons
h. Relevant current and ongoing work in related areas

In broad terms, the Inquiry is to address the implications HEIs of the experience and expectations of learners, both those approaching and those recently entered full-time HE, in the light of their increasing use of the newest technologies – including as these impact on such matters as social networking – and other factors affecting the learner experience. The Inquiry will be concerned with learners of all ages, but the experience and expectation of young learners, as yardsticks for the future, will provide its baseline.

11 We have also chosen to focus on the impact of the newest technologies and taken these to be the Web 2.0 generation, defined most straightforwardly as those that support group communications.[4] There is no single agreed definition of Web 2.0, but some of those that are current, essentially elaborations and exemplifications of the basic description, are shown in Box 3.



Box 3

Definition of Web 2.0 and social software

There is no single agreed definition of the terms Web 2.0 – also known as the Social Web – and social software, but there is widespread agreement that they apply to a set of characteristics in the context of the internet and applications served over it.[5] The characteristics include access and use through a web browser such as, for example, Internet Explorer of Firefox; being both supportive and encouraging of user participation in the sharing, consumption and generation of content, including through remixing and repurposing; and also amenable to developments in functionality consistent with user demand – users can and do, in effect, contribute to service and software design.

At its simplest, social software has been defined as 'software that supports group interaction'.[6] Elaborations include 'software that allows people to interact and collaborate online or that aggregates the actions of networked users';[7] 'a set of internet services and practices that give voice to individual users';[8] and, in the specific context of learning, 'networked tools that support and encourage individuals to learn together whilst retaining control over their time, space, presence, activity, identity and relationship.'[9]

The most familiar and widely recognised types of Web 2.0 activity include the following:[10]

Blogging
An internet-based journal or diary in which a user can post text and digital material while others can comment, eg blogger; technorati; twitter

Conversing
One to one or one to many between internet users, eg MSN

Media sharing
Uploading or downloading media files for purposes of audience or exchange, eg flikr; YouTube

Online gaming and virtual worlds
Rule-governed games or themed environments that invite live interaction with other internet users, eg secondlife; worldofwarcraft

Social bookmarking
Users submit their bookmarked web pages to a central site where they can be found and tagged by other users, eg del.icio.us

Social networking
Websites that structure social interaction between members who may form sub-groups of 'friends', eg myspace; bebo; facebook

Syndication
Users can subscribe to RSS (Really Simply Syndication) feed-enabled websites so that they are automatically notified of any changes or updates in content via an aggregator, eg bloglines; podcast

Trading
Buying, selling or exchanging through user transactions mediated by internet communications, eg craigslist; e-bay

Wikis
A web-based service allowing users unrestricted access to create, edit and link pages, eg wikipedia

12 We have deliberately chosen not to regard Virtual Learning Environments (VLEs) as Web 2.0 technology. VLEs, software systems that provide a collection of tools for such functions as communication, uploading content, assessment – including peer assessment – and administration of student groups, are powerful resources and we know that students value them greatly. Essentially, however, they are systems that have their locus in individual institutions. Their management and direction are firmly in institutional hands and,

moreover, they generally operate only in the environment of the particular institution. They are closed rather than open systems. This is not to say that VLEs lack the capacity to be developed and implemented as more open systems; rather that they tend not to be deployed by HEIs in that way at present.

13 In considering impact, we were agreed that our concern must be the constant and enduring issues for HE such as excellence, relevance, challenge and development rather than the technology in the shape of Web 2.0 as apparent today. The pace of change in technology is dramatic and applications that are current today give way to newer technologies tomorrow. We were also agreed that our deliberations must encompass a forward look, including a look at skills and qualities needed in the workplace of the future.

Working method

14 Our timescale of under a year to final report was demanding and, together with a wish to learn from work done by others and to avoid duplication, was a significant influence on our working method. This was a combination of review of the findings of completed and, where available, ongoing studies having a bearing on our remit; taking oral evidence from a range of practising academics and researchers; and commissioning briefing and studies in areas where we needed supplementary input.

15 The programmes to which we had regard are listed at Annex A, and the specific studies in the Reference section. Those who gave oral evidence are shown at Annex B. We commissioned one substantial study – of current and developing international practice in the use of Web 2.0 in HE – and this is available on our website (**www.clex.org.uk**).

16 We met six times in full session and held one event dedicated to hearing evidence.

Fundamental premises

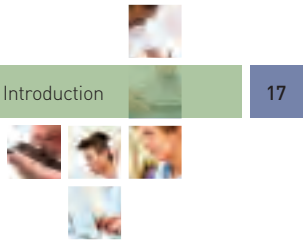
17 Throughout our work we have kept two fundamental considerations in mind: first, the aim of HE; and second, the authority and responsibility of individual HEIs.

Aim of higher education

18 The aim of HE and its component purposes was usefully defined in 1997 by the National Committee of Inquiry into Higher Education, chaired by the then Sir Ron and later, Lord, Dearing. Widely accepted, that definition is as follows:[11]

... to sustain a learning society. The four main purposes which make up this aim are:

- *To inspire and enable individuals to develop their capabilities to the highest potential levels throughout life, so that they grow intellectually, are well equipped for work, can contribute effectively to society and achieve personal fulfilment*
- *To increase knowledge and understanding for their own sake and to foster their application to the benefit of the economy and society*
- *To serve the needs of an adaptable, sustainable, knowledge-based economy at local, regional and national levels*
- *To play a major role in shaping a democratic, civilised, inclusive society*



19 This statement covers all dimensions of life: personal and intellectual, and cultural, social and economic. Properly, HE must support all. In recent years, the remit represented by Dearing's statement has been expressed in particular in the concern to widen participation in HE and to develop skills, both in the interests of social justice and higher sustainable economic growth.

Authority and responsibility of individual institutions

20 As far as the second consideration is concerned, the 2004 HE Act[12] confirms that responsibility and authority in the matter of the contents of particular courses and the manner in which they are taught, supervised or assessed are dimensions of the fundamental principle of academic freedom under which universities operate. What is taught and how, and how it is assessed, is unquestionably a matter for individual institutions. It is for them to decide, albeit the decisions they make will inevitably be at once influenced and supported by external policy considerations.

Policy context

21 We considered that there were two aspects of the current policy context that were of particular relevance to our work and to which we must have regard. The first relates to the learner population in HE in the UK and the second to the country's skills base.

Learner population

22 The learner population at HE level in the UK is highly diverse. Of the approximately 2.3 million learners enrolled on HE courses in 2005/06, around 1.4 million were studying full-time and 0.9 million part-time, that mode encompassing a variety of expressions, for example, day, evening, day and evening, block, work-based, distance. They were studying at a wide range of levels from Level 4* certificate through first degree to postgraduate taught and postgraduate research. Studies were in all major disciplines. Learners ranged in age from 16 to over 65. Looking at the full-time undergraduate learner population of approximately 1.2 million in 2005/06, 89% were UK domiciled and 11% from the EU and countries outside (4% and 7%, respectively).[13]

23 A high value is placed on this diversity and rightly so. Government, both central and in the devolved administrations, is making strenuous efforts to maintain and extend it in all dimensions. At undergraduate level there is particular concern to engage greater numbers of young people, especially those from areas of socio-economic deprivation, and also to maintain, if not increase, the intake of international students, the latter both actually and virtually through distance learning provision. International students make a substantial contribution to UK HE culturally and intellectually as well as financially. The concern to engage more young people from areas of social and economic disadvantage is a matter of social justice, but it is also one of economic necessity.

* Higher Education Qualification Framework – England, Wales and Northern Ireland. Equivalent 7 in the Scottish Credit and Qualification Framework.

The UK skills base

24 The Leitch review of the UK's long-term skills needs published in 2006[14] stated clearly that the UK must commit itself to a world-class skills base in order to secure prosperity and fairness in the new global economy. Such a commitment, according to Leitch, implied doubling attainment at most levels of skills. The development of workforce skills, including skills to continue learning, in the interests both of social justice and higher and sustainable economic growth, is now at the top of the agenda of central and devolved government in the UK.

25 The research undertaken in the course of the review pointed out that while improving the skills of young people is important to secure a more substantial base, it is not sufficient of itself. More than 70% of the 2020 working age population is already over the age of 16[15], and demographics point to a growing percentage of the older age group, 50 to 65, in the working population by that date – 30% compared with 25% in the early 2000s.[16] In this respect, there is an equal imperative for employers to use and develop the skills of the people they already employ. Effectively, the agenda is to raise skills levels across the board and to provide for their maintenance and development on an ongoing basis. And furtherance of high-level skills, Leitch maintained, can often confer the strong analytical skills that help people in the workplace take advantage of advances in technology and also drive change through innovation. By 2020, he suggested, more than 40% of the workforce should have such high-level skills. To put this in perspective, the proportion possessing them in 2005 was 29%.[17]

Environmental factors

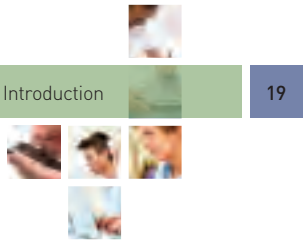
26 Again, there were two environmental factors that we considered to be material. We refer to one, the changing demographic, in the policy context above. The other feature is the increasing pervasiveness of Social Web technology.

Digital technology

27 Ofcom's Consumer Experience Research 2008[18] found that while there are variations by age and socio-economic group, overall, 65% of homes in the UK had internet access in that year. This is consistent with the percentage in 2007 and compares with 61% in 2006 and 56% in 2005. Of these, 93% had access via broadband, compared with 86% in 2007, 73% in 2006 and 62% in 2005. Clearly, home internet access has increased and access via broadband has become the norm.

28 The speed of broadband connections makes the internet in general easier to use and that speed is critical when it comes to making effective use of social networking sites. The faster connection allows more creative use, say for streaming video and music, as well as for uploading images and films. In consequence, those with broadband connections are more likely to use social networking sites.

29 In summary, the level of basic home internet access has risen steadily and the take-up of broadband is striking. Furthermore, we were told that developments such as fibre directly to the home and increasingly competitive pricing of packages of services, including mobile services, are likely to act as spurs to the take-up and use of web-based services. All in all, internet access is set to become more pervasive and high-speed access the norm. These are conditions conducive to greater participation in the Social Web.



Structure of the report

30 In this introductory section we have described the background to our work, noted the fundamental premises from which it proceeds, and outlined what we see as the material policy and environmental context in which it is set. In Sections 2 and 3 we consider, respectively, the prior experience of the HE learner and learner expectations. We conclude both sections with what we believe to be the key messages to emerge in these areas. In Section 4 we look at Web 2.0 use in HE at the present time in the UK and overseas, and again identify what strike us as the key messages. In Section 5, picking up on the key messages from preceding sections, we explore what we see as the critical issues. We present our Conclusions in Section 6 and our Recommendations in Section 7.

31 By way of preface and supplementary context to the main body of our report, to indicate the nature and compass of the debate the Social Web has generated in a relatively short space of time, we offer, in Box 4, a summary of the five principal perspectives on it. We have been mindful of these in considering our remit for its implications for HE.

Box 4

The five principal perspectives on the Social Web

- It's overblown and over-rated, simply another way of doing things that are already done, eg e-Bay is a giant flea market

  This view is now held only by a minority. It's been recognised that the Social Web changes the terms of participation very substantially: it allows far greater engagement and promotes peer-to-peer sharing and organisation at unprecedented scale. This makes collaboration to create complex entities without top-down direction eminently possible

- It's going to take time to have a big impact

  Traditionally, big changes tend to come in the second wave of the lifecycle of a technology, say 50 to 60 years down the line. On the basis of the experience of the first ten years – huge upsets in the music and media industries – the repercussions ahead are unimaginable

- It represents revolution, and for the worse. It will bring loss of authority and quality – cacophony; demise of thought because of the distraction of the screen; and erosion of privacy and identity, with people becoming incapable of living outside networks

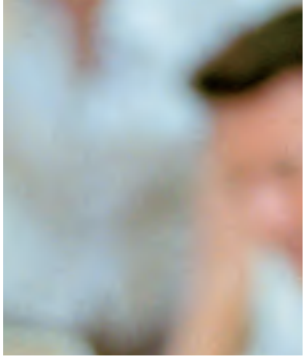
- It's a force for good and offers possibilities for more of everything – ultra-capitalism; or a complete alternative to capitalism – a giant collective communal resource, a global commons with the capacity to revolutionise or even overturn institutions, eg universities, democratic processes, as we know them

- It's begun well, but this is fleeting. It will deteriorate, over-run by its deficiencies (spam, bugs, tethered environments) so that authority will reassert itself to steer a return to the status quo ante.

Source: Summary by Charles Leadbeater in oral evidence to the Committee, 26 September 2008

The internet is a world of information. You don't have to go anywhere, it's all on one database.

Learner Experience Phase 2 project student



Section 2: Prior experience of HE learners


Definitions

32 The learner or student experience has been recognised as a compound concept[19] having different meanings depending on who uses it and in what context, HEIs for example in their marketing and advertising materials, or Funding Councils in their initiatives and investigations. We are using it in the specific context of being a learner in a digital age with all that implies: access to, and use of, a range of Social Web tools and software that provide gateways to a multiplicity of interactive resources for information, entertainment and, not least, communication. Today's learners are eminently well connected, including – and especially – to each other, both as individuals and in communities. Here we consider access to digital technologies and then their use from the point of view of level and pattern, purpose, approach and consequences.

Access

33 Access to digital technology is no longer perceived to be a particular problem. Ofcom data cited earlier point to a high and increasing level of home access and at broadband speeds. Schools and colleges are well equipped[20] as are universities. Almost all full-time students arrive at university with their own laptops and/or other mobile communications devices.

34 This said, it would be disingenuous to assume the digital divide – the division between the 'haves' and 'have nots' in terms of access – has been entirely overcome. From views presented to us and studies undertaken, it is clear that it still persists in some dimensions. For some young people it is still in physical access through a parental or school ban. Not that it follows that non-participants are unaware of new technologies or their uses. As one researcher (Boyd, 2007) observed, 'In essence, MySpace is the civil society of teenage

culture: whether one is for it or against it, everyone knows the site and has an opinion about it'.[21] In other respects it is in the level of access – the opportunity to engage with internet technology outwith public premises such as schools, colleges, universities or public libraries – and/or in the functionality of the hard- and software available. Socio-economic status will be a large factor here, as was recognised by a recent study commissioned by JISC.[22] Those students without access to a personal computer (PC) and the internet at home are likely to struggle to attain the standards of computer literacy apparent in their peers who have had such access. This will affect their ability to complete work. There are other dimensions of the digital divide that we pick up later.

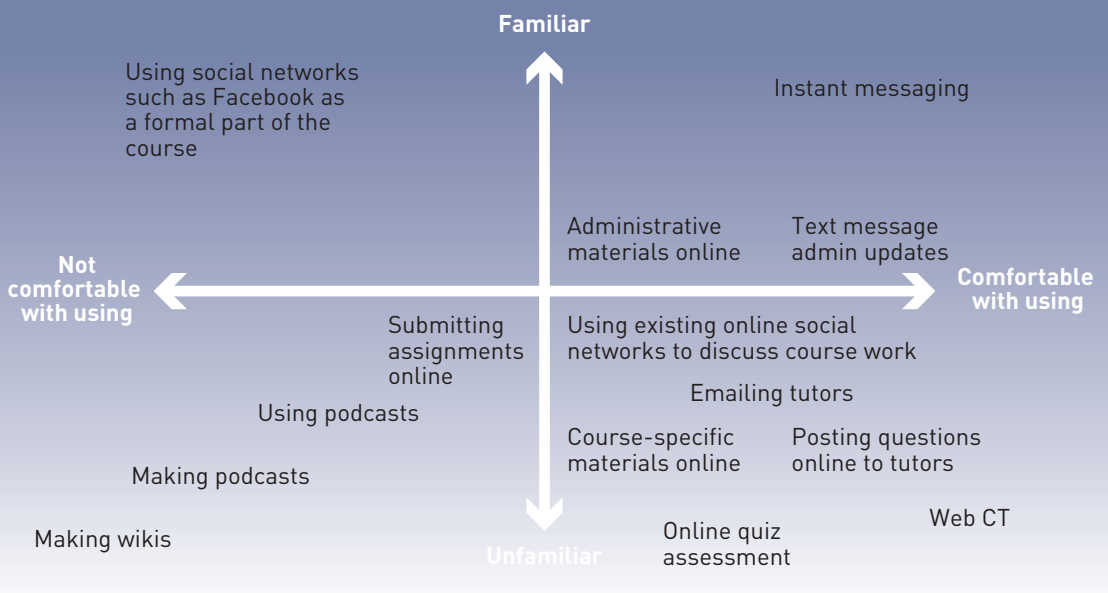
Use

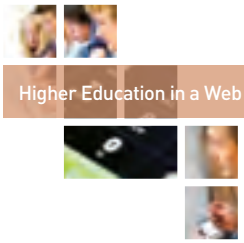
Level and pattern of use

35 Use of social networking sites is high. Nine out of ten students will be regular users of a social networking site on entry to university,[23] and a very high percentage of 15-year-olds will have at least one social networking account.[24] Older age groups, adaptable and pragmatic in their approach to new technology in general, use it where they can see it makes their lives easier and are fast catching up with the early adopters. Effectively, according to a recent report for JISC and the British Library, generally speaking, young people are more technologically literate than older age groups within the range of applications they use, but much writing over-estimates the impact of ICT on young people and under-estimates its effect on older people.[25] In the context of over-estimation, we took particular note of the map in Box 5. Devised in the course of the Great Expectations study[26] commissioned by JISC in 2008, it shows students' degrees of comfort with using technologies in the opening stages of their university careers. It illustrates the point that not all students are equally familiar or comfortable with new technologies across the board.

Box 5

Students' degrees of comfort with using technology at the start of their courses





36 Those who stand aside from using technology do so because of lack of access for reasons noted above. However, lack of interest and confidence can be factors too. In terms of the former, we have heard that finding the appropriate hook, such as showing how the technology can further a particular interest, or make a particular task easier, invariably breaks down barriers. Becta's Learners' Use study,[27] for example, found instances of learners whose hobbies had led them to quite sophisticated use of Web 2.0 technologies. And, we heard, the technologies took users into territory where their shared interest was the material consideration rather than, say, their age or position in the educational hierarchy: the community of interest was the over-riding factor. As far as confidence is concerned, we were made aware from work carried out in a number of universities – Napier[28] and Bradford[29] being particular cases in point – that this can be built by systematic and customised training and mentoring, including by peers.

Purpose of use

37 The constants in use amongst young people in general are communication; looking up information – access is fast and there is a lot of information available for ready export; file sharing – photographs in particular; and games, including multiplayer online games. In the 11 to 14/15-year-old age group, those at the upper end are more involved in social networking, while those at the lower in gaming.[30] Girls are more inclined to social networking and communication, and boys to gaming. At university, students use social networking to support their daily lives. This includes their communications with their tutors but more especially with their peers, mostly in relation to their social life, but also to discuss coursework. In this latter context, where discussion is instigated by the students themselves, it works well. It's less successful when initiated by staff. Here, in students' minds, discussion acquires connotations of formality and seriousness that do not sit well with the social medium.[31] Notwithstanding generally high usage of social networking sites amongst new entrants to university, however, there is a small percentage, for the most part male, which rarely or never uses them.[32]

Facebook and MySpace are avenues to get away from learning not to help learning.

Learner Experience Phase 2 project student

38 We note that studies are consistent in their findings that most users of Web 2.0 technologies are consumers rather than creators of content. JISC's Great Expectations study found that a significant proportion of those surveyed did not know how to use a wiki or, in some cases, even what one was. A specific purpose for content creation, plus an improved understanding of applications and a higher level of technical knowledge and skills could, though, go some way to altering the position.[33] In this connection, we have seen some quite remarkable examples of work done by young people from primary school up to and including university age, both individually and in groups.[34]

39 Where finding information is the purpose of use of technology, the attraction is the speed of access and the enormous range of resources available. We have, though, noted significant and strong reservations on the matter of the quality of analysis and critique students bring to bear on those resources, as well as on the extent to which they mine them. Students tend to go no further than the first page or so of a website and, if they don't find what they're looking for there, they move on to another. Not that this behaviour – scanning, 'power browsing' – is particular to students. CIBER's Information Behaviour report for JISC and the British Library points out that, faced with the massive range of sources now available, academics are behaving in

precisely the same way: 'Everyone exhibits a bouncing/flicking behaviour ... Power browsing and viewing is the norm for all'.[35] Unlike their students, however, experienced academics should have sufficiently developed evaluative, analytical and synthetical skills to work effectively in this way.

40 Oral evidence presented to us on the one hand expressed cautious confidence in the ability of the generality of students to recognise the questionable, and, on the other, students' need for help and support both in identifying and in evaluating information on the web. CIBER's Information Behaviour report was sceptical on levels of information literacy,[36] and the Great Expectations study not wholly convinced: 'students may think that they are doing this (checking validity of sources), although their methods may not be sufficiently rigorous'.[37] In schools, Becta's Learners' Use study found 'only a few embryonic signs of criticality, self-management and ... reflection';[38] copying and pasting information from the internet was extremely common. Understanding and application of good practice in constructing searches, establishing the validity of sources and, by extension, attributing them when appropriate, seems to be a general concern.

Approach to use

41 Again, studies are consistent in their findings on how young people use technology: reflexively – they are familiar and at ease with the design; experimentally – trial and error; and confidently – without apprehension. And if they are stuck on any technical point, their friends are their first port of call for help. Young people are comfortable with being a novice in one field and more capable, or even expert, in another. 'They sort themselves out', as one senior university manager put it. By observation and report, they are also capable of using a number of applications simultaneously. It is likely, says CIBER's Information Behaviour report, 'that being exposed to online media early in life may help to develop good parallel processing skills'.[39]

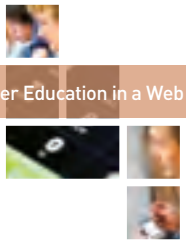
My mates are usually in the same boat so we help each other.

Great Expectations student

42 Another feature of approach to usage drawn to our attention was its lack of system. There tended to be a want of conscious collaboration; systematic testing of ideas and approaches; critical appraisal of information sources; and effective information searches. In this last context, we noted that school pupils found internet inquiry difficult: the web lacked organisation as well as the help tools available in software packages.[40] All in all, activity tended to the haphazard and would, we heard, be likely to remain so without guidance. These points chime with the concerns about want of system in information searching set out above.

Consequences of use

43 Those from whom we have taken oral evidence have been keen to impress on us the behavioural and attitudinal consequences of engagement with Web 2.0 that are apparent in several of the studies we have reviewed. These are a disposition to participate in peer networks and to share and, in the process, to develop a strong sense of community. The processes of participation and sharing are likely to be conducive to the development of what are deemed by one researcher (Grunwald, 2007) to be a 'significant set of 21st century learning skills: communication, collaboration, creativity, leadership and technology proficiency'.[41]



These, we note, are entirely consistent with the employability skills that government, backed by employers, is keen to see developed. HE is already seized of this agenda and it is also a driving force in the reforms in the 14 to 19 curriculum that are now underway in all parts of the UK.

44 Less positively, perhaps, but understandably, the community spirit also leads to the formation of a clear sense of boundaries in web space. This has been typed (Locke, 2007) broadly as:[42]

- secret space: eg Short Message Service (SMS); Instant Message (IM)
- group space: eg Bebo, Facebook
- publishing space: eg blogs, wikis, YouTube
- performance space: eg Second Life, World of Warcraft
- participation space: eg meetings, markets, events
- watching space: eg lectures

45 Young people are defensive about the first two, essentially the 'me' and 'we' spaces, as opposed to the others, the 'see' spaces. Hence, their discomfort with staff-initiated discussion groups in social networking space when they are at ease with those they set up themselves for study-related purposes. We have been told that there is considerable untapped potential for exploitation of this, effectively a third space within group space – somewhere between pure study/work and pure social – to support learning and teaching.

For one of our subjects, we have a Facebook group we created ourselves to discuss the work with tips and things.

Great Expectations student

46 Universities' realm tends to be predominantly the last two spaces, what is sometimes referred to as the 'push-web' in which they define the content and views to be received. Perversely, it appears that lecturers and teachers are not generally disposed to interactive communication online.

Key messages

- The digital divide has not been entirely overcome and persists in several dimensions: in access to, and engagement with, technology, and also in capability
- Use of Web 2.0 technologies is nevertheless high and pervasive across all age groups
- Using Web 2.0 technologies leads to development of a strong sense of communities of interest and networks and also of a clear notion of boundaries in web space
- There is an area within the boundaries of the so-called 'group space' on the web that could be developed to support learning and teaching
- The types of skills developed through the processes of engagement with Web 2.0 technologies match both to views on 21st-century learning skills and to those on 21st-century employability skills
- Information literacies – including searching, retrieving and critically evaluating information from a range of appropriate sources and also attributing it – represent a significant and growing deficit area



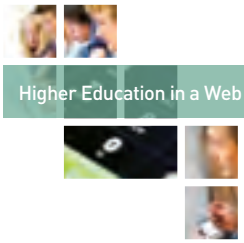

Section 3: Learner expectation


Introduction

47 Here we consider learner expectation from the perspectives of nature and level prior to entry to HE, and then response to the actuality on course. The two linked studies commissioned by JISC in 2007 and 2008 provided a particularly rich seam of information for us in these respects. The first, the Student Expectations Study,[43] explored the use of ICT by a sample of some 500 16 to 18-year-olds in schools and colleges throughout the UK and their expectations of ICT provision and use in HE. The second, Great Expectations of ICT,[44] revisited those of the sample who had progressed to HE and had agreed to be contacted again – just over 100 – to discover the extent to which the actuality matched their prior expectation. For purposes of comparison, this study also covered a further representative sample of some 1,000 first-year students. While the studies were concerned with learner expectations of ICT in general, they also confirmed particular attitudes to the use of Web 2.0 technologies in an educational context. Box 6 provides a before and after enrolment summary of the findings of the two studies.

... firstly ... I will usually Google it ... Then I would fire up MSN ... Finally, [the VLE] and all the resources the university makes available online.

Learner Experience Phase 2 project student



Box 6

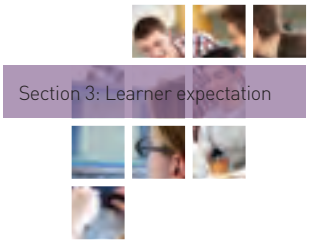
Expectation before enrolment and actuality a year later

Expectation	Actuality
ICT will play a bigger role in helping learning	Mostly realised. Use in administration welcomed, but utility of some types of use for teaching – notably online and social networking – needed to be demonstrated
Able to use own hardware	Realised
Ubiquitous internet access	Realised
High level of ICT support	Mostly realised. Satisfaction higher in relation to use of institutional systems than use of technology to support study
Provision of course materials online or as backup to lectures	Realised
Face-to-face teaching is preferable to that via technology	Face-to-face still valued most highly but ICT accepted as an adjunct if managed well

Nature and level of prior expectation

48 Perhaps unsurprisingly amidst the host of considerations arriving in the run-up to university, prospective students give little thought to what they might encounter in terms of ICT once there. They are generally unsure of what to expect but, their minds focused, identify a set of basics that include universal internet access; being able to use their own equipment with university systems; technical support with university systems; and online backup for lectures. They have little sense of how Web 2.0 technology might be used to support learning – as opposed to their social lives. This, we note, holds across the age spectrum.[45] Imagining technology used for social purposes in a study context presents conceptual difficulties as well as challenge to notions of space (see paragraphs 44–45 above). In consequence, immediately at least, present-day students are not pushing for change in traditional approaches. Indeed, those considering university project their school/college experience and expect ICT to function as it has done for them to date: in study, supporting established methods of learning – notably face to face with staff – and providing an additional resource for research and communication; outside, as a core part of social engagement and facilitating face-to-face friendships. This raises questions of how long the situation can persist once the school/college experience alters: any shifts in educational practice there can be expected to feed through into a more sophisticated level of expectation of technology deployment in HE. It also raises the issue of HE seeking to provide challenge and development in its approaches to learning and teaching rather than simply the comfort of continuity.

49 Where ICT is integral to delivery, and students are prepared for this, we note that they are accepting and adapt. The JISC Learner Experience projects showed this,[46] and we also heard evidence to the same effect from the TESEP project.[47] Students' principal concern is gaining their qualification. If using technology can be shown to work effectively as the means to that end, they will embrace it; and if they acquire additional skills such as effective collaborative working along the way, that is a bonus as far as they are concerned. The key consideration is managing expectation so that students understand and are prepared for what they



encounter. The onus for doing this is on the institution. At the same time, however, we note research[48] that shows some students are inclined to translate Web 2.0 technologies into conventional pedagogies, treating blogs as essays and wikis as texts rather than conversations. Effectively, they are 'taming' the technology to make it more comfortable. This could be considered a transition stage, however, while new approaches become established.

50 Generally, it seems that present-day students' default expectation is good basic infrastructure and, consistent with their school experience, continuation of traditional learning methods in which personal, face-to-face interaction forms the backbone. We discuss the latter further in the section below.

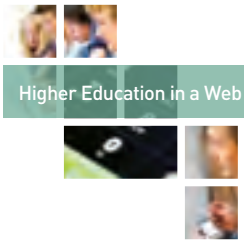
Actuality and response

51 We note from the second of the JISC expectation studies that, in their first year on course, despite the generally high level of their personal use of Web 2.0, students were generally content that their basic expectations of infrastructure had been met; also that, when ICT was being used in delivery, by and large, the point of doing so was becoming clearer to them. ICT, if managed well, it seems, is regarded as a good thing. 'Managed well' is the operative term here, though, and points up a further dimension of the digital divide. While, according to the study, they might be in a minority, there are staff who do not have the skills to use even the most basic Web 2.0 technology and/or who do not use it to good effect.

> *Some of them just don't know how to do stuff and have to ask for help from the students.*
>
> Great Expectations student

52 The digital divide in technical ability that exists between students can also exist between students and staff. Training will remedy shortcomings at this level and we note one means of provision put to us – the students. This is a way forward being implemented formally by at least one institution where students are providing support at a practical level and, in the process, offering suggestions for improving course delivery. This development – effectively a renegotiation of the tutor/student relationship – strikes us as both logical and healthy. In essence, it exemplifies the central tenets of Web 2.0, namely participation and collaboration. The context is one where each acknowledges and respects the particular skills of the other to mutual benefit. Students will have the edge at times in operating technology, but tutors are skilled in terms of steering a course through the academic domain. We explore the tutor/student relationship further later in the context of considering the role of the tutor.

53 Comment on the way ICT is used points to the existence of a divide between tutors: some are clearly more skilled and adept than others in deploying it creatively and constructively in a learning context. The need implied here is for professional development in e-pedagogy – learning with and/or through technology – and practice so that ICT, when used, works to enliven and enhance learning. We acknowledge that addressing it will not be straightforward. Time and inclination are material considerations. Academic staff have a range of responsibilities beyond teaching that place demands on their time, and there will inevitably be some who are hostile to all but the most cursory engagement with ICT.



We set it [a Facebook group] up for our group, but in our last group we added our anatomy tutor so we ask him any questions.

Great Expectations student

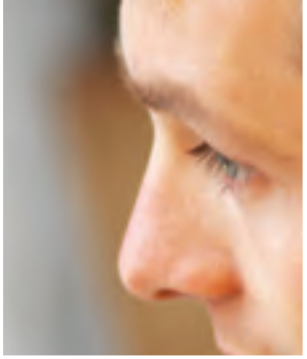
54 In prior expectation and on course, face-to-face contact with tutors continues to hold its value in students' eyes. ICT may be regarded as a good thing – for emailing tutors for example, or posting questions to them online – but seems to be no substitute for personal contact. We were interested to probe the reasons for this. Through further research of the available data we confirmed the strength of the influence of the school model where face-to-face teaching is the norm, and also the notion of dues for fees – it is what students believe they pay for. To add to these, we noted variation in learning modes; the discipline of attending in person; and, significantly, the social setting where contact is direct, immediate and unmediated. In these circumstances, questions can be put on the spot and nuances and inflections in delivery picked up. We grant the thesis that this could be initial tutor dependence and diminish as students progress through their course and become more confident learners. There is also evidence that, when carefully planned and augmented by some elements of immediacy and topicality – regular podcasts for example – students can both enjoy and benefit from entirely e-delivered courses.[49] At the same time, however, we speculate that, in an age where information is readily available in a multiplicity of formats, the personal – interacting face to face – acquires added importance and significance.

...if everything was done via technology, it wouldn't be as personal or helpful.

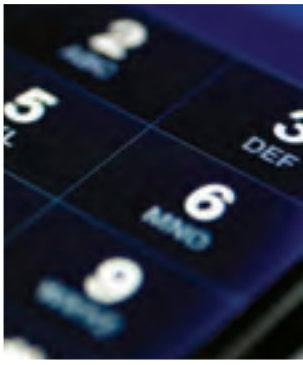
Great Expectations student

Key messages

- Staff capability with ICT is a further dimension of the digital divide, and effective use is as much of an issue as practical operation
- Students' practical skills with ICT can be harnessed by staff to good effect in both domains – operation and effective use
- Imagining technology used for social purposes in a study context presents conceptual difficulties to learners as well as challenge to their notions of space
- Present-day students are heavily influenced by school methods of delivery and are not pressing for change in traditional HE delivery methods
- Face-to-face contact with staff matters to students



Section 4: Web 2.0 use in HE now

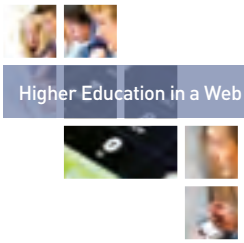


Introduction

55 We were interested to gain some purchase on the nature and, in so far as it proved possible, the extent of current deployment of Web 2.0 technologies in HE in the UK and overseas. In the course of doing this, we were also looking to gauge the UK's position relative to that of other countries. We reviewed evidence from studies available at the start of our work and commissioned a further piece of work – on current and developing international practice in the use of Web 2.0[50] – to supplement them. Our international scan was far from comprehensive but, in taking in Australia, The Netherlands, South Africa and the USA, we believe it serves to provide a reasonable indication of activity.

56 We have established that Web 2.0 technologies are currently being used by universities in the UK and overseas across a broad spectrum of activity – learning and teaching, administration, student support, and advertising and marketing; and that they are also being used in similar ways according to the particular capability of the technology type, for example, blogs as reflective journals, wikis for collective content creation and development. The similarities in use reflect the fact that the technologies are universal and transcend national boundaries. Such differences as exist between countries derive from the strength and reach of the infrastructure – specifically broadband width – that is necessary to support the use of Web 2.0 technologies. In this respect, the UK is generally well served at present. The study also shows that UK institutions of HE are presently as advanced as any internationally in their developing adoption of Web 2.0.

57 We comment below on the ways in which Web 2.0 technologies are being used in the various spheres of university life and also draw attention to one or two of the considerations that weigh in the context of engaging with those technologies.



Learning and teaching

58 Use of Web 2.0 technologies in learning and teaching emerges as considerable but patchy, driven for the most part by the professional interest and/or enthusiasm of individuals or small groups of staff. This situation is replicated in other spheres of university business: administration, student support, and advertising and marketing.

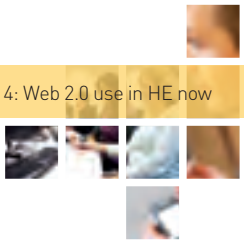
59 At institutional level in the UK, a small number of universities have consciously decided to enable Web 2.0 technologies in learning and teaching to a greater or lesser extent. It would, however, probably be going too far to say that any one is actively driving them in this context. And there are, we understand, only a relatively small number of international experts in the field who can be turned to in order to stimulate or provide ideas for their use.

60 We note that Web 2.0 has, of necessity, to be an integral part of the curriculum of some courses, notably those in computing and media. For such courses, direct engagement is essential in order to gain knowledge, understanding and technical facility. Outside of these, other courses are using, variously, blogs, wikis, social bookmarking, social networking and, to a lesser extent, immersive technologies such as Second Life. Some examples of the use of these technologies are as follows:

- **Blogs**: reflective journals, either closed between tutor and student or open for comment by peers and/or other selected audiences
- **Wikis**: content creation and development by groups of students; lecture supplement and/or replacement by tutors, with or without embedded video
- **Social bookmarking**: expansion of tutors' initial reading lists, sometimes with scope for commentaries on the texts
- **Social networking**: for hosting discussion or project groups and answering queries. Such groups are being established by students as well as by staff
- **Immersive technologies**: role playing, especially in professional courses in the social sciences, medicine and healthcare

Many of these examples are particularly powerful in enhancing the experience of part-time, distance and work-based learners.

61 Use of pedagogies involving group work presents issues for assessment, as, indeed, does the existence of a rich seam of information sources – including model essays – on the web. Pursuing these issues, we noted that Web 2.0 technologies such as blogs and wikis allow individual contributions to be tracked, readily admitting assessment at that level. Students themselves, too, can become part of the assessment process, critiquing each other's work. This is, in effect, taking established practice in a number of disciplines, art and design for example, to its logical conclusion. We also noted that the information sources on the web can be turned to advantage in assessment practice if a different perspective is taken, along the lines of, say, requiring essays to be found and critiqued. It becomes a question of working with a set of circumstances rather than trying to control or alter them.



Administration

62 We found that staff are using social software for a range of purposes such as passing on course information, changes to a lecture schedule, for example; issuing pertinent reminders on sources relevant to an ongoing project; and providing back up material for upcoming assignments. Wikis are being brought into play for more substantial course information – course notes and handbooks and research guides. In some cases they admit edits or comment by students.

Student support

63 Several universities, we note, are using social networking software, usually Facebook, as a means of helping students establish contact with each other – make friends – prior to enrolment. This seems to be one area of incursion into Facebook with which students are comfortable and which some certainly consider to be a good idea, whether they take advantage of it or not. Induction is another area where social networking sites are being used to help students steer a course through the critical early stages of their course and throughout their first year. This benefits students and universities alike, students receiving ongoing support – including from their peers – and the university gaining understanding of areas where it might need to strengthen or add to its services. At the most instrumental level, the net result should be improved retention.

64 We also note the use of social networking software by HEIs at the conclusion of study to facilitate continued contact both with and between alumni.

Advertising and marketing

65 It is clear that most universities in the UK have a presence on Facebook and many in Second Life as well. These provide opportunities for insights into life at the particular university – for students and their families wherever they are located – that will not come through prospectuses or websites. The intention is to increase degrees of awareness and hence of confidence and comfort on arrival. Students are better prepared for what they are likely to encounter and this, too, should serve to assist retention.

Considerations

66 The considerations universities face in using Web 2.0 technologies span a range of technical, social, legal and ethical. The questions raised include those of hardware specification and bandwidth requirements; staff training support; choice of provider of the technologies, in-house or external; ensuring access; respecting rights, including to privacy and intellectual property; compliance with data protection, copyright and freedom of information legislation; and acknowledgement of liabilities. JISC services such as JISC Legal, Netskills, Procureweb and TechDis can and do provide general advice and guidance on these questions. Decisions on whether or not to implement Web 2.0 technologies are, however, the responsibility of each institution individually having regard to its particular ethos and circumstances. Here, experience can be shared, but there is no blueprint for action and, indeed, it may not be possible to develop a blueprint in an area that is so highly context specific.

Key messages

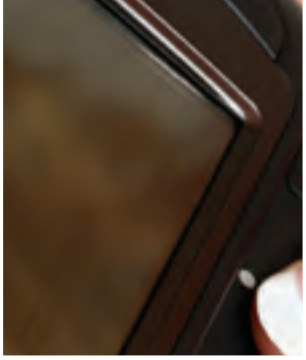
- Web 2.0 technologies are being deployed across a broad spectrum of university activities and in similar ways in the UK and overseas
- Deployment is in no way systematic and the drive is principally bottom up, coming from the professional interest and enthusiasm of individual members of staff
- In learning and teaching, usage is patchy but a considerable working base exists, as it does in other areas of university business
- On the basis of the strength and reach of its broadband infrastructure at least, the UK is presently well placed to be at the forefront of future development
- Advice and guidance is available, but there is no blueprint for implementation of Web 2.0 technologies, and each institution is currently deciding its own path

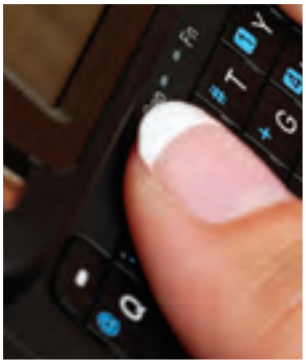
My IT skills are not as good [as younger students] yet some instructors take it for granted that all of their students possess equal competence with technology.

Learner Experience Phase 2 project adult student

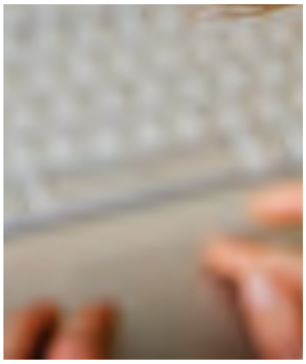
Granted, some students need training at using information technology, but it's mostly the professors who need help.

Learner Experience Phase 2 project student



Section 5: Critical Issues

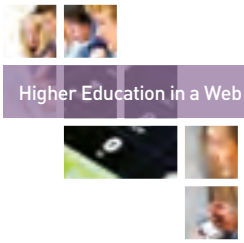
Introduction

67 In this section we identify and reflect on what we believe to be the critical issues to arise from the messages emerging from our consideration of learner experience and expectation in Sections 2 and 3 and current use of Web 2.0 in Section 4. We have explored two of these issues – the digital divide and information literacies – to some extent in Sections 2 and 3. Other issues we consider to be material are a group that can be clustered under the umbrella heading of drivers for change – factors that have ongoing momentum; and, finally, the role of the tutor.

The digital divide

68 We are clear that the digital divide has not been entirely overcome and persists in several dimensions: in access to technology and also in operational capability, both between learners and between learners and tutors. There is a further capability divide – of a different kind – between tutors.

69 Access is an issue for learners and seems now to be predominantly one of level – the opportunity to engage with web technologies outwith public premises and/or in the functionality of the hard- and software available. This is likely to affect only a minority of learners, but these are likely to be those of lower socio-economic status. For the present and immediate future at least, assumptions about access should be avoided: it will not be equal, or even broadly equal. Similarly, assumptions about learner capability should be avoided. This is neither uniform nor at a consistently high level; rather, it is uneven and variable, with



a small number of learners perhaps resistant or unengaged. We are of the view that these circumstances place an onus on institutions to gain an understanding of the prior experience and expectations of their new entrants so that they are able to respond appropriately and effectively to them.

At school you used computers to type up essays or find information occasionally, whereas at university your whole study depends on computers, so it's quite hard if you can't really use a computer.

Learner Experience Phase 2 project student

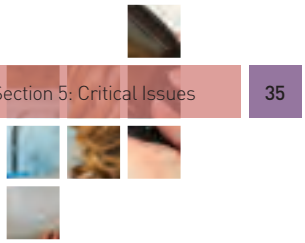
70 The divide between learners and tutors is in relation to operational capability, the extent to which they are at ease with the design and hence use of Web 2.0 technologies. Many learners are far more comfortable with these tools than their tutors. This is no different a state of affairs than found in the population at large. In this particular context, however, the key consideration from our point of view is that staff should be sufficiently conversant with the technology they use to operate it competently for the purposes they intend. The net result otherwise is wasted time and a lost audience. We noted earlier (paragraph 52) one particular instance of students 'tutoring' staff and, in the process, feeding into improvements in course delivery. This strikes us as a highly positive and constructive development, worthy of wider consideration. The vast majority of young learners have a facility with Web 2.0 technology and an enthusiasm for it. The key issue is harnessing this and capitalising on it. The rewards of doing so, in terms of learning and development, stand to be very considerable – for staff and students alike.

71 The capability divide between tutors is of a different kind since it relates to the ability to use technology in ways in which it enhances learning. This is not a call for the universal deployment of Web 2.0 technology, rather to say that when the decision is taken to use it, it should be for reasons of pedagogy, where it can deepen or enrich learning, and not for the mere fact that this technology exists. Time and again we were told it's the pedagogy that's the primary consideration. e-Pedagogy – learning with and/or through technology – is an area deserving of attention from the point of view of the development of practice and skills in practice. We believe making time and systematic provision for this to be a particular imperative.

Information literacies in a digital age

72 By information literacies we mean activities such as search, retrieval and critical evaluation of information from a range of sources, and also its responsible use from the point of view of attribution.

73 From the studies we reviewed and the evidence presented to us, it is apparent that such literacies require systematic address. The CIBER report[51] draws attention to the view that this should begin at primary school age if bad habits – notably uncritical trust in branded search engines – are not to become too deeply ingrained. We believe the issue to be urgent for schools. The time when HE can benefit from such early structured address, however, is some distance away. In the meantime, for the immediate and foreseeable future, it will need to pay specific attention to supporting the development of skills and good practice in those who come to it. In an age when information is readily available from a multiplicity of sources and



in a wide range of formats, skills in effective search, authentication and critical evaluation become an imperative, as does an understanding of what constitutes plagiarism. Being aware of the latter, as students seem to be,[52] is one thing; being aware of steps to take to avoid it quite another. There are, we believe, a number of ways in which both awareness and skills in this area can be further developed and skills and good practice in search, authentication and evaluation can be cultivated. One in particular that goes with the grain of Web 2.0, is the redesign of assessment to, for example, require location and critique of web-based source materials. Address in this context demands consideration of, and reflection on, source material.

74 Neither are development needs in information literacies confined to students. With the pace of development in web-based sources of information, it would be naïve to assume that staff will possess the range of skills necessary to navigate and exploit them. Inevitably, they too will have support needs if their skills are to remain current. We believe these must not be overlooked.

75 Lest they be seen as falling outside the scope of information literacies, we believe we should draw attention to other aspects of the web that have been impressed upon us and to which learners should have regard. These include what can legally be replicated – a facet of plagiarism – and the extent to which data, including personal data, persist on the web where they are available for general search, including for purposes other than those for which they were originally intended. These are dimensions of web awareness.

Drivers to change

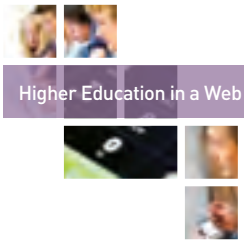
Tradition

76 On the surface, identifying tradition as a driver to change might seem to be a paradox. Circumstances do, however, tend us to view it in this light. We elaborate below.

77 The National Student Survey[53] consistently shows students to be, overall, content with their experience of HE, and the Great Expectations study[54] tells a similar story. There are niggles about the idiosyncrasies of institutional systems and clumsy use of technology but, by and large, the mood is generally one of satisfaction. Present-day students are not, it seems, pressing for HE to change its practices. Rather, they are looking for traditional approaches – face-to-face contact – in a modern setting – web supported. Social life and study life, while they may be assisted by the same ICT, nevertheless exist in separate domains in their minds, occasionally meeting at the borders for, for example, a question and answer session with peers on a study topic. This, however, is not perceived as using ICT for learning. The same attitudes are apparent at school age. We do not in any way believe that this suggests Web 2.0 is irrelevant to learning; it is rather that, in spite of its ubiquity in social life, Web 2.0 has not yet been fully exploited in learning. The connection has not yet been made. In our opinion this, in itself, can be seen as a driver for change. The challenge is building a bridge so that Web 2.0 becomes as natural and reflexive in the study domain as it is already in the social.

Environmental factors

78 Two environmental factors in particular were put to us: the digitisation of learning materials, which is proceeding apace – they are readily available for exploitation and with a fair proportion now only available online – and a receptive audience – learners who have a high level of access to technology and use it as a matter of course. These conditions serve as prompts to specialists in the theory and practice of teaching in



particular to experiment with approaches to delivery. This, as we have noted, is substantially the situation at present, both in the UK and overseas: groups of specialist practitioners using Web 2.0 technologies for small-scale delivery, generally, but not exclusively, at module level. The issue here, as we see it, is creating the conditions that will support wider use and on a larger scale.

A diverse learner population

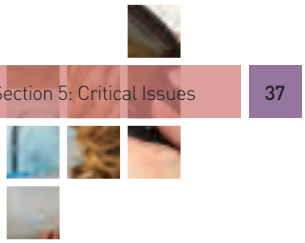
79 The policy imperative to engage more people and from a greater diversity of backgrounds in learning and at all stages of their lives presents the challenge of developing methods of delivery that meet individual needs and demands. Flexibility and choice are key concerns in these circumstances, with methods that can be used independent of considerations of time and place. e-Learning provides freedom from both dimensions and, when it incorporates Web 2.0 technologies, we were told, offers the sense of being a contributing member of a learning community, which is one of the hallmarks of HE. For learners for whom participating in an actual community for some, or even all of the time, is not a feasible proposition, we can see that this may well represent a reasonable proxy. UK HE has moved from an elite to a mass system in the last 30 or so years but without any substantial modification of process. Web 2.0 technologies may serve better to support mass HE. This includes, perhaps more especially, learning outside the precincts of the university – in the home, in transit or, increasingly, in the workplace. In this context, Web 2.0 technology has the capacity to support new business models in HE.

A richer educational experience

80 In that they allow people to come together in communities of interest, Web 2.0 technologies fit perfectly with a particular pedagogic approach – the constructivist approach – which holds that learning is most effective when active – by doing; undertaken in a community; and focused on the learner's interests. It is a learner-centred approach and one in which the process of learning takes precedence over subject content. It is also one that can be applied to all disciplines, not excepting those that demand mastery of a core of basic non-negotiable facts. The teacher/tutor is a facilitator of learning, designing experiences that help students to become self-directed, independent learners.

81 This view of learning may not sit comfortably with all present-day students, and particularly younger students, if, as the Great Expectations study[55] suggests, at the start of their HE careers, they expect the tutor to function as an authoritative transmitter of information. On the other hand, we have heard powerful views that the proper role of HE is to present challenge to learners as well as a sound basis and motivation to continue learning, the latter being essential in the fast-changing world of work where the ability to reorient and adapt is critical. If the pedagogy supports those objectives, some discomfort – and possibly simply in the initial stages – would not seem to be a strong argument against it.

82 Reflecting on 'the student experience' and recalling the use being made of Web 2.0 in student support (see paragraphs 63–64), it seemed to us that Web 2.0 might be helpful to institutions in obtaining feedback from their students on a host of issues. Using Web 2.0 in this way would give institutions access to a seam of data about themselves as individual entities that was at once richer and deeper than that provided by the National Student Survey and that might helpfully inform policy and practice. It may be that one or two institutions are already moving forward in this direction. We believe it to be a potentially fruitful one.



Practice in schools

83 Experience in schools appears somewhat mixed at present, but we learned that growing numbers are adopting project- and group-based approaches to learning using technology and, furthermore, that they are reflecting and reinforcing collaborative approaches to learning in the design of the new and refurbished buildings they are commissioning through the school building programmes that are underway in all parts of the UK. Building design, frequently undertaken in consultation with pupils, is providing for substantial areas of open space, conducive to interaction and conversation. If, as suggested by the Great Expectations study,[56] students base their expectation of HE on their school experience, then there is likely to be a very substantial mismatch between what they expect and what they actually get in terms of practice and approaches in the foreseeable future. The result could be considerable disaffection. This, in our view, underlines the imperative of institutions taking systematic action to keep in touch with their students' prior experience and expectations.

Open source materials and online universities

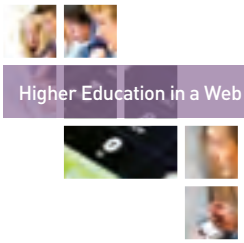
84 We were already aware of the growth in the amount of open content on the web, much of it from internationally renowned universities, and we learned that the first open source curriculum is imminent. We also noted the view that it is not unreasonable to foresee the emergence of a small number of international purveyors of online HE which will come to dominate the mass market globally. Such developments undoubtedly increase the choices available to students – of all ages and in all parts of the world.

85 At least one respected commentator to whom we spoke could foresee very substantial upheaval in the UK HE system if it did not begin to take steps that would confirm its distinctiveness, and distinctiveness on the basis of excellence and relevance rather than on say, speed and economy where other providers would be likely to score more highly. Young people, including – and maybe especially – the brightest and most enterprising, might otherwise go overseas for some or all of their HE and/or into learning in the workplace, which would be cohort based, practice focused and built on action and inquiry. In these circumstances it was possible that no more than a handful or so of universities would survive in their present form, with a similar number of others reinventing themselves in a subject or area niche.

86 The idea of university as a place to go to is so firmly embedded in national consciousness and culture that we would not venture to suggest that it could be either readily or completely dislodged. The attraction of the university is multi-faceted: social, intellectual, traditional, spiritual, practical and instrumental. What we would strongly suggest, however, is the need for universities to consider the temper of the times and to have regard to a developing disposition – one of community, enterprise and actual or latent creativity – and to give thought to the best means of working with it and developing its enormously positive potential. In this way they will ensure their continuing relevance and centrality to society, and hence their attraction as institutions. This does not necessarily mean wholesale adoption of technology; rather it means being mindful of, and sensitive to, Web 2.0 mentality in the design of learning experiences. A precondition, of course, is establishing widespread awareness and facility with Web 2.0 approaches and applications.

Skills development

87 We have noted the development of skills as a policy imperative for government, central and devolved. We have also noted that the dispositions developed through engagement with Web 2.0 technologies – to communicate, participate, network, share etc – overlap with what are viewed both as significant 21st-century learning skills and 21st-century employability skills. Development of the latter are already high on HE's agenda, and they are also being pursued vigorously through the changes now underway in the 14



to 19 curriculum in all parts of the UK. Research undertaken by the Learning and Skills Network (LSN)[57] suggests that employers place the basic skills of literacy, numeracy and communication at the head of their list of requirements of employees. Next come 'soft' employability skills such as motivation, teamwork, critical thinking and problem solving, and lastly, since they may be acquired on the job, specific vocational skills. Employer perceptions of the relative importance of particular types of skills change over time but it is clear that 'soft' employability skills are highly valued at the present time. Web 2.0 approaches would therefore seem to be a sound foundation on which to base the development of such skills, which, along with basic skills, are the bedrock of a learning society.

The role of the tutor

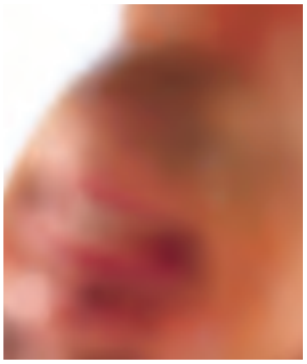
88 We were led to give consideration to the role of the tutor in the light of our discussion both of pedagogic approaches allied to Web 2.0, and of navigation of the vast range of sources of information that is readily accessible to learners through the web. It is clear to us that tutors have a crucial part to play in the latter area. In reality, it seems to us that the tutor's role has always been multifarious – authoritative source, facilitator, mediator, mentor – according to circumstance. Tutors are central to the design of courses and hence of learners' experiences. The critical question seems to us to be the selection and practice of the pedagogy appropriate to the learning objectives being pursued, and also, at this juncture in particular, the communal, participative and creative spirit of the Web 2.0 age.

89 We touched on the renegotiation of the relationship between tutor and student in Section 3 (see paragraph 52). The context there was predominantly the practical operation of technology. It could, and arguably should, be much broader so that the relationship becomes more akin to a partnership, if not of equals in learning, then of near equals – at any rate, a relationship in which each recognises and values the other's expertise and capability and works together to capitalise on it. This implies a flatter hierarchy than that currently in place between tutor and student in HE, and represents a situation with which neither party may be entirely comfortable, at least initially. The involvement of students in the development of tools for learning and teaching cannot be achieved by fiat and immediately; rather it is a position to be developed over time. However, we believe that the resulting outcomes for tutors, students and HE overall stand to be highly positive and rewarding.

Review

90 Each of the issues set out above is substantial in its own right, and a few have several dimensions. Together they present a hefty package. We believe the immediate and fundamental issues to be those identified in connection with *The digital divide* and *Information literacies* (paragraphs 68–75). Essentially they are ensuring access to technology for all students and supporting the development of skills and awareness as appropriate in staff and students alike. Progress in addressing these issues is, in our view, the key to harnessing and capitalising on the momentum in the drivers-for-change group (paragraphs 76–87). It is also critical to realising the significant opportunity that lies in the final issue we raise, the role of the tutor (paragraphs 88–89). We consider this issue to be fundamental over the long term. We do not believe it would be going too far to say that, summarised broadly, the opportunities offered by addressing these issues overall are revitalising HE; confirming its continuing relevance; and supporting its accessibility on an even broader front.

Section 6: Conclusions

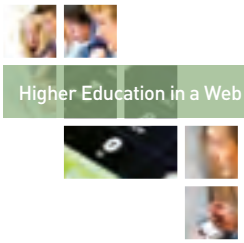


91 We prefaced our findings with a summary of the five principal perspectives on the Social Web. It is a highly dynamic entity and the only certainties surrounding its future are that it is set to become ubiquitous and universal and the means of access will be multimedia, mobile and pocket-sized. On the basis of the evidence we have taken in our Inquiry, however, we would be inclined to the positive perspective on the Social Web and to see it as a force for good, offering possibility. Certainly, we find it difficult to foresee a return to the status quo ante. Considering its development to date, there can be no doubt that it has had a profound effect on behaviours, and particularly those of young people.

92 The generation born in the 1990s entered a world of high technological sophistication and has grown up accommodating and influencing yet further advances on the ICT front in particular. Generally speaking, its members are familiar and entirely at ease with the design of these technologies, unafraid of experimenting with them, and take for granted and get on with doing all that they allow – talking, messaging, playing online games, sharing images, finding things out – often simultaneously. Moreover, most of their learning about it, and how to use it, comes from their peers. ICT, and the Social Web especially, is their medium and their metier. It is integral to the world they know and that world is the only one they have known. There is no going back from this position. Indeed, it can only become more firmly established as the norm by subsequent generations, and not just in the UK but worldwide.

93 The consequences of this generation's experience have become increasingly apparent over time. In general, they include a strong sense of a community linked in its own virtual spaces of blogs and social networking and gaming sites; a similarly strong sense of group identity; and a disposition to share and to participate. They also include impatience – a preference for instant answers; a downgrading of text in favour of image; and a casual approach to evaluating information and attributing it, and also to copyright and legal constraints.

94 Entering HE, this generation encounters a world constructed on, and dominated by, a wholly different set of norms, approaches and experiences. Characterised broadly, it is hierarchical, substantially introvert,



guarded, careful, precise and measured. The two worlds are currently co-existing, with present-day students effectively occupying a position on the cusp of change. They aren't demanding different approaches; rather they are carrying over their school experience and making such adaptations as are necessary for the time it takes to gain their qualifications. Effectively – and possibly unconsciously – they are managing a disjuncture. The situation is feeding the natural inertia of any established system.

95 It is, however, unlikely to be sustainable in the long term. The next generation is unlikely to be so accommodating and some rapprochement will be necessary if HE is to continue to serve its purpose in the personal, social, cultural and economic spheres, to, as Dearing put it, 'inspire and enable individuals ... so that they grow intellectually, are well equipped for work, can contribute effectively to society and achieve personal fulfilment.'

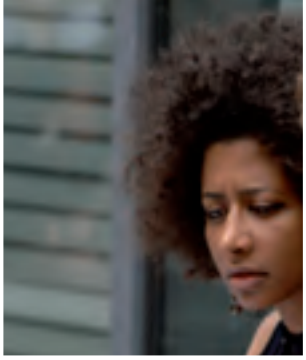
96 The impetus for change, as we see it, comes from two directions in particular. The first is students themselves. The behaviours and approaches apparent now can only become more deeply embedded in subsequent cohorts, and the most positive of them – for example, the experimentation, networking and collaboration – will be encouraged and reinforced through a school system seeking, in a reformed curriculum, to place greater emphasis on such dispositions. Young people are likely to have less and less truck with an HE system that cannot show itself to relate to the lives they are leading. And they will have options other than UK universities that they can pursue in relation to their HE.

97 The second direction is policy imperatives in relation to skills development, specifically development of employability skills. These are backed by employer demands. The types of skills advocated include core skills – ICT being among them – and a range of 'soft skills' such as networking, teamwork, collaboration, self-direction and motivation, and critical thinking and problem solving. Of the soft skills, networking, teamwork and collaboration in particular are among those fostered by students' engagement with Social Web technologies. They are there as a base to be worked with and built upon. We believe that HE has a key role in helping students refine, extend and articulate the diverse range of skills they have developed through their experience of Web 2.0 technologies and that it could and should fulfil this role in partnership with students through its approaches to teaching and learning.

98 What is taught and how is a matter for individual institutions of HE. It seems to us, however, that the case for approaches that work with the particular aptitudes and talents of learners is compelling. This does not necessarily mean wholesale incorporation of ICT into teaching and learning. To assume that would be to mistake the issue. This, in our view, is adapting to, and capitalising on, evolving and intensifying behaviours that are being shaped by the experience of the newest technologies. In practice, it means going with the flow and building on and steering the positive aspects of those behaviours such as experimentation, collaboration and teamworking while addressing the negatives such as a casual and insufficiently critical attitude to information. The means to these ends should be the best tools for the job whatever they may be. The role of HEIs is to enable informed choice in the matter of those tools, and to support them and their effective deployment.

99 We have noted the growth in open content – including the substantial amount that is made available by the most prestigious universities in the world – and predictions of the rise of a limited number of international online purveyors of HE that will come to dominate the global mass market for HE. In that they will influence the choices made by students, both home and overseas, such developments certainly stand to impact the UK HE system. This, in our view, is an additional impetus for considering and, where appropriate, introducing changes to ensure a learning experience for students that continues to be stimulating, challenging and relevant.

100 Universities have proved themselves to be enduring institutions, adepts at change and development. We believe that the Social Web – Web 2.0 – and the associated generation of students present a new and different challenge. It is a challenge that has already engendered innovation, but it is one that offers scope for a very great deal more. That challenge for further innovation cannot and must not be ignored.




Section 7: Recommendations

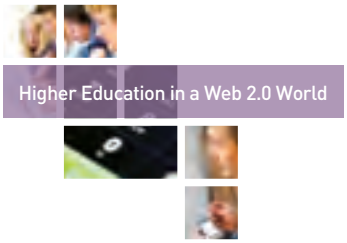

101 In the light of our deliberations and conclusions, we are making recommendations in four main areas: learner skills; staff skills; infrastructure; and inter-sectoral relationships. We set out our specific recommendations under each heading below, referenced to the paragraphs in the body of the report that bear on them.

102 We look to each HEI individually to give consideration to the recommendations, especially those in the areas of learner and staff skills, and to act locally in others that have a wider dimension and are directed to national bodies.

103 We recommend that:

Area 1: Learner skills

- HEIs take steps to keep abreast of the prior experience and expectations of their student body (paragraphs 48–49; 69; 83)
- HEIs ensure access to appropriate technology for all students and continue to provide for the development of their technical skills (paragraphs 34–35; 69)
- HEIs, colleges and schools treat information literacies as a priority area and support all students so that they are able, amongst other things, to identify, search, locate, retrieve and, especially, critically evaluate information from the range of appropriate sources – web-based and other – and organise and use it effectively, attributed as necessary, in an appropriate medium (paragraphs 39–40; 42; 73)



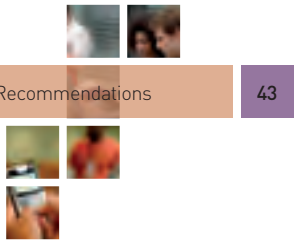
- HEIs, colleges and schools also treat web awareness as a priority area and support all students so that they are able to participate in web-based activities and use web-based services on an informed basis (paragraphs 73; 75)
- JISC develops an ongoing research and support programme for institutions in best practice in developing information literacies and web awareness (paragraphs 73; 75)
- Becta increases its support for colleges and schools in developing all aspects of information literacy and web awareness (paragraphs 73; 75)

Area 2: Staff skills

- HEIs support staff to continue to reflect on research into learning so that they are able to make fully informed choices about their teaching and assessment methods (paragraphs 86; 88; 98)
- HEIs support staff to become proficient users of an appropriate range of technologies and skilled practitioners of e-pedagogy, incorporating both into initial staff training and CPD programmes (paragraphs 51–53; 70–71)
- HEIs explore ways in which the tutor/student relationship might be developed based on the Web 2.0 skills and attitudes of students (paragraphs 52; 89)
- HEIs provide ongoing support for staff to maintain the currency of their information literacies (paragraph 74)
- JISC uses its Regional Support Centres to assist colleges in the development of staff in the use of Web 2.0 technologies (paragraphs 51–53; 70–71)
- HEA develops a targeted staff support and CPD programme, cross-cutting its subject centres, aimed at identifying and spreading best practice in the use of Web 2.0 tools in pedagogy (paragraphs 51–53; 70–71)
- The Leadership Foundation considers the best way to included awareness of the full range of new technologies in their senior management development programmes (paragraphs 86; 98)
- JISC and Becta continue to support research into teaching and learning using Web 2.0 tools (paragraphs 86; 88; 98)
- TDA and LLUK consider ways in which Web 2.0 technologies are embedded into training programmes for new staff (paragraphs 51–53; 70–71)
- HEA works with Universities UK, Guild HE and the HE funding bodies to review the UK Professional Standards Framework for Teaching and Supporting Learning in Higher Education to ensure it pays due regard to awareness of new and developing technologies, their capacities and impact on students and learning and teaching (paragraphs 51–53; 70–71; 74; 80–81; 86; 98)

Area 3: Infrastructure

- JISC continues to ensure the availability of advice and guidance on the legal and regulatory and other considerations involved in engagement with Web 2.0 is widely publicised, including, and especially, to senior management in institutions (paragraph 66)
- JISC continues to develop a research and support programme into the use of Web 2.0 for all aspects of university business (paragraphs 56; 59; 62–65)
- HEA and JISC establish and maintain forums to provide for the sharing and development of ideas and practice in Web 2.0 technology in all spheres of university business (paragraphs 56; 59; 62–65)



- JISC works with the HE funding bodies and Universities UK to explore issues and practice in the development of new business models that exploit Web 2.0 technologies (paragraph 79)
- The HE funding bodies ensure that funding for investment in physical infrastructure and research at the national level is maintained and strengthened with a particular view to enabling and embedding the flexible use of technology and supporting the research and development programmes recommended in this report (paragraph 91)

Area 4: Inter-sectoral relationships

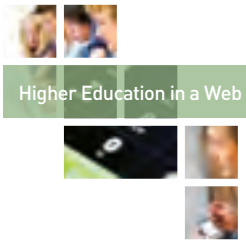
- JISC and Becta take the lead in establishing, with other sectoral bodies, forums for discussion and embedding of close working relationships between the schools, colleges and university sectors (paragraphs 48; 69; 83)

I have done a degree before and my children have been through university so what I felt about the technology was excitement.

Learner Experience Phase 2 project adult student

I think it's great to have tutors/university staff on Facebook. After all, it is supposed to be a social community network and I think they [deserve] the right to have their own community or form a network with students (if the students are willing).

Learner Experience Phase 2 project student



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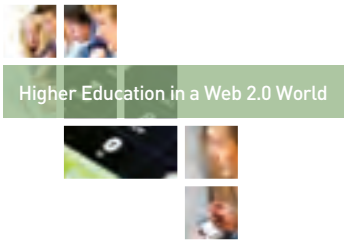

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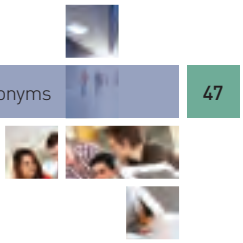
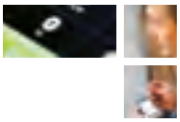


Acronyms

Becta:	originally British Educational Communications and Technology Agency. Name 'Becta' now used independently
CIBER:	Centre for Information Behaviour and the Evaluation of Research (at University College London)
CPD:	Continuing Professional Development
DELNI:	Department for Education and Learning Northern Ireland
HE:	Higher Education
HEI/s:	Higher Education Institution/s
HEA:	Higher Education Academy
HEFCE:	Higher Education Funding Council for England
HEFCW:	Higher Education Funding Council for Wales
ICT:	Information and Communications Technology
JISC:	Joint Information Systems Committee
LLUK:	Lifelong Learning UK
LSC:	Learning and Skills Council
LSN:	Learning and Skills Network
PC:	Personal Computer
PDA:	Personal Digital Assistant
SFC:	Scottish Funding Council
TDA:	Training and Development Agency
TESEP:	Transforming and Enhancing the Student Experience through Pedagogy
VLEs:	Virtual Learning Environments



Annex A

Programmes consulted

JISC e-Learning Programme www.jisc.ac.uk/whatwedo/themes/elearning/programme_elearning.aspx

Five development strands: e-assessment, e-portfolios, learning resources and activities, e-administration for learning and teaching, technology enhanced learning environments; and three cross-cutting themes – strategy and policy; learning and teaching practice; technology and standards – each explored through a multiplicity of projects conducted within the development strands.

SFC e-Learning Transformation programme www.jisc.ac.uk/whatwedo/programmes/elearningsfc.aspx

Programme managed by JISC and involved six projects focused on materials development to embed e-learning in mainstream processes and practice in the context of enhancing the learner experience.

HEA e-Learning programme www.heacademy.ac.uk/ourwork/learning

Four principal strands, the first three in particular delivered in close collaboration with JISC:

- Benchmarking: three phases to enable maximum participation on the part of HEIs, final phase ended May 2008. Involved HEIs measuring their progress and reflecting on current status and impact
- Pathfinder: two phases, ended May 2008. Involved 28 HEIs involved in organisational change, development and dissemination of experience. Based on themes, eg learning and teaching support, e-assessment, social software, Pathfinder was concerned with design, planning implementation and evaluation of transformational processes and activities to lead to full and effective embedding of e-learning into the learning and teaching processes of the entire institution
- Distributed-EL, funded through JISC, ended March 2008. Subject-based issues with all 24 subject centres participating, exploring embedding, scope for sharing across disciplines, and student response to shared resources
- The Research Observatory, intended to serve as a one-stop shop for identifying, collating, assessing and disseminating national and international research on e-learning. The Observatory also sponsors a research investigation programme with annual calls for small- to medium-scale projects

Becta

Annual strategic programme of managed research http://partners.becta.org.uk/index.php?section=rh

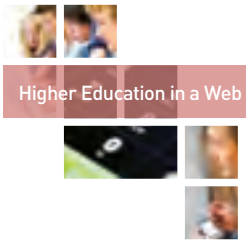
The 2007–2008 programme included, in particular, the five-element 'Web 2.0 technologies for learning at KS3 and KS4 (11–16)' project, led by Nottingham University (associates London Knowledge Lab, Manchester Metropolitan University).

- An overview of current research findings, thinking and projects on Web 2.0 technologies and their potential use in education, both in the UK and internationally
- An insight into KS3 and KS4 learners' own use of Web 2.0 technologies and how this compares to their experience in schools
- An evaluation of the impact on learning and teaching and opportunities presented through the use of Web 2.0 technologies
- Identification of examples and research the use of Web 2.0 technologies in schools across different local authorities to provide insight into how they can best be used and any barriers and issues involved in their implementation
- An investigation of the e-safety and child protection issues involved in using Web 2.0 technologies to identify how they can be used safely

Annex B

Presenters of oral evidence

1. Dr Chris Adie, Academic Liaison Director (Science & Engineering), Information Services, University of Edinburgh
2. Dr Simon Bates, Senior Lecturer, School of Physics, University of Edinburgh
3. Dr Sian Bayne, Senior Lecturer in e-Learning, Department of Higher and Community Education, University of Edinburgh
4. Andrew Comrie, Educational Consultant (formerly Vice Principal of Lauder, now Carnegie, College)
5. Dr Charles Crook, Learning Sciences Research Institute, University of Nottingham
6. Eta DeCicco, Development Officer ICT and e-Learning, Niace
7. Dr Keri Facer, Research Director, Futurelab
8. Professor Morag Gray, Associate Dean Academic Development, Napier University
9. Bob Harrison, Founder of SET (Support for Education and Training)
10. Professor Jeff Haywood, Vice Principal Knowledge Management, Chief Information Officer & Librarian, University of Edinburgh
11. Professor Stephen Heppell, researcher, commentator and adviser on education technology and the future
12. Professor Ray Land, Director of the Centre for Academic Practice and Learning Enhancement (CAPLE), University of Strathclyde
13. Charles Leadbeater, author and adviser on innovation
14. Ewan McIntosh, researcher, commentator and adviser on social collaborative media, education and the future (now 4iP Digital Media Manager, Scotland and Northern Ireland)
15. John Naughton, Professor of the Public Understanding of Technology, Open University
16. Dr Keith Smyth, Lecturer in Higher Education, Napier University



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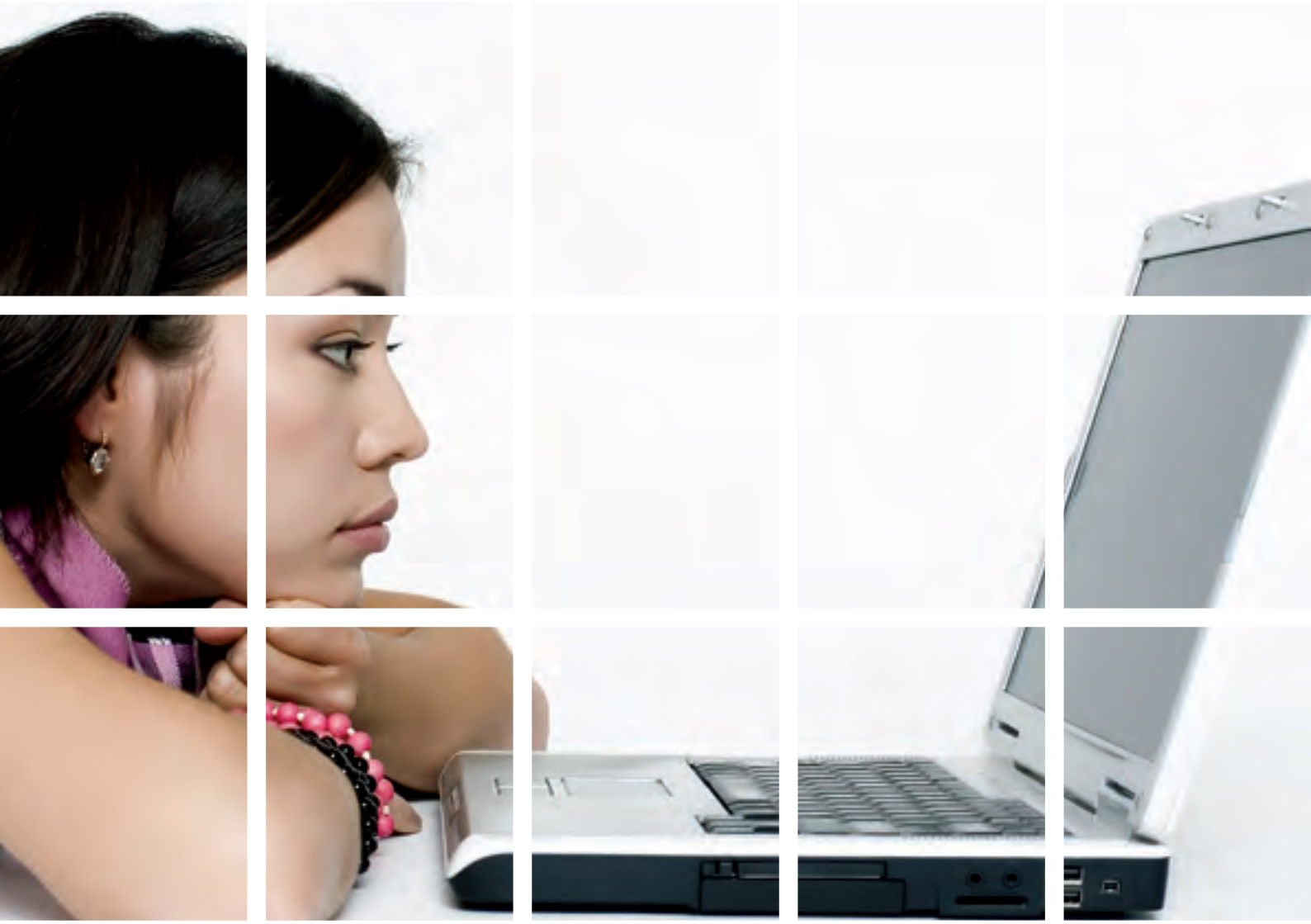

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