Students’ expectations and experiences of the digital environment literature review

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### Summary
Introduction

This literature review was designed to discover existing data and analysis on incoming students’ expectations of the provision and use of technology in higher education. It compliments interviews and a focus group undertaken for The Digital Student Study.

Background
There is a large amount of reporting on students’ experience of higher education in general such as the National Student Survey\(^1\) and significant work on tracking the development of Technology Enhanced Learning (TEL) such as the Universities and Colleges Information Systems Association (UCSIA) 2012 Survey of Technology Enhanced Learning for higher education in the UK\(^2\).

The latter rating ‘Meeting students’ expectations’ as the second most important driving factor in the sector for implementing TEL behind ‘Enhancing quality of learning and teaching in general’.

Reporting specifically on incoming students expectations of technology provision is relatively scarce\(^3\). Where it can be found it is often difficult to separate from later-stage students’ expectations or use of technology. This literature review has a tight focus on incoming expectations (Section 1) and then goes on to discuss relevant issues in the literature which are initially ‘beyond’ students’ initial expectations of what the institution will provide (Section 2).

As a response to the clear influence of students experience of technology at school on incoming expectations Section 3 contains a brief review of literature with a schools focus.

Literature review method
Given the short time-scale in undertaking The Digital Student Study this literature review cannot be considered to be comprehensive. To mitigate this sources were carefully chosen to gain as grounded a picture of incoming expectations as possible. To ensure this the majority of the sources reviewed are institutional studies. Some of these are not publicly available and were personally secured by The Digital Student study team. These sources were complimented by two national level studies which highlighted cross-sector themes and for the most part reflected issues raised by the institutional level studies.

Each of the 14 sources was summarised using a template designed to extract the most relevant information for The Digital Student Study. These summaries were then used as the basis for the literature review below. The national level studies are referenced within the text where specific statistic or comments are drawn from them. The UCISA 2012 Survey was also consulted but not summarised as it is too comprehensive to be condensed in a meaningful manner.

The institutional studies are not individually cited so as not to prejudice the review. This has also been done because many of them have not been made publicly available and therefore they cannot be cited directly. When specific information is drawn from one of the institutional studies this is simply referenced as “(Inst)” in the review.
Limits of this literature review

The national level studies reviewed were chosen because they do in-part address incoming or early-stage students expectations:

» Jisc (Ipsos MORI) ‘Student Expectations Study’ Phase 1 (2007)\(^4\) and Phase 2 (2008)\(^5\)
Focus: Phase 1 - Survey and analysis of expectations of ICT provision in higher education by prospective university students (aged 16-18). Phase 2 - follow-on qualitative and quantitative research amongst first year university students [Referenced as ‘Jisc’ in the text]

» NUS/HEFCE ‘Student perspectives on technology - demand perceptions and training needs (2010)\(^6\)
Focus: An examination into the level of demand from new and potential students for online learning provision in UK higher education. The study used a range of methods including survey, consultation events and a series of online discussions. In addition to universities the study also specifically engaged with Further Education intuitions [Referenced as ‘NUS/HEFCE’ in the text]

» UCISA Survey of Technology Enhanced Learning for higher education in the UK (2012)\(^7\)
Focus: Comprehensive survey tracking the trends and developments in Technology enhanced Learning [Referenced as ‘UCISA’ in the text]

The institutional studies ranged in approach and focus. They represent work undertaken by a range of institutions of differing characters and remits ranging from ‘post 92’ to Russell Group. All except one of the institutional studies are centred on data from surveys undertaken at institutional level. The majority of the institutional studies are mainly focused on review of the provision and use of the local VLE but do contain other elements. As indicated by the UCISA 2012 survey this type of work is common with two thirds of the institutions they engaged undertaking a review of their VLE.

Other areas of focus were on the use and possible integration of Social Media and the impact of Bring Your Own Device policies. The institutional studies ranged in character from those that were exploring specific opportunities or challenges and those taking a broad research approach. The latter attempting to understand students’ preferences and motivations in as open a manner as possible. Most of the institutional studies surveyed a range of students across programme levels so incoming expectations have been inferred where possible even though it was common for statistics not to be broken down by age/level.

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1 thestudentsurvey.com/
2 ucisa.ac.uk/~media/groups/ssg/surveys/TEL_survey_2012_with%20Apps_final
3 The literature review was carried out before the publication of the ‘Student expectations and perceptions of higher education’ report by the QAA
kcl.ac.uk/study/learningteaching/kli/research/ student-experience/QAASummary.pdf
The sections of the QAA report which focus on technology confirm our findings and contribute to an overall understanding of students’ expectations
4 sitecore.jisc.ac.uk/media/documents/publications/studentexpectations.pdf
5 sitecore.jisc.ac.uk/media/documents/publications/jiscgreatexpectationsfinalreportjune08.pdf
6 hefce.ac.uk/media/hefce/content/pubs/2010/rd1810/rd18_10.pdf
7 ucisa.ac.uk/~media/groups/ssg/surveys/TEL_survey_2012_with%20Apps_final
Interestingly a number of these studies have been repeated in a similar form for a few years so longitudinal trends can be identified. For the purposes of this review these trends contributed to the confidence with which certain conclusions have been drawn.

The variation in focus of the institutional studies means that a commensurate range of types of questions were asked of students. As would be expected the design of the surveys used had a significant influence on the types of issues that emerged within each institution. Having said this, the prevalence of certain themes across these varied reports and the national studies gives us a high level of confidence in the key themes extracted by the literature review process.

The sources consulted range in publication date from 2007 through to 2013. There have been some significant changes in the use and ownership of technology over this period which some of the longitudinal studies highlighted. Most notable is the increase in mobile devices and the prevalence of students using these types of devices on campus (as confirmed by the UCISA 2012 survey). Nevertheless, beyond the issues related to mobile devices the landscape appears to have remained similar in the past few years. That is to say that there are no strong indications that the expectations of incoming students have changed radically in recent years although the relative importance ascribed to some of the issues raised is difficult to assess and may have changed over time or may vary by institution.
Section 1

Incoming expectations

The basics: Connectivity and content
  Wifi and access
  Power sockets
  VLE
  Library catalogues and services
  Bring (any number of) Your Own Device(s)
  Email
Computers, printing and space
Assignments and plagiarism
Technical support
Use of technology by teaching staff
Institutional website
The basics: Connectivity and content

Across the literature a number of strong themes emerged around what students expect to be core provision.

The following areas could be described as ‘the basics’ in that these have to be in place to meet the most widely held student expectations of technology provision.

### Wifi and access
Students expect to be able to easily connect to wifi with a range of devices. This is now integral to the way in which they operate both socially and for their studies. Students often commented on a lack of consistency in wifi provision across the whole of an institution’s estate and occasionally on the variable quality of the connection (Inst).

There was an expectation that online services and platforms should not be blocked, especially Social Media and communication services such as Skype. There was also strong evidence that students use the network to consume media from services such as YouTube and the BBC. How much of this media consumption and Social Media activity could be ascribed as course-related was not clear but it appears to be a small proportion of overall use. Nevertheless, unfettered access to the Web was signalled as being an important element of the student experience overall.

The restricting of online access was of particular concern to FE students where the practice of blocking sites appears to be more prevalent (NUS). Students appear to see unrestricted access as one of the core services that they are ‘paying’ for (Jisc).

### Power sockets
One of the institutional reports highlighted a lack of power sockets on campus. This may be influencing students in which of their own devices they bring on site and be a factor in deterring the use of laptops.

### Incoming expectation
Ubiquitous free-at-the-point-of-use access will be provided to the all of the Web.
VLE
It is clear that the VLE has become totally embedded in both FE and HE institutions. It was commonly rated as essential with one institutional report indicating that around 97% of respondents thought that VLE based content for all modules was important. Significantly, expectation of the use of the VLE as a central source of information by incoming students appears to be influenced by the ubiquity of VLEs and the nature of their use in schools (NUS, Inst).

The following are aspects of the VLE that students expect or would like in descending order of importance:

A. Access to organisational/administrative information such as timetables, assessment schedules and room locations

B. Access to course related content: lecture notes, presentations, assessment details, reading lists etc.

C. Access to recordings of lectures
   i. Students like the idea of being able to catch-up with lectures they might have missed or choose not to attend. There was evidence of some concern by academics that having the recordings online would reduce face-to-face attendance (NUS). In tension with this concern is clear evidence that students generally prefer face to face teaching if it is of a high standard. In one report (Inst) a student pointed out that if the quality of the lecture was likely to be high they would physically attend, if not then they would use the online materials
   ii. There was some evidence that students using assistive technologies were particularly keen on having recorded versions of lectures in the VLE (Inst)

D. Contact information for staff and students
   i. A couple of the institutional reports highlighted students’ use of the VLE as a hub for contacts for early stage students

E. As a hub for course related announcements and news (although there was some consternation when students we automatically subscribed to announcements from VLEs which they considered to be irrelevant)

F. As a location for discipline/course focused discussions
   i. Generally the desire for this from students was quite low as they preferred to self-organise in Social Media. In one institutional report almost half of the students surveyed considered the VLE based discussion tool ‘unimportant’ to their learning. There was one institutional example of students requesting greater power to use the VLE to form groups and to self-organise (Inst). In this case the students were also not averse to the idea of their tutor joining the group at the points when they needed specific expert input. However, this did not appear to be a request from early stage students and generally the VLE was not seen as a place for social or discursive activities
Overall there were complaints from students that materials placed in the VLE varied in consistency, clarity of structure and comprehensiveness from module to module or course to course.

Significantly there is evidence that the common use of VLEs in schools as a hub for content and organisation sets incoming students' expectations of their availability and use in higher education. One of the more challenging aspects of this is students' desire for 'everything to be in one place', and that the VLE within higher education institutions should become more of the one-stop-shop that they tend to be in schools. Incoming students are less used to having to self-organise so the 'scattered' nature of some services was problematic.

One of the institutional reports was heavily focused on exploring the possibilities of integrating their institution's VLE with Social Media by which we can read Facebook. In this case there was some support for the idea although the exact nature of the proposed integration was not clear. However, it's possible that some kind of administrative/organisational integration would be popular. This would obviously be convenient for students who see Facebook as their online 'home'. (See Section 2 for a discussion of the issues around Social Media and Learning and Teaching).

There was also evidence that the VLE interfaces and functionality were not always ideal although this didn't seem to be a significant problem for students, perhaps because they have grown used to the idiosyncrasies of these types of platforms during their time at school?
Library catalogues and services
There were surprisingly few questions asked directly about online library services in the literature reviewed. This is perhaps because they have now become totally embedded and incoming students expect to regularly use library relates databases and catalogues in their studies. It is probably also an effect of the predominantly VLE focused nature of the majority of the institutional reports. Having said this where services such as catalogue databases were mentioned they were seen as highly important (Inst, Jisc). There was also some evidence that online library services are sometimes not identified as such by students who forget that they are using technology which has been provided by their institution (Inst). This inability to identify certain services as institutionally provided appears to be a side-effect of services acting ‘seamlessly’.

Bring (any number of) Your Own Device(s)
There was evidence across almost all of the reports that students commonly own more than one internet capable device. Laptop ownership was extremely high between 74%-95% of students having access to one alongside phones and tablets (Various Inst). Ownership of smartphones is increasing with one institutional study undertaken this year reporting smartphone ownership at 95%. It should noted though that what constituted ‘smart’ in the case of smartphones was not always made clear. Ownership of tablets is also rapidly increasing with smartphones and tablets complimenting rather than replacing laptops (Inst).

Significantly students often chose not to bring their laptops on to campus for a number of reasons:

» They are bulky and can be too heavy to carry comfortably

» Fear of them being stolen

» Lack of spaces to sit and use them for work that requires long periods of concentration

One institutional report indicated that 42% of students don’t bring their laptop onto campus. Given this there is a trend towards bringing in phones and tablets. One of the most recent institutional reports cited tablet ownership at 30%. However, while increasingly integral to students’ lives these types of devices were mainly used for social and organisational purposes rather than for ‘study’.

A number of institutions have launched mobile apps which provide a variety of organisational information and news. In some cases, where the app was reliable and well designed, the response to this approach was good. This progress is highlighted in the UCISA 2012 survey along with concerns around meeting students’ expectations of the range of services they would like to access using smartphones and tablets.
A couple of the institutional reports indicated that students were tentative about being contacted ‘directly’ via SMS by their institutions as this crossed a privacy boundary. In this case students indicated that they preferred a mobile App presumably because they could then control the notifications. Having said this one institutional report cites that over 50% of students would find it useful to get course related alerts via their mobile.

One institutional report also mentioned a wariness from students around institutions delivering too much learning content via mobile devices (via the Web or SMS) as this might incur data charges. Presumably this is in scenarios when students’ cannot connect via the institutional network.

Email
Where discussed there was a clear indication that students expect to use email to communicate with the institution and teaching staff. This is again likely to reflect practices formed at school level but is also because email is generally seen as a channel for formal communication. There were a few examples of other communication methods such as using elements of Social Media but no evidence of this being an expectation of incoming students. One institutional report discussed a fairly positive reaction to the practice of using VLE based discussion boards as a hub for communication. However, it wasn’t clear if this was suggested more as a news feed or for person-to-person communication. Interpersonal communication in email should be viewed very differently from information feeds such as RSS or subscribing to forums or email lists.

It was not clear for the literature to what extent students expected to receive an institutional email account or how students go about managing multiple email accounts if they have them.

Incoming expectation
It will be possible to easily connect any number of personal devices to the network.

Overall preferences
Information which relates to course organisation (timetables, room location etc.) should be easy to access on a variety of devices, especially smartphones and tablets as they are most likely to be to hand on campus.

Incoming expectation
Online communication with members of staff will predominantly be via email.
Computers, printing and space

Various reports highlighted students’ expectation or desire for institutions to provide a reasonable amount of desktop computers for general use and associated printing services (in one case there was a clear request for wireless printing services).

Where mentioned the inference was that students like the idea of spaces where they can go to undertake research and coursework. Associated with this was the desire for various spaces where a laptop could be plugged in and formal work could be completed.

Students appeared to want an institutionally provided desktop based back-up scenario if they couldn’t connect their own devices to the network. There was also a sense that even in the era of Bring-Your-Own-Device the institution should be providing the technology and spaces that allow students to undertake the formal, focused work required by their courses.

In keeping with this a couple of institutional reports mentioned the desire for a service or mobile App which indicates in real-time the availability of computers in campus based computer ‘labs’ / rooms.

Incoming expectation
The institution will provide the necessary computing facilities and spaces for students to be able to undertake their course related work if necessary.
Assignments and plagiarism

When prompted students brought up the use and value of various extra-VLE services.

The two key services being online assignment submission and the availability of plagiarism detection services such as Turnitin.

Online assignment submission was broadly seen in a positive light because of its efficiency and convenience. In some institutions online assignment submission accounted for up to 50% of overall submissions. However, there was also a nervousness around these kinds of services, the implication being that students felt more secure handing in a physical copy.

This wasn’t explored in any detail where mentioned and so remains unclear. It is possible that this is an area which is heavily influenced by students’ previous experiences at school.

Given the lack of information in the literature it’s not possible to make any claims around expectations here. Nevertheless, there appear to be a small number of services that students quickly come to see the value of either by choice or because they are mandated.
Technical support

Expectations around technical support were explored with a varying degree of detail across the reports.

The main recurring theme that can be extracted is that students expect to have support available if they have basic technical issues such as not being able to access the network, loss of passwords or trouble printing etc. Generally students will go to friends first for IT support. (Jisc)

In parallel to this there was an expectation that institutions should provide training on how students can improve their learning-related use of technology. In a couple of the institutional reports this was specifically distinguished from basic software training such as ‘how to use Microsoft Office’ as students, perhaps erroneously, felt that they were competent with the basics of these types of applications. (Jisc)

One institutional support highlighted students desire for all information on IT related support and training to be brought together into ‘one place’ so it could be accessed easily. A separate institutional report cited that 42% of students were unsure of where to go to receive IT support.

**Incoming expectation**
Easily accessible basic technical support will be provided.

Institutions will provide opportunities to learn how to use digital technology more effectively for course-related learning.
Use of technology by teaching staff

Although not mentioned frequently the expectation that staff will be ‘good’ with using digital technology was evident.

The sense of what ‘good’ meant was limited and was perhaps a reflection of students’ experiences at school or a reflection of their own use of technology. Reports that outlined students’ expectations in this area mentioned the competent use of Power Point and using the digital features of digital whiteboards. This was a particular concern raised by FE students in the NUS/HEFCE report who also felt that the technology in their institutions was ‘increasingly outdated’. Staff competency with technology was also judged by the quality and range of resources uploaded to the VLE. The NUS/HEFCE report cited that 42.9% of respondents would like academics and teachers to use ICT ‘more’. Again, it wasn’t clear what they meant by ‘more’.

Significantly there was very little discussion or evidence that students’ expectations of teaching staff in this area were linked to better learning experiences. The overall sense was that students would much prefer a ‘good teacher’ above an average teacher who happens to be ‘good’ with technology. This perhaps chimes with students’ apparent preference for face-to-face teaching over online learning.
Institutional website

Incoming students made extensive use of the main or departmental institutional websites to gather information and contact details prior to arrival.

One institutional report also discussed the way in which students used Social Media to garner information from departmental/faculty based Facebook groups and to connect with fellow incoming students prior to arrival.

Incoming expectation
The main institutional websites will be a good source of information and contact details.
Section 2

Beyond expectations?

Social Media
  - Crossing boundaries
Learning/digital literacy
Pedagogical tensions
Beyond expectations?

The research methods used and the majority of questions asked by the studies reviewed give us a picture of students’ expectations of what institutions will provide and responses to the services they currently provide.

This then is not a comprehensive picture of students’ learning related practices which are far broader and extend into informal and personal domains.

As mentioned there is some indication that incoming students’ expectations are significantly influenced by their experience of digital technology at school. Some of the reports reached beyond these basic expectations and took a lead on exploring the potential for new ways to engage students via technology or new ways to integrate personal and institutional use of technology. The implication here is that institutions clearly felt that it was their responsibility to lead on the provision of technology and not simply respond to incoming expectations. This was done with a view to improving the student experience and furthering technological provision in step with evolving student practices.

This ‘beyond expectations’ territory is difficult to navigate given that, as a couple of the institutional reports pointed out, students tend to have a limited imagination when it comes to extending their learning practices via digital technology. This is compounded by the widely held assumption by students that they are ‘good’ with technology.

Social media

Much of the ‘beyond expectations’ activity tended to centre on Social Media with one of the institutional reports specifically exploring the possibility of integrating their VLE with Facebook. In simple terms the use of Facebook via the institutional network was huge with a precipitous drop-off towards other platforms such as Twitter. One institution reported that the number of hits and the time spent on Facebook at their institution was double the hits and time spent on the VLE. Clearly with this level of usage there was some interest in the possibility of integrating Facebook with institutional services and practices.

Where Social Media was explored there was a basic sensitivity towards the fact that individual students, in their own minds, have fairly clear privacy boundaries between their personal and their institutional uses of technology. However this picture is complicated by the fact that these boundaries are no longer temporal or geographical. As highlighted in section 1 students expect to be able to connect to Social Media services via the institutional network and their ability to manage and maintain their personal lives in this way is an important part of their overall student experience.
Of course in many instances the personal and the institutional become intertwined, especially as students begin to self-organise course/learning related activities in online spaces they feel to be in their personal domain such as Facebook. However this activity appears to become more prevalent in later-stage students and so isn’t likely to be an incoming expectation.

Social Media is also used extensively to hook into institutionally related streams of information such as departmental news or social activities related to their course or faculty.

**Crossing boundaries**

The institutional report which was exploring integrating their VLE with Facebook did make some inroads into unpicking the various elements of what integration might mean. In this case questions were asked about ‘connecting’ with fellow students and/or teaching staff in Social Media. As might be expected students were significantly happier to connect with each other than with staff.

In keeping with the desire for the VLE to provide course related organisational information there were indications across a number of reports that students would respond well to this kind of information being fed into their Social Media spaces. This is supported by the positive way in which good quality institutional mobile Apps were received. The substantive difference between social and administrative integration of personal and institutional systems was almost always not considered in the research and reporting.

**Learning / digital literacy**

As mentioned there was an expectation highlighted in a number of reports that the institution would provide training/support for students to improve their ability to use technology in their learning (Inst, JISC). Although not expressed in detail this possibly relates to search skills, critical evaluation skills and possibly the use of academic services such as notes and citation management. On the other hand this could be a case of students being aware that there are ‘known unknowns’ in terms of learning practices and a general feeling that they could be working more elegantly or efficiently. However, a precise view of this area cannot be extracted from the literature as one institutional report indicated that students are already confident in using digital technology to organise, evaluate, create and communicate.

The desire to be supported in developing these types of literacies is very much in tension with the incoming assumption by students that a basic working knowledge of ‘office’ style software is the primary technology related skill required to negotiate the formal requirements of courses. Students are generally comfortable with describing themselves as highly competent in these ‘functional’ digital technology skills but the extent to which this is true might need to be investigated further (NUS/HEFCE). Ultimately more research is required in this area to gain a clear picture of confidence levels in both functional skills and digital literacies. A better understanding of the spectrum of incoming skills and literacies is certainly required if expectations are to be successfully met/managed.
**Pedagogical tensions**

One institutional report highlighted the tension between students’ desire to have as much course-related resources as possible in the VLE, including recordings of lectures and teaching staff’s suspicion that this was not a pedagogically sound way forward. The reasons why this was seen as unsound practice were not detailed but the implication was that academics should retain the right to decide what is pedagogically correct in a given context (NUS/HEFCE). Staff questioned by the NUS/HEFCE study even went as far as to say that digital technology made encouraged ‘surface learning’ rather than a ‘broader base of understanding’, taking the first resource returned by searches rather than researching deeper into the subject. Again, the underlying meaning here wasn’t explored in depth but it is significant that both of these areas of tension were surfaced by studies which used qualitative research methods alongside the standard survey instrument.
Section 3

Schools

Provision and access
Practice
Crossing boundaries
Staff training
Influence on expectations
Schools

Incoming students’ expectations appear to be formed predominantly from their experience of digital technology at school rather than from an imaginative framing of the environment they are about to enter.

We undertook a minimal review of literature focused on schools use of digital technology. The analysis below represents a very broad picture of the stronger themes relating to views expressed by incoming students; it is focused on ‘standard’ rather than ‘innovative’ provision and practice. This is an area which requires further research to establish a more nuanced picture and as such the analysis below is presented as indicative of certain influences and not as an accurate picture of current practice.

The following literature was reviewed:

» BECTA, Harnessing Technology Schools Survey (2010a)\(^8\)

» BECTA, Harnessing Technology School Survey: Learner Report (2010b)\(^9\)

» DfE, Using Technology to improve Teaching and Learning in Secondary Schools (2012)\(^10\)

» OFSTEAD, ICT in schools 2008-2011 (2011)\(^11\)

» European Commission (EC) Survey of Schools. ICT in Education (2013)\(^12\)

Provision and access

It is reasonable to take the view that secondary schools without VLEs are an anomaly. In BECTA 2010a reported that 93% of secondary schools had some form of Learning Platform. BECTA 2010b also reported that 97% of respondents had access to a computer and the internet at home although this data was gathered via an online survey so is likely to be skewed.

Broadband is the norm in secondary schools although it is not clear to what extent schools are providing wifi for students and access policies vary (EC).

Digital whiteboards are also extremely common place in the secondary school environment but are not always integrated into teaching beyond a simple chalkboard style paradigm.

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\(^8\) dera.ioe.ac.uk/1544/1/becta_2010_htss_report.pdf
\(^9\) dera.ioe.ac.uk/1555/1/becta_2010_htsslearner_report.pdf
\(^10\) knowsleycics.org.uk/?page_id=1847
\(^11\) knowsleycics.org.uk/?page_id=1847
\(^12\) ec.europa.eu/digital-agenda/sites/digital-agenda/files/KK-31-13-401-EN-N.pdf
There appears to be a trend away from fixed desktop ‘computer rooms’ towards laptops which allows staff and students greater access to technology as part of the normal classroom experience (DfE, Ofsted).

There are indications of BYOD policies emerging in schools with underlying tensions between the potential benefits the use of personal devices in lessons could bring and the potential disruptive/exclusive aspects of a move in this direction. This is influenced by broad trends in increasing ownership of highly portable internet capable devices. It’s clear that students are bringing their own devices to school for personal use (EC), so alongside the challenges of equity of ownership the question of BYOD is largely to do with opening access to the schools networks and integrating the use of student owned technology into lessons.

Practice

The majority of activity undertaken with digital technology by teachers is in the preparation of materials to deliver lessons or to frame homework. These materials are then used in the classroom via the digital whiteboard or projector and/or uploaded to the VLE for students to use outside of the classroom.

The majority of student activity is undertaken outside of the classroom. This is mainly information seeking for homework assignments and completing those assignments in office style software packages but also includes informal collaboration via Facebook and other platforms.

Within the context of school as an institution the notion of digital competency is closely linked to aptitude with standard ‘office’ style software packages. Generally this holds true for both staff and students (BECTA 2010b).

The move from IT provision in the form of computer rooms to laptops in secondary schools appears to be facilitating more scenarios where digital technology is being used as part of the flow of ‘normal’ lessons i.e. not specifically ICT lessons (DfE). It is difficult to quantify the extent to which this is taking place though.

Staff training

Training for staff in ICT within schools is possibly better integrated into the continuing professional development of staff than it is within further and higher education but approaches are often unsystematic and don’t audit training needs (Ofsted). The literature reviewed didn’t discuss the details of this but training was generally focused on the functional use of office style software and specific training around the functionality of the schools’ VLE rather than on the possible pedagogical use of technology (Ofsted). Teachers were more concerned with pedagogical obstacles in the use of technology than senior staff (EC). There was contradictory evidence as to the impact functional skills training has on teachers confidence in using ICT for learning activities in the classroom (EC, Ofsted).
Influence on expectations

A clear link between schools based practice and incoming expectations is the use of the VLE as predominantly a repository for course related content and as a hub for organisational or administrative information. There are also examples of VLEs being used to upload assignment and as a place for self-tests or quizzes. There is evidence that the VLE is used as a hub for communication but this is less common. Generally student-teacher communication online is via email which is again reflected in the expectations of students entering higher education.

Overall attitude of teachers towards digital technology appeared to be positive in that there was a confidence that when used ‘correctly’ and properly supported digital technology could improve teaching and make it more efficient. Although it can’t be stated with confidence from the literature it’s possible that this is in contrast to higher education where the introduction of digital technology can be treated as a threat to the predominant culture of institutions. For example, suspicions that the web makes certain tasks ‘too easy’ or that recordings of lectures will encourage poor face-to-face attendance (See Section 2). Perhaps this contrast is an effect of higher levels of student autonomy in further and higher education environments than in schools.

The extensive use of digital whiteboards in schools is likely to be behind the disappointment expressed by some students entering further or higher education when the same technology is used in a retroactive manner. However it should not be assumed that schools are making effective use of digital whiteboards as it was reported that they are often not linked to ‘transformational pedagogies’ (BECTA 2010b) and used as a simple replacement for the traditional chalkboard.

There were examples of schools consulting with students of the purchasing of VLEs and the manner in which digital technology was used/incorporated into the curriculum (DfE). This co-design approach in schools may account for similar expectations expressed by students entering higher education. Again, the extent to which this is the case is not possible to assess from the literature.

The split between what incoming students consider being institutionally related digital practices and those that fall outside of this appears to be grounded in the contrast between staff and student practice in and around school. What we might characterise as Digital Literacies often remain in personal/informal domains for school students. Schools are beginning to incorporate online information literacy into their teaching but the extent to which this is the case and the type of support given varies.
The predominant incoming expectations of the use of technology in higher education centre on multi-device, unfettered, access to the Web, access to organisational/administrative information and the provision of course related information and resources.

Even though the institution is seen primary as providing access to content the exact manner in which students use that content is not clear in the literature reviewed, nor is which types of content are most successfully used.

The institution is expected to provide all of the digital technology required to formally complete programmes of study. This includes the provision of desktop computers and printing services.

There is much still to be done by many institutions on the basic consistency of access and the consistency/quality of course related information and resources.

Expectations appear to be set in the context of the use of technology during students’ time at school. These expectations focus on the use of ‘office’ style software and access to sources of content/information. Incoming expectations rarely appear to focus on extending learning practices or evolving ‘digital literacies’.

Overall ownership of technology by students has shifted dramatically in recent years towards mobile devices and laptops. This rapid change in hardware should not be mistaken for a fundamental shift in students’ approach to learning.

In tandem with the point above, a desire to connect multiple mobile devices to the Web and the almost ubiquitous use of Facebook should not be taken as a strong indication that students are any more willing to integrate personal learning practices with institutional ways of working.

Incoming expectations are largely set by students’ experiences of technology at school.
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