

Achieving flexibility? The rhetoric and reality of the role of learning technologies in UK higher education

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To what extent has recent investment in technology-enhanced learning (TEL) in UK universities helped to change academic practice? The Universities and Colleges Information Systems Association (UCISA) TEL surveys have tracked developments in learning technology provision across the higher education (HE) sector since 2001. Using the frame of Barnett's recent 'Conditions of Flexibility' report this paper considers the extent to which this investment has prioritised institutional or pedagogic flexibility in learning and teaching delivery, in contrast to the traditional interpretation of flexible provision as part of learner control and choice. The paper highlights findings from the latest 2014 UCISA TEL survey presenting an overview TEL use in UK universities.

Keywords: flexibility, technology-enhanced learning, UK higher education

Introduction

In 2011 the Higher Education Funding Council for England (HEFCE, 2011) identified, *Opportunity, Choice and Excellence* as key elements in the development of UK Higher Education. The importance of flexible learning in underpinning these elements was recognised by the Higher Education Academy (HEA) through a series of reports on flexible pedagogies (<http://www.heacademy.ac.uk/flexible-learning>). In the summative report in this series Barnett (2014: 8) observes that the drive toward greater flexibility is influenced by:

(i) the marketisation of higher education; (ii) the emergence of students-as-consumers, exerting wishes for new kinds of educational provision; (iii) *the potential of new digital technologies; and (iv) the apparent potential (that new educational environments are opening) for widening higher education at reduced unit costs.* [our emphasis]

This paper will seek to analyse this rhetoric of digital technologies and new educational environments against the reality of their implementation in the UK, drawing upon the outcomes from the Universities and Colleges Information Systems Association (UCISA) biennial surveys. UCISA has surveyed UK higher education institutions on the use of learning technology tools since 2001, offering a longitudinal perspective of technology-enhanced learning (TEL) developments across the sector. The most recent survey report (Walker et al., 2014) and case study research (UCISA, 2014) have tracked the current, emerging and predicted patterns of learning technology use across the UK HE community.

The drive to flexibility

Barnett (2014) presents a broad and nuanced interpretation of flexibility, identifying four levels.

1. Sector flexibility: enabling flexible entry points for students to higher education study programmes.
2. Institutional flexibility: having institutional responsiveness to student expectations and needs.
3. Pedagogical flexibility: having flexibility within teaching and learning processes, including allowing academic staff control over teaching methods and the latitude to respond to different circumstances.
4. Learner flexibility: student choice within their learning experience.

Higher education is facing a large number of changes and pressures which are influencing how institutions interpret the need for greater flexibility. These interpretations are important as the four levels of flexibility identified by Barnett (2014) are not necessarily complementary.

Institutional flexibility

The past decade has witnessed significant investment by UK HE institutions in new TEL services. Investment has been driven by a need to scale up and manage key learning, teaching and assessment processes across institutions. This has been encouraged through the funding agency's vision of efficiency benefits through the adoption of TEL tools and services (HEFCE, 2009). The ubiquitous presence of centrally managed virtual learning environments (VLEs) and e-assessment systems bear testimony to this drive to push technology out to departments and to embed its use within academic practice.

The 2014 UCISA survey data (Walker, et al., 2014) reveal that the VLE, plagiarism detection and e-submission tools have become the most common centrally-supported software in use across the sector (Table 1). E-portfolio, blog and e-assessment tools are also well established, along with personal responses systems which featured for the first time in the Survey and were the seventh most commonly cited tool in use. Comparing the data with previous surveys we also observe the rapid adoption of lecture capture tools as a feature of central provision increasing from 51% in 2012 to 63% in this survey.

Table 1: Centrally-supported software tools used by students.

Top seven	No.	Total	Pre-92 institutions	Post-92 institutions
VLE	88	95%	100%	92%
Plagiarism detection	88	95%	96%	95%
e-Submission tool	79	85%	83%	90%
e-Portfolio	72	78%	70%	92%
Blog	68	73%	76%	74%
e-Assessment tool (e.g. quizzes)	66	71%	76%	69%
Personal response systems (including handsets or web-based apps)	65	70%	78%	69%

Source: UCISA 2014 TEL survey (Walker et al., 2014)

Table 2 shows how these tools are being used within courses across institutions. The sequence of UCISA surveys has shown an evolutionary increase in the use of assessment related tools. The sustained investment in these tools over recent years reveals an assessment-driven agenda in TEL adoption by institutions.

Table 2: Proportion of courses using TEL tools

Top five TEL tools in use	100%	75% - 99%	50% - 74%	25% - 49%	5% - 24%	1% - 4%	0%	Don't Know
Access to external web based resources or digital repositories	8%	35%	12%	12%	13%	6%	0%	14%
e-Submission of Assignments	6%	34%	22%	9%	8%	1%	4%	6%
Plagiarism detection software	5%	31%	34%	11%	12%	2%	0%	5%
Formative e-Assessment (e.g. quizzes as part of course delivery)	5%	1%	16%	16%	39%	12%	0%	12%
Summative e-Assessment (e.g. defined response tests as part of course delivery)	2%	5%	4%	13%	36%	26%	4%	11%

Source: UCISA 2014 TEL Survey (Walker et al., 2014)

The 2014 survey data also highlights the progress the UK sector has made in optimising TEL services for mobile devices, with double the number of institutions engaged in this activity compared with the figures reported in the 2012 Survey. However, the main use of mobile devices remains focused on the delivery of information to students. The top three services optimised for mobile access in the 2014 data are *access to email, course materials and course announcements* primarily for iOS, Android and Windows mobile devices. In addition, mobile technologies are cited as one of the key technologies making demands on support and one of the leading challenges for institutions in both the 2012 and 2014 Surveys. Yet the challenges that are being addressed by institutions relate more to capacity building through enhanced infrastructure and enabling ‘bring your own device’, rather than on the development of pedagogic uses of mobile devices. The UCISA mobile technologies case studies (2013) noted some examples of pedagogic use of mobile devices, but this was primarily for particular cohorts or disciplines, rather than a wider institutional approach.

The trend reported by Walker, et al. (2013) on investment in learning technologies within the UK HE sector focusing on the management of learning continues to ring true. We observe this most commonly through the sustained investment in services dedicated to the delivery of learning resources and the management of online assessment activities.

The consequence of this focus in investment is that institutions are improving administrative functions to manage and control learning processes; but with what impact on the other dimensions of flexibility?

Pedagogical flexibility

The UCISA surveys have helped to record the story of increasing technology usage for teaching and learning throughout HE, however there is still much to be learned about its effective educational contribution. The surveys corroborate the general view that there is still a focus, though slowly reducing, on transmissive teaching methods.

Using the classification of TEL courses developed by Bell, et al. (2002) we have observed that supplementary use of the web to support module delivery remains the most common use of TEL and at an identical level to the figure recorded in 2012 (Table 3). Of the web dependent approaches requiring student participation for an online component of a course, interaction with content remains the most common approach. Fully online modules remain a small proportion of TEL activities.

Table 3: Proportion of all modules or units of study in the TEL environment in use across the UK HE sector (longitudinal)

Sector mean	2014	2012	2010	2008	2005	2003
Category A – web supplemented	39%	39%	46%	48%	54%	57%
Category Bi – web dependent, content	27%	29%	26%	24%	16%	13%
Category Bii – web dependent, communication	9%	10%	17%	13%	10%	10%
Category Biii – web dependent, content and communication	21%	18%	18%	13%	13%	13%
Category E – fully online	3%	3%	3%	4%	6%	5%

Source: UCISA 2014 TEL Survey (Walker et al., 2014)

This data suggests that current investment in TEL is not encouraging widespread pedagogical flexibility and there remains limited provision of fully online courses, thus restricting learner flexibility. However, it must be acknowledged that this broad interpretation of such a data set does hide a range of innovations that are taking place within higher education.

Learner flexibility

The UK has recently introduced tuition fees for undergraduate programmes which has enabled some fresh investment. This has placed a strong focus on the establishment of student-facing TEL services that will enhance the learning experience on campus, and this initiative has been informed by student expectations and the recognition that universities are operating in an increasingly competitive admissions market where the quality of student services counts. In this respect there is an emerging recognition of the importance of TEL services and

specifically the value of mobile service provision to students' learning, with attention by universities to the support they offer students for the technologies that they are bringing on campus and seeking to use to support their own learning.

Research conducted by the National Union of Students (NUS) suggests that students' expectations appear to be directed towards better services, rather than radical pedagogic innovation in their course experience, with technology applied where it is relevant to learning and teaching activities to enhance the campus-based learning experience. The Jisc Digital Student project (<http://digitalstudent.jiscinvolve.org/wp/>) has also identified that students have significant expectations for technology use but also place great value on the face-to-face learning experience. Initial outcomes from this still active project indicate that students have transactional and transformational expectations for technology. Transactional expectations are higher and include having access to Wi-Fi for their own devices, use of VLE, online databases and connectivity. In contrast, transformational (educational) expectations appear to be much lower, with students looking to academic staff for leadership.

These transactional expectations are also reflected in findings from a recent NUS survey (Bone, 2013), which points to a demand for instant and on-demand access to learning. This study also highlights students valuing technology as providing them with ways to study more flexibly. This expectation is reflected in the UCISA TEL Survey responses as institutions have consistently positioned access to off-campus, distance and part-time students in the top-six list of driving factors for TEL development.

Innovation: achieving flexibility

We may infer from the UCISA survey data that investment in TEL services is having a major impact in shaping the way that institutions are managing learning and teaching services. However, in the context of the questions raised by Barnett (2014) it is apparent there is a need for careful consideration over approaches to the deployment of digital technologies and their implementation across institutions to ensure that the educational yield of this investment is truly maximised.

From a practical perspective, the way in which institutions approach their investment in learning technologies will determine the conditions for flexibility across the four dimensions. There is no correct response to the drivers for increased flexibility; however there is a need to ensure that all issues and implications are considered. Barnett (2014, p. 67) does propose 15 conditions which could be used to evaluate any move towards greater flexibility; one of these is pedagogical openness.

Moves toward greater flexibility will require greater openness. Innovation should not be equated with flexibility and within institutional cultures there can develop a tendency for some approaches or systems to become reified and unquestioned. To achieve openness Price (2013) identified four values: *Share*, with sharing comes collaboration and innovation; *Open*, sharing requiring openness and acknowledging that with so much information now available, why hide it; *Free*, value being in how things are used and being 'free to fail'; and *Trust*, the first three values being dependent on this. These values appear to be central to academic flexibility, enabling staff to develop their teaching practice.

Conclusions

The longitudinal data from the UCISA TEL surveys highlight that institutions do need to be clear as to how they wish to use TEL, to minimise potential conflicts. But also to ensure that academics are not getting left behind – is the digital divide growing between academic practice and the pedagogic affordances of the technology that institutions have been investing in? *Lack of academic staff knowledge* has risen as a barrier to development of TEL in the 2014 survey. Are we deskilling academic staff – disempowering them with a technology focus, which is broadening the range of technologies but with enterprise-wide goals in mind and not encouraging pedagogic flexibility?

In the rush to mainstream services and meet student expectations, emphasis is on consumerism rather than targeted support to academics in supporting pedagogic innovation through funding and professional development. In effect are institutions prioritising institutional flexibility over pedagogical?

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