

A Longitudinal Perspective regarding the use of VLEs by Higher Education institutions in the United Kingdom

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Abstract

Between 2001 and 2005 UCISA² and JISC³ conducted surveys into issues relating to the acquisition, use, management and support of Virtual Learning Environments (VLEs). A number of other studies provide information on these issues during this period. Together they provide a substantial body of evidence that allows an analysis of the factors that enhance or inhibit institutional take-up and support provision for VLEs within the UK higher education sector.

There is clear evidence of increasing use of VLEs but not of widespread change in pedagogic practice. VLE management is increasingly centralised in all matters considered strategic, with dedicated devolvment occurring for a range of support activities. Differences in practice exist between old and new universities. There is in general negligible interest in standards or in institutional collaboration.

Introduction

In the UK, 2005 witnessed several major initiatives, notably the publication of important strategy documents on e-learning, which

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² UCISA = Universities and Colleges Information Systems Association <http://www.ucisa.ac.uk/> 'represents the whole of higher education, and increasingly further education, in the provision and development of academic, management and administrative information systems, providing a network of contacts and a powerful lobbying voice'.

³ JISC = Joint Information Systems Council <http://www.jisc.ac.uk/> 'supports further and higher education by providing strategic guidance, advice and opportunities to use Information and Communications Technology (ICT) to support teaching, learning, research and administration'.

were published in spring 2005 by HEFCE ⁴(2005) and the DfES ⁵ (2005). E-learning is now on the UK government's national agenda. It was therefore considered timely to conduct a survey in 2005 to identify the extent to which the aspirations outlined in the strategies were beginning to be translated into realities within institutions. Then, by comparing with surveys conducted in 2001 and 2003, the extent of any progress could be identified.

Institutional adoption of VLEs has placed new demands upon a range of support services that hitherto may have had little involvement. Within the UK, most Information Service units subscribe to UCISA. UCISA *'provides a national and international presence for the people who make information systems and services work. It helps them to share best practice, maximise cost effectiveness, develop ideas and inform and support policy making within their institution, nationally and internationally.'* www.ucisa.ac.uk/about/ In brief, it provides a forum for the HE Information Technology support community in the UK.

In 2001 UCISA became:

'aware that a number of issues relating to VLEs are having a significant impact on Computing/Information services. They also represent cultural challenges for both academic staff and students in how they engage with their learning and teaching. Issues relate to choosing a VLE, its implementation, technical support and a whole range of support, training and pedagogic issues relating to its use' (Armitage, Browne and Jenkins, 2001).

UCISA therefore decided to survey its community on its support for e-learning, manifested albeit in the somewhat narrower definition of a VLE. The definition of a VLE used for the survey was derived from a JISC statement (JISC, 2002), which in turn was based on the definition provided by Britain and Liber (1999):

'learning management systems that synthesise the functionality of computer-mediated communications and on-line methods of delivering course materials'.

In 2003, in response to requests from the community, UCISA planned to re-launch the survey. Simultaneously, JISC wished to conduct a much broader survey, asking questions concerning both Managed Learning Environments (MLEs) and VLEs, of which the latter was considered to be a component of an MLE. An MLE was defined as:

'the whole range of information systems and processes of a college (including its VLE if it has one) that contribute directly, or indirectly, to learning and the management of that learning' (JISC,

⁴ HEFCE = Higher Education Funding Council for England
<http://www.hefce.ac.uk/>

⁵ DfES = Department for Education and Skills
<http://www.dfes.gov.uk/>

2002).

UCISA and JISC combined to conduct a single survey. The integrity of the 2001 VLE survey was largely retained within the 2003 survey, permitting a longitudinal comparison (Browne & Jenkins, 2003).

The questions from the 2003 survey were broadly repeated in 2005, though appropriately updated and, in particular, it attempted to move the vocabulary away from the poorly understood term MLE to the more widely accepted term e-learning. Nevertheless, the 'VLE-style' questions used in the 2001 and 2003 surveys were largely retained in order to extend the longitudinal comparison. But new questions were added, based on research conducted by the JISC e-learning programme (www.jisc.ac.uk/elearning_pedagogy.html.) The Report for the JISC survey (JISC, 2005) covered both higher and further education. The UCISA Report (Jenkins, Browne & Walker, 2005), covered just VLEs in HE and, where possible compared the returns for 2001, 2003 and 2005.

This paper draws upon Jenkins, Browne & Walker (2005) and in addition also identifies broadly confirmatory findings from other surveys conducted during this period. These were the Observatory's study of Commonwealth Universities (Garrett & Jokivirta 2004; Garrett & Verbik 2004: conclusions are only drawn from the 47 UK institutions that contributed to this study), JISC's evaluation of networked learning (Bricheno et al, 2004) and commercial studies conducted by Ted Smith Consulting Ltd (Smith, 2005) and Intrallect's study of Learning Object Repositories (2004).

The 2003 survey received 102 (54%) responses from UK HE institutions and the 2001 survey 75 (51%), compared with 2005, which had 85 (41%)⁶. Only 54 institutions responded to *both* the 2003 and 2005 surveys. We have no information regarding *who* responded at these overlap institutions. These facts should be borne in mind when undertaking any longitudinal comparisons. Also, the authors would caution against attempting to use the statistics as performance indicators. Nor should this information be confused with benchmarking, though it may help to inform such an exercise.

Overview of VLE use

An essential initial question was to determine the extent of VLE usage. Table 1 shows that usage has increased to 95% of all

⁶ The sizes of the sampled populations were different between the 2001 survey and the 2003 and 2005 surveys. The 2001 survey using UCISA's database and the 2003 and 2005 surveys based on that provided through the JISC MLE Survey. As such the percentage figures of returns do differ.

institutions in 2005, compared to 81% in 2001 and 86% in 2003. Growth in use by HE colleges was greatest, reaching the level of both Pre- and Post-92 Institutions.

Table 1: Institutional adoption of Virtual Learning Environments

	HE – Pre-		HE – Post-		HE		HE all		
	2005	2003	2005	2003	2005	2003	2005	2003	2001
N =	41	45	27	39	17	18	85	102	75
Yes	98%	84%	93%	97%	94%	67%	95%	86%	81%
No	2%	16%	7%	3%	6%	33%	5%	14%	19%

The previous surveys revealed that many institutions were using multiple VLEs. By 2005, 52% of respondents declared that they were deploying only one VLE, compared to 36% and 29% in 2003 and 2001 respectively, a trend reflected in Intrallect (2004), which reported higher uptake but deployment of single platforms institution-wide. The breakdown of the 2005 UCISA data reveals that Pre-92 universities have the greater number of VLEs, with 37% operating with 3 or more (61% with two or more) platforms. Post-92 institutions show a different trend, with 70% of respondents reporting only one platform in use. These results suggest a shift towards centralised management of VLE development at Post-92 institutions. We may speculate that these contrasting trends reflect differences in organisational culture and decision-making, with departments driving e-learning developments at Pre-92 institutions, whereas Post-92 institutions appear to be strategically led from the centre. Intrallect (2004) also noted that the management of learning resources is mostly distributed within institutions (with shared responsibility between academic departments, Library services and the VLE team), but observed an emerging trend towards a more centralised approach.

The 2005 data shows that Blackboard and/or WebCT, deployed in 80% of institutions [Intrallect (2004), from 45 responses, noted 83%], remain the most commonly used VLEs. But by 2005, the open source platforms Moodle and/or Bodington were used in 16% of institutions. Also by 2005, in-house intranet solutions, including VLEs were used by 55% of institutions, with Pre-92 universities showing the greatest level of such activity. We therefore see two key trends in evidence: the continuing preference of institutions to use commercial solutions provided by Blackboard and WebCT, (though this could also be interpreted as inertia due to expensive 'lock-in') and an emerging trend towards open source and in-house development. It will be interesting to observe future developments, particularly following the announcement, in October 2005, of the proposed merger of Blackboard and WebCT.

Level of Usage

Table 2 shows that VLE usage by students continues to grow significantly though Post-92 institutions have the highest proportion of student registrations. Usage by staff and number of course modules using a VLE illustrate very similar trends.

Table 2: Numbers of students using VLE⁷

	Pre 92			Post 92			HE College			HE All		
	2005	2003	2001	2005	2003	2001	2005	2003	2001	2005	2003	2001
<2000	31%	40%	88%	8%	13%	43%	45%	50%	92%	26%	30%	72%
2000-4999	25%	24%	-	16%	32%	34%	31%	33%	-	23%	28%	15%
5000-9999	13%	24%	12%	19%	19%	22%	19%	8%	8%	28%	23%	13%
10000-14999	8%	5%		20%	37%		8%	10%		10%	21%	
15000-19999	13%	-		16%	-		-	-		12%	-	
20000+	3%	-	-	20%	-	-	-	-	-	7%	-	-

20% of respondents from Post-92 universities reported VLE usage in excess of 20,000 active users. Such responses may reflect a strategic need by some institutions to indicate that they have 100% deployment, in line with pre-established targets!

The 2003 and 2005 surveys sought to identify how VLEs were actually being employed and this was in response to other evidence suggesting that VLEs were not having a significant impact on teaching and learning practice (Collis and van der Wende, 2002; Bell et al, 2002). A categorisation of VLE usage developed by Bell et al (2002) was used as follows:

Category A – web supplemented, in which online participation is optional for students.

Category B – web dependent, requiring participation by the student for an online component of a face to face course, measured against three subcategories of participation: (i) interaction with content; (ii) communication with staff/students; (iii) interaction with content and communication.

Category C – fully online courses.

⁷ NB for 2001 5000-9999 includes greater than 10000; for 2003 10000-14999 includes greater than 15000

The 2003 survey results were consistent with other evidence indicating that the majority of VLE usage (57%) was only supplementary (Category A). Garrett and Verbik (2004) reported that VLE deployment has been largely restricted to campus-based enhancement, accounting for only ‘trivial’ or ‘modest’ online presence for existing courses (e.g. the availability of course information and lecture notes online). Bricheno et al (2004) observed that institutions appear to be favouring a blended learning approach, using technology to support campus-based students with online delivery directed at ‘niche’ market courses. They also concluded that the use of ‘networked learning’ is still to have a significant impact in changing the instructor’s role. The UCISA 2005 data show a similar pattern with 54% of VLE usage remaining supplementary to class-based learning. However, the data indicate that Post-92 institutions are making greater changes to the way that they employ VLEs, increasing the ratio of web dependent courses, with only 41% of courses declared as supplementary to class-based learning. Fully online courses (Category C) remain a limited activity across all HE institutional categories (Fig 1). No subject bias was identified, with all broad categories of subjects being well represented in their use of VLEs.

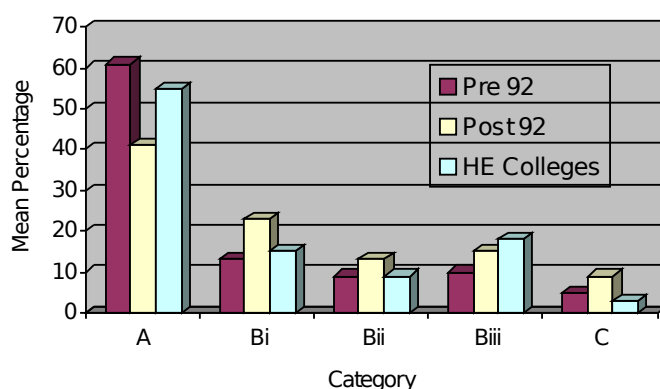


Fig 1: How VLEs are being used to support learning and teaching (2005)

The 2005 survey attempted to address the issue of pedagogic practice by asking respondents to indicate what they are using their VLE for. The results are shown in Table 3. In support of the results in Figure 1, it is unsurprising that access to resources and course materials shows the highest use. The other returns for collaborative working, peer support and assessment seem high when compared to Figure 1, though Table 3 does not quantify use, and only indicates that such uses are taking place.

Table 3: Uses made of VLEs (2005) (sorted by ‘HE all’)

	HE - Pre-92	HE - Post-	HE colleg	HE all
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	N =	31	19	12	63
Access to course material		97%	100%	100%	98%
Access to web based resources		90%	95%	100%	90%
Collaborative working		74%	95%	83%	81%
Assignment submission		77%	79%	75%	75%
Formative assessment		74%	95%	50%	75%
Peer support		61%	84%	75%	70%
e-assessment		68%	79%	42%	65%
Online student presentations (individual and group)		52%	74%	50%	57%
Access to multimedia resources, incl. simulations and games		65%	58%	42%	57%
Problem Based Learning		58%	68%	25%	54%
e-Portfolio		29%	32%	17%	27%
Learning Design		29%	16%	17%	21%
Other – listed		6%	0%	8%	5%

Technical and Administrative Support

There is a dominant steady state in terms of Central Information Technology Support units providing support for installation and maintenance (90%, 85%, 89% for all HE, for 2001, 2003 and 2005 respectively). A similar level of support is given by such units for technical support (90%, 86%, 85%), but somewhat less so for administrative support (74%, 69%, 67%). Also, for both technical and administrative support, there is a slight decline in support from Distributed and Local support units and with more support gradually being provided by a Dedicated VLE Support unit. As institutions adopt centralised management of VLE platforms, it is logical to expect a similar trend emerging for technical support activities, perhaps a reflection of institutional maturity in service provision.

Integration with other Systems

In 2005 a broad range of *automated* linkages were explored between VLEs and information systems, (see Table 4). The greatest area of progress has been in the development of links with student records systems and the input of student module choices. Intrallect (2004) also noted that integration with record systems represents the major priority for institutional learning strategies over the next two years.

Post-92 institutions appear to be leading the way in VLE systems integration, indicated by much greater progress in automated linkage with email, library management systems and CAA,

compared with the other two sectors. E-portfolio, portal development and library integration are emerging concerns within the HE sector, yet the 2005 survey data reveals only limited progress so far in these areas. Smith (2005) however concluded, based upon returns from 51 HE institutions, that VLEs were poorly integrated, especially with student record systems, though this observation was qualified by noting that integration was more evident at institutions that possessed a clear deployment strategy.

Table 4: Automated systems linked to VLE(s) (2005)

	HE - Pre-92	HE - Post-92	HE college	HE all
Input of student records	61%	63%	62%	63%
Input of student module choices	45%	65%	38%	51%
Library Management System	25%	40%	25%	30%
Other library systems	19%	47%	15%	27%
Portal	30%	26%	23%	29%
e-mail	35%	68%	42%	48%
e-portfolio	16%	20%	8%	15%
Computer Aided Assessment	39%	47%	25%	38%
Other	16%	11%	8%	14%

Strategy and Decision Making

In the 2005 survey, an indication of *strategic* commitment was requested. What is clear from Table 5 is that although the development of e-learning is now universally accepted, this is by no means synonymous with it being strategically planned, although there is a trend towards the adoption of an institution-wide strategy.

Table 5: Nature of plans for future development of processes to support e-learning

	HE -		HE -		HE		HE all	
	2005	2003	2005	2003	2005	2003	2005	2003
N =	32	45	21	39	14	18	66	102
Have strategy in place for future development	56%	51%	67%	59%	64%	39%	61%	52%
Development planned but no strategy	38%	42%	33%	38%	36%	56%	36%	43%
Unsure about further development	3%	0%	0%	3%	0%	6%	2%	2%
Do not envisage any further development	0%	4%	0%	0%	0%	0%	0%	2%
Not answered	3%	2%	0%	0%	0%	0%	2%	1%

Garrett and Jokivirta (2004) drew a similar conclusion, with the growing preference for the integration of online strategy with existing institutional strategies. Bricheno et al (2004) indicated that networked learning is now considered a core activity of institutions and that the most successful large scale implementations combined a management led and bottom-up approach to deployment. Of the institutional strategies that are informing e-learning developments, the UCISA surveys reveal that Teaching and Learning Strategy (64% and 95% for 2003 and 2005 respectively) and the Library/Learning Resources Strategy (48% and 74%), are the two most influential policy documents.

The 2005 survey also asked the companion question relating to the influence of external agencies on e-learning developments. The most common responses were strategies from professional bodies or agencies (73%), HEFCE strategy documents (68%) and HEFCE's e-learning strategy/consultation document (50%). This is in marked contrast to the DfES e-learning strategy (12%) and JISC strategies (24%), which received low scores.

In 2003 and 2005, survey respondents were asked to rate the significance of a range of factors (Table 6) that affected MLE developments more broadly. These are ranked by order of importance, based on all HE responses. The enhancement of learning and teaching quality is the highest ranked, as it is in Garrett and Jokivirta (2004). Indeed the top three responses all have a student focus. Interestingly, the lowest three ranked factors refer to how an institution relates to other institutions – clearly not much! Disturbingly perhaps, SENDA (SENDA, 2001) (Special Educational Needs and Disability Act) has yet to make a significant impact, though it has slightly greater visibility in Garrett and Jokivirta (2004).

Table 6: *Driving* factors for environments and processes that support e-learning (average scores, ranked by Total 2005) (2003 rankings [HE all] in brackets)

	HE - Pre-		HE -		HE		HE all	
	2 005	2 003	2 005	2 003	2 005	2 003	2 005	2 003
General enhancement learning and teaching quality (1)	.46	.56	.79	.71	.65	.65	.60	4.63
Improving access to learning for students off campus (2)	.78	.85	.21	.35	.00	.00	.96	4.06
Student expectations (5)	.03	.67	.96	.68	.75	.35	.95	3.61
Improved administrative processes (7)	.49	.17	.54	.35	.88	.71	.58	3.33
Improving access to learning for part-time students (3)	.19	.46	.88	.13	.59	.71	.49	3.74
Creating or improving competitive advantage (6)	.51	.44	.46	.48	.29	.41	.45	3.45
Widening participation/inclusiveness (4)	.11	.46	.58	.84	.94	.00	.44	3.70
Help to standardise across institution (8)	.30	.34	.33	.29	.88	.06	.22	3.27
Attracting new markets (9)	.22	.10	.25	.42	.94	.35	.17	3.26
Attracting home students (10)	.03	.79	.29	.19	.94	.29	.09	3.02
Keeping abreast of educational developments (13)	.00	.61	.00	.10	.00	.35	.00	2.73
Attracting EU students (=11)	.62	.2	.88	.3	.88	.2	.55	2.98
Attracting overseas (outside EU) students	.05	.95	.21	.10	.00	.82	.82	
Special Educational Needs and Disability Act 2001 (15)	.65	.42	.96	.29	.71	.88	.76	2.46
Improving access to learning for overseas students (=11)	.62	.07	.33	.03	.13	.65	.74	2.98
Achieving cost/efficiency savings (14)	.70	.60	.08	.71	.00	.29	.36	2.58
Developing regional role of institution (17)	.89	.02	.83	.42	.76	.06	.36	2.17
Formation of partnerships with other institutions/organisations (16)	.14	.45	.71	.52	.13	.06	.31	2.40
Help to standardise institution with others (18)	.59	.34	.04	.97	.63	.71	.74	2.09

In the 2003 survey responses, the existence of a local champion was identified as being the most important supporting factor in assisting the growth of e-learning. This was also observed by Bricheno et al (2004). By 2005 the UCISA survey indicated that the primary factor was the availability of internal funding. This illustrates a typical path in e-learning adoption, reflecting the maturing of VLE take-up across an institution. Alarming, the availability of relevant standards was cited as being least relevant as a supporting catalyst, in both 2003 and 2005 and this observation chimes well with the lowest ranked response in Table 6. Smith (2005) provided indirect confirmation of this finding, noting that there is little interest expressed in standards, as evidenced through the courseware downloaded from JISC's 'exchange for learning' X4L initiative (see: http://www.jisc.ac.uk/index.cfm?name=programme_x4l). The very low ranking relevance of efficiency savings, or the formation of partnerships again mirrors the results from Garrett and Jokivirta (2004).

The converse was then asked, i.e. what *barriers* may inhibit the development of processes to support e-learning. Lack of money and time were the two most notable barriers, but lack of support staff, and lack of relevance to career development all scored highly. Intrallect (2004), Garret and Verbik (2004) and Smith (2005) noted similar findings. The importance of support but also of staff attitudes were noted by Bricheno et al (2004). The latter is particularly important in the context of the apparent lack of career recognition for e-learning development. Lack of standards is not regarded as an impediment presumably because, as noted earlier, they do not appear to greatly influence decision making. This may be of concern to much of the standards community, not least, the JISC.

Training, teaching and learning Support provided

Although VLEs are now funded as a service in the majority of institutions (75%), project funding remains an important means of stimulating e-learning activity. The allowance for staff development time, for both academic (48%, 55%, 49% for 2001, 2003 and 2005 respectively) and support (43%, 41% for 2003, 2005) staff as a means of support or encouragement should be a cause of some concern.

The opportunities for career enhancement overall remain low, at 11%, which is also noted above as a barrier to VLE development. This is confirmed by both Garrett and Verbik (2004) and by Smith (2005). However, opportunities are much higher, at 26% for Post-92 universities. The 2005 survey asked for the first time whether VLE development was supported or encouraged through its use being a contractual obligation; overall in the sector the response

was 28%.

The increase in learning technology support roles has been well researched, notably in the ELTI Project (2003), and the UCISA surveys sought to identify the extent to which such support is provided centrally or locally (see Table 7). The data reveal a mix of central and local provision and this is most noticeable among Pre-92 and Post-92 universities with HE colleges having a higher proportion of centrally provided staff only. But overall, this suggests that while VLEs may be centrally supported, their application is managed more by academic departments. Bricheno et al (2004) identified central support units working with local academic champions as the most effective support framework.

Table 7: Dedicated staff employed to provide pedagogic support for VLEs (2005)

	HE - Pre-92	HE - Post-92	HE college	HE all
N =	31	20	13	64
Yes centrally and locally	42%	45%	23%	39%
Yes centrally	29%	35%	46%	36%
Yes locally	16%	5%	8%	9%
No dedicated VLE support staff	13%	10%	15%	13%
Not answered	0%	5%	8%	3%

Units providing staff support

Table 8 identifies a number of groupings of support units, namely IT Support Units (Central and Distributed IT support); Learning Technology Units (LTUs) (Learning Technology Support Unit (LTSU) and Dedicated VLE and E-learning Coordinator); Staff Development Units (SDUs) (Educational Development Unit (EDU) and Staff Development Unit [SDU]); Library and Learning Resource Centres (2005 only) and Local. Although there needs to be allowance for different interpretations of names and functions, these groupings do help to clarify how different forms of support are provided. There appears to have been a reduction in involvement of central IT support in providing this range of VLE support, in contrast with installation, technical and administrative support discussed earlier. LTUs have absorbed most of the displaced support. This table also highlights that support is often provided by different units within a single institution, which raises an interesting question in terms of ensuring clarity and consistency of support for staff.

Table 8: Comparison of staff support by type of unit

	Development of learning and teaching use			Support in creating new courses			Support in adding content and maintaining courses			Support in creating web pages		
N=	81	88	48	81	88	47	81	88	45	81	88	47
	2 005	2 003	2 001	2 005	2 003	2 001	2 005	2 003	2 001	2 005	2 003	2 001
IT Support Units	30%	40%	33%	28%	43%	53%	30%	46%	67%	46%	74%	89%
LTUs	67%	58%	54%	68%	61%	60%		58%	47%	44%	31%	36%
SDUs	32%	47%	56%	37%	25%	45%	32%	18%	38%	16%	17%	26%
Library/learning resources (2005 only)	3%	-	-	1%	-	-	3%	-	-	3%	-	-
Local	26%	16%	8%	20%	17%	19%	25%	20%	24%	22%	16%	11%

Units providing Student support

A similar question was asked regarding student support and the results are given in Table 9. As with staff support, this shows that student support is provided from a wide range of sources and units.

Table 9: Units providing student support by grouping

	Face-to-face training on use of VLE as part of course delivery			Face-to-face training on use of VLE as part of an IT skills induction			Printed guides on use of VLE			Information on Intranet/Internet on use of VLE			Online training on use of VLE via VLE		
N=	81	88	38	81	88	-	81	88	36	81	88	34	81	88	28
	2 005	2 003	2 001	2 005	2 003	2 001	2 005	2 003	2 001	2 005	2 003	2 001	2 005	2 003	2 001
IT Support Units	14 %	18 %	39 %	40 %	42 %	-	44 %	42 %	61 %	56 %	52 %	53 %	23 %	25 %	64 %
LTUs	22 %	22 %	32 %	21 %	11 %	-	43 %	34 %	44 %	46 %	32 %	35 %	33 %	26 %	43 %
SDUs	6%	5%	18 %	10 %	2%	-	11 %	5%	17 %	9%	7%	15 %	10 %	5%	18%
Library/learning resources (2005 only)	1%	-	-	9%	-	-	7%	-	-	5%	-	-	5%	-	-
Local	90 %	77 %	45 %	41 %	43 %	-	27 %	20 %	14 %	21 %	27 %	21 %	22 %	23 %	11%
Not answered	12 %	17 %	39 %	21 %	28 %	-	12 %	22 %	42 %	14 %	18 %	45 %	36 %	39 %	55%

Generally the data suggest LTUs are less involved in direct student

support and more involved in providing support information. When considered against Table 8 this suggests that their role tends to be more staff focused, with direct student training picked up locally or through IT support units.

There are subtle variations between the different types of institution under investigation. For example, Pre-92 institutions are less likely to have VLE support as part of an IT induction and for Post-92 institutions academic staff are more likely to be involved in the delivery of such support. The 2005 survey indicates that Library and Learning Resource Units are more involved in delivering support within HE colleges, as compared to Pre-92 and Post-92 institutions.

Specialised support

The 2001 and 2003 UCISA surveys sought to identify whether any specialist support was provided for distance learners and students with special needs. With the increase in flexible delivery this question was expanded for 2005 to include off-campus learners and part-time learners. The responses, shown in Table 10 indicate that there has been no significant growth in specialist provision. Yet Table 6 indicates that *improving access to learning for students off-campus* and *improving access to learning for part-time students* are important driving factors in e-learning developments. This would suggest that such factors are not yet influencing resourcing issues.

Table 10: Groups of students receiving specialised training and support

	HE all		
	2005	2003	2001
N=	81	88	49
Students with special needs	35%	25%	25%
Distance learners: 2001 and 2003 Distance and off-campus considered together	34%	38%	45%
Off-campus learners.	23%		--
Part-time learners.	11%		
Other group.	2%		

Support using new technologies

With the increasing use of mobile technologies, the 2005 survey sought to gather information on the use of these technologies with VLEs and their use to *connect* to a VLE. Overall the data show that the use of mobile technologies is very limited, with none being used in 53% of Pre-92, 40% of Post-92 universities and 81% of HE colleges. Wireless represented the most common technology in

use, though it was still low (15%, 24%, 0%). Mobile phones were used, with 5%, 20% and 0% of pre-92, post 92 and HE institutions.

Comparison of Pre- and Post-92 institutions

Throughout the survey, clear distinctions were identified between Pre-92 and Post-92 universities in their deployment of VLEs. For the 2003 and 2005 surveys, a selection of statistics (Table 11) highlight this contrast. There is a markedly greater use of VLEs, with central direction, discernible in Post-92 universities. The evidence indicates that Post-92 universities continue to increase their use of VLEs in terms of the number of registered student users, with platforms integrated more into the delivery of programmes. Post-92 institutions also exhibit a greater strategic direction in e-learning developments and offer more encouragement through career enhancement.

Table 11: Selected differences between Pre-92 and Post-92 HE

	HE - Pre-		HE - Post-	
Summary of question	2005	2003	2005	2003
No students using a VLE is > 10,000	23%	5%	56%	37%
No staff using a VLE is >200	40%	32%	76%	45%
No modules using a VLE between 500-999	20%	11%	4%	24%
No modules using a VLE is >1000	15%	0%	60%	13%
Stated targets for VLE use	56%	13%	67%	53%
Project funding to support and encourage VLE use	55%	79%	47%	58%
Career enhancement to support and encourage VLE use	6%	-	26%	-
Institution uses one VLE	37%	27%	70%	49%
Institution uses more than one VLE	61%	58%	22%	50%
Supplementary Usage of VLE	61%	55%	41%	55%
Complementary Usage of VLE	32%	36%	51%	39%
Allow academic staff development time	48%	42%	58%	63%
Contractual obligation to support and encourage VLE use	32%	-	11%	-

Summary of findings

All surveys are subject to bias and therefore all observations must be interpreted with circumspection. However, it is heartening to observe the common ground shared between the UCISA surveys and the other studies noted in this paper in recording VLE usage across the UK HE sector. The findings are as follows:

1. Uptake of VLEs has continued to increase in all HE sectors.
2. The number of VLEs in use at a given institution is beginning to decrease, though Pre-92 HE still display the greatest diversity.
3. Blackboard and WebCT continue to dominate. Other proprietary software is declining but there is an increase in in-house and open source developments.
4. Post-92 HE demonstrate the biggest volume of use and increases by both students and staff.
5. Access to course material continues to account for the greatest VLE usage, though particularly in Post-92 HE, there is increasing usage that is not merely supplementary. Usage is conspicuous across a very wide range of subjects.
6. Central IT continues to dominate technical and administrative support. Elsewhere, dedicated VLE units appear to be absorbing the support previously provided more diversely.
7. The integration of VLEs with MLEs has increased both in the range and depth of supported activities. In particular, there is a substantial increase in the creation of student account files for transfer to a VLE. But there is limited progress in integration with portal development and e-portfolios.
8. Strategy and decision making are becoming ever more consolidated. But there is also an increase in local consultation. E-learning and VLEs are increasingly being cited in strategy documents.
9. Learning and teaching are consolidated as the primary drivers for considering using a VLE. Specialised support such as that required for distance learners and students with special needs are identified as significant factors but have as yet had little impact on the character of resource provision.
10. Availability of funding is the primary stimulant to VLE development, with assured institutional funding now dominating.
11. Perceptions regarding career enhancement as motivation in encouraging VLE usage are very low, but there is an increase in expectation that VLEs will be used by staff.

12. Standards are neither seen as supportive nor as barriers, indeed, they have negligible influence on institutional adoption and management of VLEs. This resonates with the observation that there is little institutional collaboration in this area across the sector.
13. Most institutions are not yet using innovative technologies such as wireless and mobile phones, though Post-92 HE is most active in this area.

Conclusions

The survey data from 2001 to 2005 point to significant progress in the acquisition and central management of VLE systems. However, the transformative impact of these systems on instructional practices has yet to be realised. This should come as no major surprise, with changes in policy and technical development far easier to implement than cultural changes in the way that teaching and learning activities are delivered. The true test of VLE systems implementation will come when changes are evidenced in course delivery processes, with web-dependent instruction and active student participation representing mainstream activities across the HE sector.

Subject to resources being available and a sufficient level of interest from the community, the survey will be repeated in the spring of 2007. This will then enable a longitudinal comparison, incorporating data from four surveys, exploring the development of VLE services and associated cultural changes in teaching and learning activities.

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