

Virtual learning environments: an evaluation of their development in a sample of educational settings

Virtual learning environments (VLEs) use computers to allow remote access to learning materials. As the routine use of computers becomes all pervasive, there is an expectation that VLEs will form a significant part of the next generation's experience of learning. This survey evaluates how VLEs are developing within a selection of providers.

Age group: All

Published: January 2009

Reference no: 070251

This document may be reproduced in whole or in part for non-commercial educational purposes, provided that the information quoted is reproduced without adaptation and the source and date of publication are stated.

The Office for Standards in Education, Children's Services and Skills (Ofsted) regulates and inspects registered childcare and children's social care, including adoption and fostering agencies, residential schools, family centres and homes for children. We also inspect all state-maintained schools, non-association independent schools, pupil referral units, further education, initial teacher education, and publicly funded adult skills and employment-based training, the Children and Family Court Advisory and Support Service (Cafcass), and the overall level of services for children in local authority areas.

Alexandra House
33 Kingsway
London WC2B 6SE
T 08456 404040

www.ofsted.gov.uk

Reference no. 070251

© Crown Copyright 2009



Contents

Executive summary	4
Key findings	5
Recommendations	6
Evaluation	8
Background	8
The status of VLEs surveyed	9
Resources	9
The use of VLEs	11
VLE content and development of materials	17
Leadership and quality assurance	20
Case studies	21
Notes	25
Further information	26
Annex. Organisations participating in the survey	27
Local authority	27
Adult and community learning providers	27
Colleges	27
Schools	28
Work-based learning providers	28

Executive summary

Between January and May 2008, Her Majesty's Inspectors and Additional Inspectors visited 18 colleges, six primary and two secondary schools, three work-based learning providers, three adult and community learning providers and one local authority. Inspectors also remotely reviewed five college and four school virtual learning environments (VLEs). Of the 41 providers contacted, 35 had VLEs that could be evaluated. Additional evidence was gathered from an analysis of Ofsted inspection reports.

VLEs use computers to allow remote access to learning. In their current form, VLEs started to be introduced in educational settings around the year 2000. Their increased use was encouraged in the Government's 2005 strategy paper *Harnessing technology – transforming learning and children's services*.¹

Our survey found evidence of a great deal of development work being carried out by individual institutions and local authorities. These initiatives, particularly in colleges and through the growing introduction of learning platforms by local authorities, may yet bring VLEs into mainstream learning. However, in most of the provision surveyed, the use of VLEs to enhance learning was not widespread. We found that the exploitation of VLEs at curriculum level resembled more of a cottage industry than a national technological revolution. In most cases, at subject level, the VLE remained one small aspect of learning, supported by enthusiastic staff and learners.

Over three quarters of the VLEs evaluated in this survey had originated with the use of computer technology to help with the submission of assignments. Their increased use is now being encouraged by the better exploitation of computers and the internet in the classroom or workshop.

The best VLEs reviewed allowed learners to reinforce their routine work, or catch up on missed lessons. In those best cases the material offered was fun and helpful and was being used well by learners. In the least effective examples, documents had been dumped on the system and forgotten.

Well over three quarters of providers who had a VLE had aspects that were good, but only three providers had VLEs that had a structure that covered the whole of their provision and no provider had a VLE that gave comprehensive cover in every one of their subject areas. There was no consistency in those sector subject areas found to be well populated with material. Inspectors observed VLEs with good examples in media, art, sport, cookery, building and computing. However, in other VLEs there was very little in these subjects, or the material was unhelpful.

¹ *Harnessing technology – transforming learning and children's services*, DfES, 2005; www.dcsf.gov.uk/publications/e-strategy.

The common factor in effective VLEs was the enthusiasm of the subject teacher; that is enthusiasm for the subject and teaching and learning as much as any competence in computing. The more successful providers had provided their staff with a general introduction to the concept of VLEs, and then offered individuals encouragement in their curriculum area with more specialist detailed help when needed.

A good-quality induction and early use of the system were essential in ensuring a positive attitude to the VLE among learners. VLEs were used more effectively by more mature learners, particularly those taking higher level subjects or working remotely. Younger learners in the colleges surveyed routinely used their VLE for administrative purposes and went further if the material was good. Although young people use computers and the internet routinely in their personal lives, for instance on social networking sites, there was no great expectation on their part that a VLE would replace a significant part of their face-to-face learning.

The use of VLEs in the primary schools visited was very limited. In the secondary schools the effective use of VLEs increased with the age of the students. Work-based learning providers saw potential in VLEs, but use was limited, partly due to the perceived high development costs for small providers. Only four of the 18 colleges surveyed saw VLE direct costs as a significant problem, though staff time to develop materials was a concern in all settings.

In the colleges surveyed, material was mostly developed and placed on the VLE by individual subject specialists. Only a small amount of material was taken from other sources, either from within or external to the college. Although this ensured that materials were geared to the needs of learners, it represented a substantial duplication of effort between providers and a waste of one aspect of the potential of VLEs. The other types of provider surveyed made more use of externally available material.

Encouragement from leaders and managers at all levels was evident in the providers with the more effective VLEs. However no providers in the survey had a comprehensive formal quality assurance system for their VLE. Generally, arrangements to ensure that materials were kept up to date were left to tutors and heads of departments, while provider-wide systems to monitor the use of the VLE, and to evaluate its impact on learning, were underdeveloped.

Key findings

- In all the settings surveyed the concept of VLEs was relatively new. Colleges were making most use of them, primary schools the least.
- The best VLEs enhanced learning, giving learners the opportunity to reinforce aspects of their work as well as the chance to catch up on missed material. VLEs were least effective when they had little content or were just a dumping ground for rarely used files.

- There was no correlation between effective VLEs and any particular subject area. The main factor behind a successful VLE area was the enthusiasm of individual teachers or trainers and often linked with their good use of technology to improve learning in the classroom or workshop. College teaching staff mainly used their own developed materials; schools made more use of externally produced materials. No VLEs seen were fully comprehensive and effective over all curriculum areas; over three quarters had elements that were good, but less than a third covered most subjects.
- Learners surveyed were generally content to use material where it was available on a VLE, and appreciated the opportunities it gave them to manage their course work.
- The best VLEs had strong support from senior managers with good resources for development and maintenance. However, only three institutions had VLE strategies; development was normally a small part of an integrated learning technology strategy. None of the institutions had comprehensive formal quality assurance arrangements for VLE material to confirm accuracy, relevance, currency, suitability, or usage.
- The self-assessment of VLEs and their impact on learning was underdeveloped.
- Direct costs associated with introducing and running a VLE were not a particular concern for larger organisations and those using systems freely available on the internet. However smaller institutions struggled with the costs of the routine maintenance of information technology systems and a VLE. Time taken by staff to produce material was seen as a major challenge in some providers.
- The main use of a VLE by students in colleges was on site, albeit out of lessons. Conversely, where there was less access to computers at the provider, for example in some schools, adult and community learning and work-based learning providers, more time was spent by learners on the VLE at home.
- Work-based learning providers visited saw great potential in the use of the VLE; but they had concerns as to whether they could, with their limited resources, fully exploit the potential.
- Only one example was seen of the use of a VLE shared across a consortium for use in the diplomas for the 14–19 age group.

Recommendations

The introduction of VLEs is at an early stage in most contexts. A great deal of development work is being carried out by individual institutions, local authorities, Becta, the Learning and Skills Council, the Department for Innovation Universities and Skills and the Department for Children, Schools and Families. To assist in this work it is recommended that:

The Department for Children, Schools and Families and the Department for Innovation, Universities and Skills with their relevant partner organisations should:

- continue to guide the development of electronically-based learning materials, in particular to support courses for 14–19-year-olds and for learners on adult and community learning programmes
- assess whether the intended process for evidencing teachers', tutors' and trainers' personal skills in information and communication technology for conferral of licensed practitioner status in the further education sector should cover the skills needed to develop and manage material on a VLE.

The Learning and Skills Council and its successor organisations should:

- continue with the funding of work-based learning e-learning and VLE development and share good practice from current projects.

Providers should:

- develop specific VLE strategies that identify senior management responsibilities
- ensure that VLEs are designed to enhance learning and are not just a storage or communication facility
- put in place quality assurance procedures that evaluate VLE usage and set standards, but that also balance the need for individual staff responsibility for their own material, with a requirement to ensure that widely available material is relevant, current, understandable to individuals, and suitable for the institution
- routinely conduct an assessment of the impact of VLEs on learners' outcomes
- develop staff development systems where whole-institution events concentrate on understanding the potential benefits of the VLE and sharing of good practice, as well as a general awareness of strategy, while skills needs are met on an individual basis
- link VLE development with improving the effective use of integrated learning technology in classrooms and workshops.
- ensure, where appropriate, that a VLE is used to support learning across any consortium developing 14–19 diplomas or other shared provision.

Evaluation

Background

1. A VLE is a computer-based system that helps learning. Many terms and systems are associated with VLEs.² One used routinely is managed learning environment: this usually describes the infrastructure needed to deliver the VLE, and may include other aspects linked with learning, such as attendance records, reports or room allocation. The combination of a VLE and managed learning environment is sometimes known as a learning platform.
2. The use of computers to aid learning has been a developing aspect of many types of provision over recent years. This is partly a result of the increasing availability of computers, a growing familiarity with information and communication technology among learners and providers and, particularly for remote learning, the growing availability of the internet and use of broadband connections. For example, 61% of households had internet access in 2007; the majority with broadband.³ A 2007 Becta survey of nearly 500 schools showed they all had internet access.⁴
3. It is difficult to define exactly how long VLEs have been in use. There are examples of the employment of television in the USA in 1953 to give a form of remote technology-based teaching; the UK's Open University has been offering remote learning since the 1970s, but it was only in the year 2000 that one of the commercial computer-based VLEs that is still in use today – Blackboard – was patented, with the commonly used Moodle system being trialled in 2001.⁵
4. There has also been an expectation from the Government that increased use of technology should enhance learning. This was set out in its 2005 strategy paper *Harnessing technology – transforming learning and children's services*. That strategy is being implemented in a wide variety of ways and through various funding routes, with Becta being required to:

² VLEs might also be called a learning management system (LMS), course management system (CMS), learning content management system (LCMS), managed learning environment (MLE), learning support system (LSS), online learning centre (OLC) or learning platform (LP).

³ Office for National statistics website, 31 Jul 2008;

<http://www.statistics.gov.uk/CCI/nugget.asp?ID=8>.

⁴ *Harnessing technology schools survey 2007*, Becta, 2007; www.schools.becta.org.uk/upload-dir/downloads/page_documents/research/harnessing_technology_schools_survey07.pdf.

⁵ For further information on Blackboard visit www.blackboard.com; Moodle is a free-to-user system available through the internet; <http://moodle.org/>.

'work with Government and its key agencies to create the conditions in the system that will lead to the majority of institutions and learning providers making more effective use of technology'.⁶

The status of VLEs surveyed

5. Although much work is being done to introduce VLEs through providers, their positive impact on learning is not yet obvious. In a sample of 34 school inspection reports, published between September 2005 and December 2007, that had references to VLEs, just over half the comments were particularly positive about the initiative; the rest were more cautious and noted that the VLEs seen were still developing and were not yet significantly helping learning.⁷ In other contexts there was a higher proportion of comment about VLEs in inspection reports, though it still did not indicate any major use. For instance, 58 colleges out of 281 inspected in the same period as the schools had a VLE mentioned in their report; of those over three quarters suggested that, in some curriculum areas, they were helping learners. There were references to VLEs in 22 other adult learning provider reports out of 262 reports published in the period April 2007 to December 2008; again the general theme was of early development.
6. Survey visits and the nine remote reviews confirmed that VLEs are still in an early stage of development. In one college a type of VLE had been in operation for over six years, but nearly all the other VLEs were all less than three years old. Well over three quarters of providers who had a VLE had aspects that were good, but only three providers had VLEs that had a structure to cover the whole of their provision. In the eight schools visited only two had a working VLE, though all the schools were aware that their local authorities were introducing a learning platform system, and expected to use elements of that in the next year.

Resources

7. In 14 of the colleges the physical resources needed to run a VLE were not seen as a concern. Because of other initiatives all the colleges visited had an adequate number of computers to allow learner access to a VLE. Only two colleges felt there was a potential problem concerning staff having enough individual access to a computer to develop learning materials. All the colleges had appropriate server capacity to support current VLEs, though three highlighted a concern that, as their VLE incorporated more subject areas, particularly in arts and media, then storage for learners' work would be a

⁶ *Harnessing technology delivery plan*, Becta, 2007; www.publications.becta.org.uk/display.cfm?resID=28223.

⁷ September 2005 to December 2007 covers the two years following the publication of *Harnessing technology – transforming learning and children's services*. The 34 inspection reports had a reference to virtual learning environment or similar systems in the report.

problem. All the colleges were greatly increasing their use of integrated learning technology in the classroom, and this supported the use of a VLE outside the classroom.

8. The schools, adult and community and work-based learning providers were more concerned about resources and were unsure as to whether all their learners would have routine access to computers at school, in the learning location or at work. However, the secondary schools surveyed were less concerned and assumed that most pupils would be easily able to access any VLE. Although individual access was not seen as an issue for the college learners, three colleges did express concerns that, if VLEs did become an essential part of learning, any learners without home broadband internet access could be disadvantaged in their learning. Four of the six primary schools had concerns about the provision of software and hardware systems to support a VLE, but all were aware that local authorities were working to provide a common learning platform that could meet their concerns. In one instance, adult and community learning providers were attempting to deal with resource problems through collaborative working, as shown in case study 2 on page 23.
9. None of the providers considered the cost of software to run a general VLE to be a significant problem. For example, 14 of the 18 colleges surveyed were using Moodle. Others, who were using software with an annual subscription of up to £14,000 a year, felt that aspect was still not a major concern. However, work-based learning providers were using, or hoped to use, more specific applications, such as electronic portfolios. These have associated expenses that are a potential concern.
10. The main resource concern for all those surveyed was the unquantified cost of teaching staff time to develop material for use on the intranet, and the routine work of specialist staff in maintaining the system and supporting tutors. College estimates of the maintenance staff costs ranged from £1,000 to £50,000 a year, although all except five were using current information technology support staff rather than any newly established posts. None of the providers visited had done an analysis of how much time tutorial staff spent on VLE material development. To an extent this was because the use of a VLE was seen as a routine part of lesson preparation that was already allowed for in staff time, even if in the early stages of development this preparation took longer than usual.

The ICT/business studies faculty in one college had adopted a deliberate policy to change 90 minute lessons to 75 minutes, allowing the staff an extra 15 minutes to prepare VLE material.

11. One work-based learning provider was using funds provided through a Learning and Skills Council scheme to pay for a developer on a short-term project; without that funding they felt they did not have the capacity to do any

significant work on introducing a VLE. Seven of the eight schools surveyed had concerns about future capital funding.

12. On the survey visits inspectors discussed the impact of the many different funding schemes that had been set up in recent years to assist in the development of electronic learning. One work-based learning provider accepted that a funded scheme was the main reason why they were developing online learning. Three to four years ago the colleges had accessed project funding, ranging from £1,000 to an exceptional £100,000 for initial development; none were now relying on specific external grants, though all would welcome assistance. The schools visited had used their own funds if they had a VLE, or, particularly in the case of primary schools, were awaiting local authority-funded development of learning platforms. The sharing of good practice that was an anticipated result of other European Union-funded projects had no noticeable impact on the providers surveyed.

The use of VLEs

The ways in which providers made use of VLEs

13. All the providers surveyed were still developing the full use of their VLEs. All had grown from small beginnings rather than being the result of a carefully planned launch of a final product; however, in three cases a recent change of software had led to a considered re-assessment of how the system was being used. Local authorities are putting substantial effort and funds into introducing area-wide learning platforms that schools can adapt to provide a local VLE. The schools who were not using a VLE were anticipating a structured start when their learning platform was introduced. In the colleges and schools surveyed the initial use of the VLE had, in well over three quarters of the cases, been driven by a desire to improve the effectiveness of planning and submitting work, and giving feedback on assessment. This type of use then widened to support learning. In adult and community learning the VLEs had been introduced more to support and enhance learning, and to assist staff, rather than for assessment purposes.
14. An element of communication existed between learners and staff in all the VLEs reviewed, but most retained other methods of communication outside the VLE. The planned local authority learning platforms mostly included an area-wide communication facility that, it was hoped, would encourage initial use of the system. Four of the colleges and one school had linked their routine communication systems and the VLE in an attempt to encourage staff to use the VLE as their initial point of contact.
15. All of the providers surveyed that had a VLE had at least one aspect or subject area that was judged as good. However, no VLEs were seen that gave fully comprehensive cover across all curriculum areas. No provider was able to give an accurate figure to show the proportion of their work which was supported by

acceptable quality material in a VLE. Where providers did estimate the amount of comprehensive coverage it ranged around 30%; though even this figure required over 4,000 resources on the VLE in one college. Only four courses were seen that were designed to be used exclusively outside the classroom.

16. It was notable that there was no commonality among providers in terms of the amount of VLE material in sector subject areas. In two colleges and one school, the sports subject area had some very interesting learning material, such as the use of videos showing an ideal high jump compared with a pupil's attempt; in other colleges there was no material in the sports section. All but one of the information and communication technology areas evaluated had some learning material; however in most providers this consisted mainly of copies of work that had been done in an information and communications technology class. One adult and community learning provider had helpful recipes and shared tips and advice for a cookery class; another provider felt that the use of the VLE for cookery was inappropriate. Three colleges, a school and an adult and community learning provider had VLE material supporting media and arts courses; these were all lively and exciting sites, albeit mainly reflecting projects that were being done by learners in class. All the other VLEs evaluated had very little or no material in the arts and media sections.

In an adult and community learning provider, one learner who moved to live in France kept in touch with her original French class via the VLE with news and information about life in France. That was then used by the tutors to generate learning activities.

One work-based learning provider involved Entry to Employment learners in the design and development of an online induction course before it went on their VLE. The course attempts to engage young learners in topics that can be seen as dull, such as health and safety. The design of the product is very attractive to young people and tests their understanding of the induction topics by interactive quizzes on the VLE.

17. The findings from survey visits showed that the main reason why a subject area was well populated and used was because of the enthusiasm of a particular subject teacher, or head of department. We found no direct correlation between computer expertise and VLE development; rather it was the more skilled and confident teachers and tutors who treated the VLE as an extension of their normal work. A manager at one college with a well-used VLE said:

'A VLE is just another tool in a good teacher's repertoire; it is not an end in itself.'

18. All the providers who had a VLE also had a management information system and elements of a managed learning environment. Only four colleges and one school had made serious attempts to integrate the various systems. The

providers accepted that there could be further benefits through integration, for example with the automatic assignment of enrolled learners to a particular VLE subject area. However, there was a degree of concern that such integration could prove very expensive, might be beyond the provider's capabilities, lead to incompatibility problems with the software they already had, and prove to be a distraction at this stage of VLE development. No enthusiasm was shown by those who already had a VLE to start again with a fully integrated and possibly more efficient overall system.

19. All the providers were improving their use of integrated learning technology in the classroom, which included examples of the use of computers and the internet in areas such as construction, hairdressing or practical plumbing workshops where this may not have been traditionally expected. Where this use of integrated learning technology was a prominent feature of a provider – with a clear strategy, use of champions, good support from technical staff, and helpful staff training – then the provider's VLE was usually one of the more effective observed.
20. Although the colleges, schools and work-based learning providers surveyed were developing, or were intending to develop diploma programmes, only one provider was actually planning on using a VLE to support learners in this work. The remainder, if questioned, accepted that it might be helpful for learners working with several establishments to have access to a single learning support system through one of the provider's VLE. This multi-site and multi-user approach to learning is an ideal opportunity to have learning supported by a VLE; assuming it could be appropriately resourced and developed.
21. In the best VLEs learners had the opportunity to reinforce their routine work as well as the chance to catch up on missed material for courses and to extend their deeper knowledge and understanding of their subject. The least effective VLEs were just used as a filing system for notes.
22. No provider had conducted a systematic evaluation of the impact of their VLE. However, the providers surveyed did identify the following benefits to their learners:
 - improved motivation, interest and learning (11 providers)
 - allowing learners to catch up on missed lessons, with links to improved retention (nine providers)
 - improved control, by provider and learner, of assignments and associated feedback, and general coursework (nine providers)
 - saving costs and effort in printing, though an element of this was transferred from providers to learners (five providers)
 - better pacing of learning for individuals (three providers)
 - help for excluded students (two providers).

One of the remotely reviewed providers, which supports learners who had unsuccessful school experiences, sees the VLE as an important part of its work with pupils. Young people are more inclined to work on material from the VLE in class, or even in other parts of the building if for some reason they were not included in the classroom activities. On a few days each year the provider holds VLE days where pupils stay at home and do project work from the VLE. Some distance learning material is provided by other providers.

Although learners primarily follow GCSE courses, the VLE has extra material on it to help enthuse learners with the basics of their chosen subject. They are then more inclined to move from the fun elements to the more formal aspects of their course. In some ways it is elective learning, but it is still seen as effective. It also helps with involvement of parents and guardians, with about 50% of them using it, and this is seen as particularly beneficial in terms of improved support and involvement.

Learners and VLEs

23. The way a VLE was used by learners was almost inevitably limited by how the provider was populating and using the system; though in around a quarter of the providers learners were using it for their own purposes, such as communication between themselves or with staff. In one school they shared experiences from travels, or philosophised on some aspect of their lives.
24. Nearly all the learners interviewed were comfortable with the mechanics of using computers as part of their learning, even those who were not interested in using the provider's VLE. Use of the internet and word processing were seen as normal practice. In one college students were used as mentors to help staff with their VLE information technology problems. However, a good quality induction and early use of the system were essential in ensuring a positive attitude to the VLE among learners.
25. When a VLE was provided, learners were content to use learning opportunities. These included reference to material that had been shown in class, or supplementary quizzes and tests. In a very few cases new material or links existed to enable learners to move on from topics covered in class and to extend their understanding of a topic. In the performing arts areas learners were happy to load their work onto the VLE, partly for peer review and comment and in some cases to show that they had mastered digital techniques. Just six of over 200 learners interviewed stated they used material on the VLE as an alternative to attending a class.
26. Nearly all learners used the VLE to submit assignments or course work and receive feedback. They welcomed the VLE as a method of organising their coursework, with clearly laid out deadlines and reminders. They also liked the ability to access elements of their course material electronically rather than

having such things as bulky printed hand-outs, or course specifications. Learners from other countries were pleased that they could access the VLE and did not have to take bulky documents on a flight home. Where the VLE had some well-developed aspects, learners were positive about the enhancement to their learning.

27. Learners were clearly aware that the quality and quantity of material on their VLE varied greatly between departments within a provider. Where there were very good learning materials in one subject area there was a degree of frustration that this was not then replicated in all subject areas. However, there were no great expectations. If learners had not had any positive VLE experiences with a particular provider they did not feel strongly that they were being disadvantaged, despite a reasonable understanding of what might be made available online.
28. Learners with learning difficulties often used computers to support their learning in class. They generally welcomed having lesson material available before and after classes on the VLE, as this gave them more time to absorb the contents. However, the VLE was not so popular with those with specific learning disabilities; although they did use computer-based programmes to help their learning, the ready availability of a supportive tutor in class was seen as a greater factor in their learning.
29. In the colleges visited all learners accessed the VLE at some stage while on the premises. In nearly all cases they also used the VLE at home, at evenings or weekends, though not as often as at college. One college's research indicated that girls tended to use the VLE in the early evening, while boys used it more often late at night. There were examples of VLEs being used on Christmas Day and in the middle of the night. Another college showed that it was being used more often before examinations, though learners generally made the point that this would only be the case if the VLE had appropriate material, otherwise their usage would fall while they revised using other sources. A third college noted that a significant increase in VLE usage was directly linked with formal tutor encouragement in the class-room, rather than any other initiative in the VLE itself.
30. In other providers visited, learners' use of their VLE presented more of a mixed picture. In the adult and community learning settings the VLE was mainly used by learners at home, though often linked with computer-based learning that had been begun in class. In the primary schools use was generally limited to specific classes. As pupils got older there were more opportunities for use outside formal classes. All the schools with a VLE had remote access, and those with good learning materials were used routinely by pupils at home.
31. Learners who were not full-time students were pleased to be able to access material remotely. This included learners who were employed, particularly those on shift systems.

32. There was no obvious link between use of VLE and age. Among younger learners, up to around 21 years old, there was a mix of those who were keen to exploit a VLE's potential, and a larger proportion who were blasé about the approach. More mature learners tended to be either enthusiastic and adaptable, using the VLE intelligently, or less confident about information technology and in some cases with a strong view that they wanted just to have class-based learning.
33. The survey in particular looked at the use of forums, where learners could communicate online with each other as a group, and perhaps their teacher/tutor, about a particular topic, class or project. It was assumed that this might be a popular aspect of a VLE given the prolific use of such sites, including social networking sites, among young people. The survey identified one forum in a high-achieving senior school, and three very specific projects with other providers which, in two instances, were aimed at older learners on level 3 and 4 courses. Apart from those examples there were very few forums, and those that were operating generally had few comments or soon reduced to meaningless banter after a few contributions. One college had closed a forum after inappropriate use. Learners were not inclined to use the VLE for general and social purposes, as opposed to specific learning reasons.

Staff use of VLEs

34. Staff use of a VLE reflected any formal requirements of the provider, their own enthusiasm for this aspect of their work, and to an extent the enthusiasm of their learners. One college tutor said:

‘When you hear your students talking about interesting stuff they've done in another subject [on the VLE], or ask you if you can post material there, you're better motivated to use it. If they then respond to what you do then it all starts to gather momentum.’
35. Staff surveyed particularly welcomed the use of a VLE to manage assignments. They felt this had largely solved the problems of submissions being apparently lost in the post, arguments about whether deadlines had been met, and whether learners had received feedback. However, staff in subjects where learners would eventually have to sit a handwritten examination limited their use of submissions written on computers, to give learners appropriate practice.
36. With the exception of the adult and community learning providers, two schools, one of which was on two sites, and two colleges, VLEs were not used as the primary communication tool by staff. However, tutors in the adult and community learning providers were very active users, accessing policies, procedures, and teaching notes from their various home and remote locations.
37. Three providers and two schools had placed aspects of general staff development on the VLE. This encouraged staff to access the VLE.

How other users linked with VLEs

38. One of the schools surveyed had a section of its intranet that was specifically designed for use by parents, partly so they could access school work if they wished to help their children. Parents were able to see lesson material that had been recently used, as well as details of assignments and projects and supporting material. A pupil referral unit successfully encouraged parents to use the VLE so that they might be more involved in their child's development. Parents could download material from the unit, and help their child, or have an understanding of what they should be attempting. This improved communication with parents. Only two other providers had material or structures obviously aimed at users other than learners.
39. This apparent lack of open use partly reflects the understandable need to provide a unique log-in for each user to meet privacy and security concerns, and the difficulties in managing that. It also reflects the fact that all providers had a website, and this contained much of the material they felt would be useful for non-learners. For learners aged over 18 years this was judged to be appropriate; however, schools' clear involvement of parents through a VLE offered potential benefits.
40. Most of the VLEs surveyed could be accessed via the provider's website. One college had deliberately separated the two functions, as their analysis of website use for business purposes was being distorted by users using it solely for VLE access.

VLE content and development of materials

41. The VLEs evaluated in the survey had a wide variety of content. The variety was noticeable between providers, but there were also marked differences between subject areas on each provider's VLE. The materials seen, in approximate order of frequency, included:
 - notes and handouts linked with specific lessons
 - schemes of work, course handbooks and course planning material
 - assignments and assessments, due dates, submissions, feedback
 - practice tests – most of them multi-choice with automatic marking
 - student produced materials – mainly in arts and media subjects
 - commercial or other learning materials not produced by the provider – for practical subjects often with enhanced graphics or animation
 - PowerPoint presentations – most of them linked with internal courses and a few from external sources
 - links to specific internet sites

- staff resources, such as policies and procedures for adult and community learning classes
 - embedded video clips – some from internet sources and a few with provider-prepared material of practical sessions.
 - extension lessons
 - electronic portfolios.
42. In the college and adult and community learning VLEs surveyed around two thirds of the material was produced by the staff themselves, nearly always the subject tutor. The colleges had tried a variety of methods, using information technology staff, library staff and specialist designers to prepare material. However, well over three quarters of the colleges had settled on a system of the course tutor having the lead responsibility for development, with technical support as necessary.
43. Although there was a degree of sharing of general good practice, technical and structural difficulties meant that very little material produced locally was shared effectively between courses. There was little sharing of material between providers, with the exception of the use of general material accessed via public sites on the internet. Given that many of the college courses followed a standard syllabus, this meant there was a large amount of duplication of effort between colleges in providing basic course-related material. The potential to use country-wide common resources to assist staff was not being exploited to any large extent.
- One college reviewed remotely had a VLE that was well populated with resources from external sources; these included relevant videos from professional bodies and a university, and a wide range of well-produced animations of such things as valves, hydrants and motors that had been developed by another college and then purchased.
44. The school VLEs observed made greater use of externally produced material. A number of websites have been developed to provide standard quizzes and coursework. Schools access these, usually for free or in some cases for an annual subscription, and either download material directly to their VLE or put links to these sites into specific topics on their VLE. Pupils then use the material as directed by their teacher, or for extension work. The school VLEs also tended to include material linked with specific school projects; one example was related to the Battle of the Atlantic and this was very well illustrated and explained. Material for such project work was mainly downloaded from public sites.
45. The work-based learning providers used software applications such as electronic portfolios, specifically designed or bought-in learning material, and then to a small extent staff developed content as the basis for their VLE.

One large multi-site work-based learning provider is making good use of digital voice recording. This allows assessors to make a recording of a practical observation, and then complete assessment forms on a computer after the event, rather than spending time on this practical aspect during their short visit to a learner. Learners can then access the completed assessment to see comments and use it in their portfolios.

Another work-based learning provider has been awarded funds to provide each apprentice with around £100 worth of multimedia equipment, including cameras. This will allow learners to prepare and upload evidence to a VLE for assessment. Learners will drive the assessment process. The intention is that if they achieve timely completion learners will keep the equipment.

46. In all 35 providers with a VLE, support for teaching staff developing material was mainly provided on an individual basis. In well over three quarters of the colleges there had, at some stage, been whole staff introduction to the VLE, and then mass training on the practicalities. However, although the general briefings and showcasing of good practice seemed effective in encouraging VLE use, group training on the detail was not effective. Subject teachers, in the providers with the better VLEs, had a mix of departmental champions or enthusiasts to suggest ideas, then access to information technology or learning resource staff who could help them with minor queries as and when they actually developed the material.

At one college a course tutor on the entry level Work Skills for Retail programme was relatively unskilled in the use of information technology. Through development activities and support offered by the college the tutor now uploads and sources all course material on the VLE for the entry level students to use. The learners find Moodle [the VLE] easy to navigate around and are encouraged to access it as a first port of call to find out about what is happening on their course, such as excursions, information on fund-raising work and other enterprise activities. The students enjoy using the VLE both in and out of college and suggest ways their material could be improved. A range of fun activities to develop their numeracy skills is stored on the site. As students enjoy using Moodle they continue their work at home, more so than before it was available. The tutor tracks student use and offers incentives to encourage suggestions for improvement.

47. All the staff and managers interviewed felt they had enough computer skills to enable them to carry out at least basic management of VLE content. With very few exceptions the basic information technology competence of college tutorial staff was not seen as a problem in terms of their ability to carry out initial VLE work. However, concerns were expressed by primary school headteachers and by two of the adult and community learning providers about the confidence and

competence of their staff in working with computer systems. There are proposals, in the evolving workforce strategy for the further education sector, for the evidencing of teachers', tutors' and trainers' personal skills in information and communication technology for conferral of licensed practitioner status⁸. It is not clear whether this would cover the skills needed to develop and manage material on a VLE.

Leadership and quality assurance

48. Only three colleges and a school had specific VLE strategies. All of the providers surveyed had a form of information technology, e-learning or integrated technology strategy, and in those there were references to a VLE where relevant. In the providers with the better VLEs there was clear guidance and support from senior managers, some of whom had extensive experience of VLEs. In all the providers there was a senior or middle manager with formal responsibility for the VLE. However, their contributions ranged from just a general understanding that a VLE might be helpful to the institution, to a competent and well articulated role in improving the provider's VLE.
49. In three larger organisations, particularly where a middle manager had VLE responsibility, there were tensions between centrally imposed targets and the need to have fully committed staff in individual departments prepared to develop materials on their own initiative.

The principal at one of the colleges visited was quoted as saying: 'At a recent staff meeting I explained to everyone that we had no choice other than to embrace the new technology. If we didn't, they wouldn't have a job in five years' time. It wouldn't be me putting them out of work, it would be the students. They would refuse to be taught in any other way.'

50. Although all the VLEs surveyed used a provider-wide software system, the way in which material was then organised and displayed could be changed by individual members of staff. In six of the VLEs examined there was a fairly common system; the others used a variety of approaches that differed between departments, and often between courses in a department. However, the providers who had a variety of approaches had few concerns, mainly because they felt it was allowing staff to develop their own styles, with the differences being partly driven by course needs. In addition, with well over three quarters

⁸ *The workforce strategy for the further education sector in England 2007-2012* was published in 2007 by Lifelong Learning UK (LLUK), which is the sector skills council that includes the further education sector; see www.lluk.org/fe-workforce-strategy.htm. In July 2008 LLUK, along with the Institute for Learning (IfL), Standards Verification UK (SVUK) and the Department for Innovation, Universities and Skills (DIUS), released a position statement outlining the intended process for evidencing teachers, tutors and trainers' personal skills in literacy, numeracy and information and communication technology (ICT); see www.lluk.org/evidencing-personal-skills-requirements-for-teachers-in-lifelong-learning-sector-16-july-2008.htm.

of the VLEs relying on individual staff enthusiasm a centrally imposed structure was seen as an unwelcome barrier. However, it was accepted by the providers, and reinforced by learners, that a too varied approach made life more difficult for learners taking several subjects.

51. No provider in the survey had a formal quality assurance system that ensured material on their VLE was routinely reviewed to ensure it was up to date, relevant, accurate or appropriate. Three providers had numerical targets for populating their VLE with course material which were then reviewed, but they did not have qualitative reviews. The lack of a quality assurance system was not seen as a significant concern by the providers. The reasons for not having a formal quality assurance system included the belief that the VLE was effectively an extension of a lesson, and as such it was the responsibility of the relevant tutor to maintain standards as they would with lesson material, with appropriate oversight from heads of department. There was also a concern, as with imposing a common structure, that at this early stage of development of the VLEs, too many restrictions would dampen the enthusiasm of those who were taking a lead. A formal system might also discourage others whose material was, as yet, not reviewed frequently in the classroom.
52. However, the inspectors' review of VLEs showed that in a small number of cases there were concerns about quality with material that was out of date, course areas with a complicated structure and resources that did not apparently link with a course programme; web links and other materials were not put into context in terms of any links with learning. A few providers acknowledged that material on a VLE was perhaps different from class material, in that it could last a long time and be widely available to learners who did not have the benefit of a tutor to put things into context. One provider was about to launch a review of material to ensure it matched the expectations of the college's equality and diversity policy.
53. In seven providers data on usage was formally reviewed at intervals over a year. The results of such reviews were used to confirm the apparent effectiveness of the VLE, and plan further changes. In one instance senior managers had used the data to set targets for usage in apparently underperforming departments; this had not proved to be a successful initiative.

Case studies

Case study 1: adaptation of an integrated learning technology practitioners programme to develop individual competence in using a VLE to support learning

Background

54. The Integrated Learning Technology Practitioners Program is a Havering College staff development course which is designed to provide staff with the practical skills required to make full use of the e-learning resources available to

them at the college. It has been adapted from the FERL integrated learning technology programme and now has a focus on achieving key aspects of competence to meet the college's strategic expectations and goals for e-learning.⁹ The units of the course include:

- use of the SMART Board and the SMART Notebook
- use of the Blackboard virtual learning environment at Level 1 (basic) and Level 2 (advanced) of the college's e-learning strategy
- the location and evaluation of online resources
- simple ways of introducing interactivity to course materials.

Delivery methods

55. The delivery method can be face to face, online, or a blend of the two.
- All course material is available on the college VLE.
 - Assessment is by online submission of assignments, together with some online tests.
 - The course is intended to take a total of 30 hours to complete, including tutorials and assignment work.
 - The duration of the course is flexible, but it is usually completed in two or three terms.
 - Tutorials can be arranged for curriculum teams at times and locations of their choice.

Award

56. Successful completion of the course leads to a nationally recognised level 2 award in information technology, validated by the awarding body Aberdeen Skills and Enterprise Training.
57. The course is one of the four elements of the Havering kitemark package, which includes basic skills and appropriate assessor and verifier awards, and can support applications for pay scale progression.

⁹ FERL is a web-based information service for all staff working in post-compulsory education. It was launched in 1998 as Further Education Resources for Learning, but its scope was extended to include management, technology and teaching approaches, and the use of online resources. FERL material is now available through the Quality Improvement Agency for Lifelong Learning website; <http://excellence.qia.org.uk/page.aspx?o=nav-resources>.

58. Achievement of the award improves the performance of staff in using technology in their lessons. This has had a positive impact in increasing the range of resources and other learning activities available to learners online, both at college and outside, which complements their learning and development successfully.

Case study 2: collaborative working to introduce and exploit a VLE

Introduction and background

59. The National Institute for Adult and Continuing Education (NIACE) funded the TeesLearn VLE development, using Moodle as its platform. The adult education services of five local authorities originally shared the development and maintenance of the VLE: Redcar and Cleveland; Darlington; Hartlepool; Stockton-on-Tees; and Middlesbrough. County Durham recently joined the partnership.

The partnership

60. The Tees Valley local authorities have a long-established history of collaborative work. When NIACE initially requested bids for Moodle development, individual bids could not exceed £20,000. They estimated that, as individual local authorities in a relatively small area, there was little chance that all would have successful bids. Instead, one local authority, Stockton-on-Tees, led the successful bid for the whole of the partnership – £50,000 – which was used to fund the TeesLearn development. Each partner contributes £500 a year for continuing maintenance and development of their Moodle. Middlesbrough provides central technical support and hosts the server through its Joint Academic Network system.¹⁰ The partnership received good Learning and Skills Council support in the development through Local Intervention and Development grants.¹¹ However, the partners estimate that much Moodle development is through uncoded work of approximately £100,000 to date.
61. The partnership's Moodle group meets regularly. It reviews the system for quality issues, shares good practice in e-learning design that filters through from staff development groups and events, and plans the strategic development of Moodle. Partners use VLE in their observation of teaching and learning processes. Managers use Moodle in a range of ways: to maintain communication with dispersed staff; gather responses to Investor in People questions; and to canvass learners and gather evidence from staff and learners for self-assessment.

¹⁰Joint Academic Network: a UK education and research network with around 18 million users.

¹¹ Learning and Skills Council Local Intervention and Development grants provide additional discretionary funds to support achievement of the Learning and Skills Council targets, including innovative and developmental initiatives, and support for Learning Partnerships.

Development and impact

62. TeesLearn Moodle has developed as an online college with courses, classrooms and staffrooms. The development has benefited from economies of scale and the advantages of being a consortium through shared responsibility and costs.
63. Learners can access the Moodle at any time and from anywhere. In the sampled month, visits from 14 countries included the USA, Australia and Peru. Over 4,800 people accessed the site. Learners can download materials used in their course and contact their tutor and others in their group by email, chat, forums and instant messaging. Online access to courses allows learners to log on at home, in libraries, in internet cafes and when on holiday, allowing them to keep up to date and continue learning.
64. Tutors and sector subject areas have individual Moodle sectors. Virtual staff rooms enable easy access for staff to central documents, staff development, chat rooms, shared resources and lesson plans. Sharing good practice has been extended. At Middlesbrough MBC, adult and community learning staff now work effectively with work-based learning staff to promote consistency and quality. Staff links have led to some good regional curriculum developments.
65. Language tutors are particularly enthusiastic about the use of Moodle and often use live links to enhance the use of the target language. There is evidence of improved retention in the languages sector since Moodle was introduced. Art and crafts tutors have developed online demonstrations for particular techniques, gallery links, and are working on a student gallery. Some art and craft learners use online learning journals. Other developments help reduce rural isolation in small communities where hard to reach groups are linked by use of webcams to support joint delivery in two villages. However, some tutors are not convinced of the relevance of Moodle and, in some sector subject areas, its use is underdeveloped.
66. Learners have been actively involved in developing resources. Content creation funding from the National Institute for Adult and Continuing Education gave learners in Redcar and Middlesbrough their first opportunity to develop interactive resources with their tutors.

Wider developments and European partners

67. Sharing good practice has featured throughout the life of TeesLearn Moodle. One local Middlesbrough provider, The Hope Foundation, was supported by the TeesLearn partnership for its own Moodle development. Online partnerships have been developed nationally and across Europe. Three European partners, established through a Gruntvig project, have set up their own Moodles in Spain,

Greece and France. The TeesValley VLE training course was used to train staff in these countries.¹²

What next?

68. Continuous improvement and expansion is a central theme in this development. A further five of the 12 local authorities in the North have expressed interest in the development. Newcastle already has guest access to TeesLearn. A consortium in Kent has recently approached the partnership. There are, however, concerns about the optimum size of the partnership for sustainability and manageability.
69. Much workforce development has taken place, including initiatives that support shift workers to gain National Vocational Qualifications and Skills for Life qualifications at work and online. However, currently, counting and claiming funding for VLE learners remains an issue.
70. Plans to upgrade in September 2008 will mean that every learner will have their own Moodle repository with links to an e-individual learning plan. The partners find lack of connectivity an issue in the high number of non-owned venues frequently used in adult and community learning. In addition the partners wish to automate as much as possible, but cannot integrate Moodle with their management information system because they have different systems. Two authorities have developed additional modules to accept Moodle, but at an annual fee of over £1,000.
71. Staff development is a concern. Developments such as online mobile tutor packs with laptop, projector, mp3 player, webcam, screen, printer and digital camera will need investment in training if they are to be used effectively. Developments to use the e-individual learning plan for recognising and recording progress and achievement (RARPA) processes will need similar training. However, there are concerns that all current funding available is capital money. There is little for staff development.

Notes

Between January and May 2008 inspectors visited 18 colleges, eight schools, three work-based learning providers, three adult and community learning providers and one local authority. Inspectors also reviewed five college and four school VLEs by accessing them, with permission, through the internet; these institutions were not visited. Of the 41 providers contacted, 35 had active VLEs; as well as the nine that were remotely reviewed in detail the other VLEs were reviewed with staff and learners at the provider. The providers who did not have an active VLE contributed to

¹² www.grundtvig.org.uk.

the survey by giving details of their plans for resources, staff training, use with learners, and their concerns.

The providers were from a range of urban and rural settings, though the nature of VLEs meant that a few learners accessed their provider's VLE while out of the country. The schools visited were already programmed for a visit as part of a larger survey of information and communication technology work in schools and were chosen to fit in with the VLE survey schedule. All other visits and virtual reviews were chosen because it was understood that the provider had an active VLE.

Further information

Harnessing technology – transforming learning and children's services (1296-2005DOC-EN), DfES, 2005; www.dcsf.gov.uk/publications/e-strategy.

VLE materials are available via the Becta home page; www.becta.org.uk.

Annex. Organisations participating in the survey

Local authority

Bracknell Forest

Adult and community learning providers

Teeslearn consortium: Durham County Council; and Darlington, Redcar and Cleveland, Hartlepool, Middlesbrough, and Stockton-on-Tees Borough Councils

The Hope Foundation (learndirect), Middlesbrough

City of York Council

Colleges

Amersham and Wycombe College*

Bishop Auckland College

Bolton Sixth Form College*

Cadbury Sixth Form College, Birmingham

Dunstable College

Filton College, South Gloucester

Havering College

Itchen College, Southampton

John Ruskin College, Croydon

Leeds College of Building*

North Devon College, Barnstaple

North Hertfordshire College, Stevenage

Norton Radstock College, Somerset*

Oaklands College, St Albans

Plymouth College of Art and Design

Priestley College, Warrington* (this is a sixth form college)

South Birmingham College

Southgate College, Enfield

The College of North West London

Thurrock and Basildon College

Tresham Institute, Kettering

Warwickshire College

West Herts College

Schools

All Saints C of E Junior School, Fleet

Bridgewater High School, Warrington

Castle Hill St Philip's C of E Primary School, Wigan

Hamble Primary School, Hampshire

Hilbre High School, Wirral

Lincoln Gardens Primary School, North Lincs,

Lynn Grove VA High School, Norfolk*

Parkside Pupil Referral Unit, Ipswich*

The Compton School, Barnet

Sir William Borlase's Grammar School, Marlow*

St. Philip's Catholic Primary and Nursery School, Leeds

St Joseph's Catholic Primary School, Seaham, County Durham

Work-based learning providers

Aylesbury Training Group

Middlesbrough Borough Council

Seetec

*VLE reviewed remotely over the internet with permission; provider not visited.