Virtual Learning Environments and Web 2.0

What is a Virtual Learning Environment (VLE)?

A VLE is an online (computer) environment, where various tools are provided for the student to facilitate learning. Modern VLEs operate across the World Wide Web, so you often only need an Internet connection to access a VLE. Common commercial VLEs used in many FE and HE institutions include Blackboard™, and WebCT™ and free, or open source VLEs include Moodle and Sakai. Open source is where the software is freely available but there is sometimes no formal support for the product.

Face to face teaching can offer wide ranging opportunities to foster learning:

• Lecturer-student communication

• Tutorials

• Peer support

• Group work

• Self assessment

• Formative/summative assessment

A VLE provides a range of tools to apply the same teaching and learning principles, but delivered online in a 'virtual' environment. Another term commonly used in conjunction with VLE is that of Personalised Learning Environment (PLE) or personalised learning space and this is discussed below.

What constitutes a VLE?

The tools a VLE can include are:

• Communications tools

• Interactive content delivery

• Assessment tools

• Interactive collaboration tools (e.g. shared whiteboards)

Probably one of the most fundamental tools offered by a VLE is the ability to provide students with interactive subject content. Although this can include lecture support notes, reading lists and

so on, simply providing passive notes does not in itself constitute good teaching practice. Another core tool of any worthwhile VLE is a communications tool. This enables the lecturer to communicate with their students in a variety of ways via email or by electronic message and online discussion boards. Many VLEs also offer some sort of formative and/or summative assessment tool. In addition, there are a range of other tools available such as being able to link to external resources or create online student groups to foster peer support and group work. Depending on the particular product there may also be miscellaneous options that allow students to check their grades, submit work electronically, or use personal tools such as calendars and personal address books.

Therefore a VLE can offer similar teaching opportunities which can be used to support and supplement traditional teaching methods, but there will probably always be the need for human interaction.

Personalised Learning Environments (and Web 2.0)

VLEs first developed from a need by users to bring together a range of tools in one product to support learning. At first, this idea of a ‘one stop shop’ was fine but as technology developed, not least because of Web 2.0 technologies, the idea of the ‘traditional’ VLE could be seen as restrictive in that the user engaged with the environment provided for them. Web 2.0 technologies are less restrictive and more ‘social’ in that they allow more flexibility and customisation to suit the preferences of the user, rather than work with an out-the-box product which traditional VLEs provide.

This new approach to a VLE has been termed by some as a ‘personalised learning environment’ (PLE) or personalised learning space. This allows the user to customise their online environment in a way that better suits their preferences. Web 2.0 technologies allow different tools to seamlessly interact to give a similar learning environment to the original VLEs, but customised to the preference of the individual. One could argue that this is almost reversing what a VLE was created for, but Web 2.0 technologies have more advanced functionality that can integrate with the good features of VLEs. VLEs are still widely used however because they too, have adapted and developed with the PLE ethos. Some VLEs are now ‘open source’ which means people can install them for free and adapt them to make them more personal to their needs using Web 2.0 so products like ‘Moodle’ and ‘Sakai’ can be downloaded, customised and enhanced with a range of Web 2.0 technologies to suit their needs more appropriately. Even existing commercial VLE products like Blackboard™ now allow Web 2.0 technologies to integrate, such as links to social networking sites.

Web 2.0 is a term that is now commonly used to describe a range of what is described as ‘social’ technologies that allows users to interact with each other in a range of environments. Examples of Web 2.0 technologies include Blogs and Wikis; social sites such as Facebook and MySpace ; and content sharing sites such as Flickr and del.isio.us. A handy brief introduction to Web 2.0 has been written by Lawrie Phipps from JISC and can be accessed from:

<www.jisc.ac.uk/publications/publications/web2socialsoftwarev1.aspx>

What are the advantages?

Taken separately, communications, content delivery and even assessment can be delivered via the Web without the need for a VLE. However, because a VLE/PLE (V/PLE) ties all these technologies into one environment and coordinates the information seamlessly it offers more than any of the individual technologies could do on their own.

There are a number of challenges in Higher Education which V/PLEs can help with and these include:

• Increasing student numbers

• Automated assessment

• Widening participation

• Improved access to limited resources

The reason V/PLEs have become so popular and embedded in many institutions is because there are real benefits to be gained from the use of the technology. Ever increasing student numbers is one obvious aspect of Higher Education where V/PLEs can help. They can maintain good communications links and there are opportunities for automated assessment. In terms of widening participation V/PLEs can provide support and resources to say, part time students who can't always travel to the campus.

Why are there so many products on the market?

The reason there are so many products on the market is that not all V/PLEs offer the same range of functionality.

In addition, the scope of the options available is not always the same. For example, not all communication tools offer the same level of functionality or flexibility. Another reason for variety is because different systems have different strengths and weaknesses.

However, this does not necessarily mean one system is better than another as increased functionality can sometimes mean increased complexity and confusion. Therefore, the reason that there are so many products on the market is because people have different preferences, and different products help meet those needs in different ways.

Briefing papers are designed to provide a condensed discussion on issues and topics related to teaching and learning in the physical sciences. Each guide focuses on a particular aspect of higher education and is written by an academic experienced in that field.

What's out there?

There are a lot of commercial products available on the market so if you were to consider purchasing one it is really best done from an institutional angle, developing a formal strategic approach across the whole institution. However, some companies allow you to develop and host modules on their computer servers for free, as a way of trialling their product. Alternatively, some institutions have produced V/PLEs and make them available to Higher Education for free, which might allow for more localised use, rather than have to encourage your institution to adopt a system for universal use. As stated already, Blackboard™, WebCT™, Moodle and Sakai are some common products. Other products include Elgg and; although not strictly classed as a VLE, many people use Microsoft SharePoint. There are also bespoke Web 2.0 technologies which can be utilised as V/PLEs such as blogs and wikis since they have flexible functionality – or can be linked to other Web 2.0 tools to create a PLE.

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