

# **Deep Learning and Virtual Learning Environments**

## **Enabling Further Learning through available Technology**

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**Work in progress.**

**The author continues to refine and develop this submission.**

**Not for quotation or citation without author/s permission**

# Virtual Deep Learning Environments

## Introduction

The aim of the project was to improve the quality of online learning resources through MOODLE and encourage deep learning. Funding cuts, changes to the qualification framework and the drive to provide value necessitate a requirement to innovate methods of delivery. Learners today use mobile technologies to network and learn from peers. Online delivery should be a natural extension of this. An Ofsted report on use of VLEs reported ineffective and inconsistent usage of online delivery and a recent internal inspection has corroborated this view. Staff need more support and guidance into the effective use of MOODLE to support learning. (Coffield, 2010) asserts that one of the fallacies about learning is “You only learn in classrooms”. Effective online resources should promote deep learning allowing learners to connect what they have studied formally in class, informally, with their peers. Well-planned resources will support the development of the expert learner inspired to develop a love of their subject (Coffield, 2010).

We aim to find and illustrate methods of using VLE’s (Virtual Learning Environment) to further and deepen learning (Deep Learning) outside of teaching hours.

This project will require change in the fundamental establishing practices of courses by the institution in which this project is executed and the development of staff understanding of new technologies.

## Purpose

There are three levels of purpose to this project: level one is to improve an available recourse (VLE) rather than increase costs by purchasing new or using exhaustive resources, level two is to reduce lecturer workloads and allow the improvement of learner provisions online, level three is to embed deep learning to learners through these processes. In the modern world there is no escaping that students are spending more and more of their time online and discovering the world from their armchairs. Modern communications are central to their lives in such a way it could be possible to live online and online only.

Our project was designed to look at the use of virtual learning environments (VLE’s). We would not go deep into it (like exploring the use of social networks) but we would want to see how students use the VLE and could we, as teachers, use it to bolster deep learning. Simultaneously the teaching team would deliver training on the effective use of question and answer strategies in the classroom to enhance the tutor awareness of various techniques linked to the concepts of deep and surface learning as exemplified by Blooms Taxonomy (Bloom, 1956). Their knowledge and experience would later be applied to the development of online and challenging materials.

In the current climate there are large restrictions in time and money and this often translates to ‘more for less’ in the demands of the staff in the FE sector. This project aims to investigate a possible method of practice that makes use of already available technologies to better learning provision and evaluate workloads on staff once established.

## **Problem and Literature**

Stroud College's preferred VLE is Moodle.

Firstly, the main thing that we must do is to get all departments to be actively using Moodle at a basic level i.e. as an information repository for their courses. This will require extensive training of an almost mandatory nature in a lot of departments to stop staff from opting out.

Staff perceptions had to change towards the idea of Moodle, especially as most saw it as a "waste of time". During this early survey stage we saw a lot of issues such as creative staff whom on the whole were reluctant. This was a major barrier to the project. The primary task was to break the reluctance and give shorter targets to get the staff using the VLE. Soft indicators from first and second meetings were to prove there was enthusiasm towards the idea but a great deal of general unwillingness to change due to fear of increasing workload in short term regardless of long term benefits. This was our task – encourage long term planning to aid deep learning. Thus we had to prove the benefits to the tutors. Michal Eraut (2004) alerts us to the dangers of under estimating the amount of effort involved in improving practice<sup>i</sup>.

Central to the premise of the study was that a well-maintained (or partially-maintained) VLE would provide learners with a positive learning experience. Students' use of technology would be fundamental to the new learning paradigm in which tutors would venture into the cyberspace previously unknown to them. Brent Floyd's (DATE UNKNOWN)<sup>ii</sup> work studied the user acceptances of a VLE in order to provide useful recommendations about the use of VLE's and elearning opportunities. The findings were similar to what was found during the study and formed a useful basis. There were positive outcomes for the well-maintained VLE. Enhanced learning through a VLE was possible for the learners when it was compared to traditional methods alone. This work was interesting as it relied heavily on the staff to play an active part in the acceptance of the VLE, and, as we have proven earlier, there was a reluctance to be part of this and use a VLE in order to provide a VLE teaching framework, as there was a perception of extra work. Once we were able to get a few teachers on board, this was abated easily.

The next stage was set, materials.

"Content of work needs to be relevant, useful and at the correct level for the student."<sup>iii</sup>

Dale C (DATE)

Interestingly, there was never a problem for the tutors at the college to use the materials that had been developed; there was only a need to look at the delivery of the work. Dale C (date) comments that the lecturer also needs to set stricter guidelines, provide a summary of any key points made and email or distribute the summary of forum discussions to the whole class, providing praise for those who engage with the tasks<sup>iv</sup>. This is standard teaching practice and during the study it would be useful and right to note that these basic practices were observed inside the VLE and outside of it too.

Ease of use is a vital component for a VLE. Although there was a focus at the start with talking to the Art Department (whom at one point formed a larger proportion of tutors of the focus group – later

this number dropped) we did find that all tutors agreed that the look of the VLE played a part in the use (or non-use) of Moodle. Concurrently, this was agreed with by Dale who found the ease of use and look was paramount to the learners. Aesthetics were recorded to be the biggest 'put-off' for learners. Students have to feel that they have the right motivation for accessing the VLE (in this case Moodle), but it is proven through our research that students want ease of use (again corroborated by Dale). It also comes to a question of motivation. Does a student access the internet, or Facebook etc, for other reasons than personal internal motivation (this motivation can be to see what their peers are up to). A properly taught course, as we modelled (teaching to a pass/merit level and provided the material for a distinction) would allow the learners to look at their motivation for grades and hopefully tackle the work on Moodle.

Harmonising of the use of Moodle began to provide useful results. It was important for us to use Moodle, even basically, to have some results. The group of tutors used had some basic concept of Moodle and how it was to be utilised, providing assignment briefs and materials, or further. This group was vital as it gave the study consistent and reliable results. Newland et al noted how disabled students benefited from consistent organisation of materials and in this vein it was really important for us to make sure that there was some commonality to the tutors delivering<sup>v</sup>. It was at this point we could gather findings which found a large variation on the pick-up. Some of this did depend on the students and their enthusiasm for the work. Students with higher motivation for the work would demonstrate higher involvement with the online materials. Those whom had lesser involvement were likely to be employed outside the college and would be more unlikely to take up the other tasks. However, something for further investigation is the need to look at learners who had learning difficulties.

“For students with slow reading speeds or concentration problems, having an organised, logical and constant arrangement of materials is of great benefit in providing a standardised environment for the delivery of learning support materials.”

Newland et al<sup>vi</sup>

It was interesting to note that *some* of the barriers to learning are circumvented in the case of elearning. So through consistency, courses that use VLEs can give some structure. By adopting a collaborative approach to VLE use, structure and design, a framework can be established for consistent delivery of materials.

Overall, it was the desire to promote deep learning that drove the study, but throughout the literature showed that there was a symbiotic relationship needed between the traditional and non-traditional methods of teaching. Hart and Rush wrote simply that at the heart of a good educational philosophy a VLE will be to the liking of the learners. However, students used to more traditional modes of course organisation and delivery may well find that the Moodle way of working is more demanding of them<sup>vii</sup>.

## Methodology

This project was designed to look at how we can help tutors to embed deep learning in, and out, of the classroom.

### Interventions;

#### 1. Extended Teaching via VLE

Q: can learners achieve higher grades/ beyond the class room thanks to online support provisions reducing project contact time but not quality of information and provision?

**Execution 1:** learners to receive contact time in class that will support them in achieving a Pass level with clear grading criterion with merit and distinction criterion explained and path illuminated and supported by the use of the VLE.

#### 2. Extended Discussions via VLE

Q: can learners use Discussion forums to deepen learning of a topic covered in lesson and widen their comprehension and application in regards to deep learning methodology?

**Execution:** learners to have a discussion forum established on a lesson topic that they are actively encouraged to participate in haven had deep learning methods established.

Our project used two interventions to demonstrate the idea that using VLE systems you can increase success of learners through Deep Learning exercises to further studying outside of lesson time.

Lazy or lack lustre, is positive change constrained by motivations of an institutions staffs implied attitude towards innovation rather than their outward portrayed attitude?

Our question was to investigate the need for newer teaching methods; firstly to appeal to the modern sensibilities of the learners and secondly to help teachers remove some of the pressures of modern teaching. Littlejohn et al (2007) described a '*VLE as a platform that holds a collection of tools that support learning processes*<sup>viii</sup>'. It is very easy to look at the benefits of the traditional teaching system over those of a modern nature, but as we delve deep into education theory we start to unravel the complexities of each individual and we can easily assume that this is simply not going to work.

We had a series of little targets that were core to our study, each did not have to be met perfectly, but would easily inform us ass to our progress.

## Findings from data

100% of students surveyed use the VLE system in one form or another.

From the data surveyed 27% of the student's surveyed state that they don't like computers and another 13% feel that the system that is currently in use is fine, the 7% in option five pertains to a feeling of lack of time to be using the VLE system.

There are also huge contextual factors that haven't been looked at, in the event of this research the only course that was IT-based in the survey was the art and media course chosen from the voluntary basis. If all other courses had been surveyed then statistics would have been more accurate and possibly more in favour of other departments, even then this would be flawed if one department has a larger ILT base of courses than another of a practical basis.

The end result of the three options is that just under half of students participating found the VLE system to be superfluous or adequate, looking into where the individual responses come from through figures 3.6, 2.6 and 1.6 you can see that the superfluous trend comes from the construction and business, care and lifestyle departments.

## **Discussion/Impact**

Looking ultimately at figure 4.5 it is clear that student opinion massively varied in regard to what they want from a VLE.

Looking over the information that we have been reading it has become abundantly apparent that the government wants the FE sector to use ICT technology's like the VLE. It is also apparent it works for some forms of delivery and not others. Courses where wholly practical teaching was the norm typically had poor uptakes of Moodle/VLE interaction. However, there have been many positive comments from staff who have set up moodle pages for their courses;

Staff Anon 01 "Easy to track and monitor progress" (June 2011)

No one person or research has any clue or direction how to make it work, rather a collection of possible manners in which to employ the concepts in different manners in the attempt to meet learner need.

Staff Anon 02 "I have currently set up a self directed study section on Moodle to deliver the generic units to NVQ learners. This is a work in progress and all resources are there for us to develop the use for 2011/2012." (June 2011)

It could be argued that e-enhancement as mentioned by Beetham & Sharpe in Rethinking Pedagogy for a Digital Age, 2010: 13 has no urgency as the rudimentary mechanics of teaching will continue and learning will take place as it has done for many years. However, once again, there have been significant progress where a clearly set up moodle page, maintained and monitored has;

Staff Anon 03 "It's very important and useful. Having all the assignments, grades and feedback on an online resource saves me many hours of time and the great inconvenience of paper, which I find very difficult to organise and carry between work and home." (June 2011)

## Appendix

Sample size is total fifteen learners total. All figures are rounded to the nearest 1%.

Tutor responses

### Question Two

Do you use the V.L.E. at any point in you job?

Responses 'YES'	Responses 'NO'
100%	0%

### Question Three

Do you use the V.L.E. as part of you teaching or general delivery of your course(s)?

Responses 'YES'	Responses 'NO'
100%	0%

### Question Four

Participants were asked to tick the following as appropriate to their situation. Do you use the college V.L.E. (Moodle) system to:

Op.1	Op.2	Op.3	Op.4	Op.5	Op.6	Op.7	Op.8	Op.9
Yes	Yes	Yes	No	No	No	Yes	Yes	No

### Question Six

Participants were asked if they answered **yes** to question two or three would they briefly explain why they use the V.L.E. and what its key impact is in supporting their learner's attainment.

Op.1	Op.2	Op.3	Op.4	Op.5	Skipped
0%	0%	40%	0%	20%	40%

<sup>i</sup> 2004 Practice-Based Evidence. In G Thomas and R Pring (eds) *Evidence-Based Practice*, Open University Press, 80-91

<sup>ii</sup> Floyd B (date) A study into user acceptances of a virtual learning environment (VLE), followed by a comparison of elearning with traditional teaching, on the VLE, to determine if any enhancement of student learning had taken place.

<sup>iii</sup> A Wolf in Sheep's Clothing? An Analysis of Student Engagement with Virtual Learning Environments Crispin Dale ([c.dale@wlv.ac.uk](mailto:c.dale@wlv.ac.uk)) and Andrew Lane

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<sup>v</sup> Disabled students and delivery of learning support material through a VLE Dr Barbara Newland, Juliette Pavey and Victoria Boyd

<sup>vi</sup> Disabled students and delivery of learning support material through a VLE Dr Barbara Newland, Juliette Pavey and Victoria Boyd

<sup>vii</sup> Open Source VLEs (MOODLE) and student engagement in a blended learning environment

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