Implementing Autonomous Learning – A strategic approach underpinned by learning technologies

Introduction

In 2000 the University of Birmingham focused the use of learning technologies on innovations that would enhance the learning experience of students by funding Learning Enhancement Projects (LEaP). The outcomes of the sixty or so LEaP projects has transformed the way many academics use learning technologies and because of this transformation the University of Birmingham has been able to take a strategic approach to developing and implementing autonomous learning, underpinned by learning technologies via the University of Birmingham’s institutional virtual learning environment (iVLE). They are currently seventeen AL projects across a wide range of subject areas. The AL projects will involve around 25,000 students over the next two or three years (see www.ldu.bham.ac.uk/projects/lip for more information).

This paper gives an overview of the above developments and outlines the key areas of activity of the AL projects and takes a very brief look into the future.

Transformation

Where have we come from?

In the early to late 1990s the main focus for many higher education institutions was on developing content. In the UK we had what we called the Teaching and Learning Technology Programme (TLTP) and some £300 million was spent on developing content with little or no effect on learning and teaching methods. Then came the web and many people believed there was money to be made by developing and selling web based learning materials, especially for higher education. A classic case was the UKeU (United Kingdom e-University) who invested millions of pounds in developing content to support a range of programmes but could not get the student numbers. For me this shows that if one focuses on the content then one is not really going to transform the way we teach or transform institutional infrastructures to support the use of learning technologies.

Where are we at with the use of the web and learning technologies?
One could argue that things are not really that different just like banking, and travel agents that we are providing the same ‘education’ service with the support of the web. In fact one could argue that the use of learning technologies is just about delivering content. Recent research in the UK supports the view that institutional virtual learning environments (iVLEs) are mainly used to deliver content to support the students’ programme of study and only a small percentage use the iVLE to support more innovative learning and teaching methods (UCISA VLE Survey 2005). The UCISA case study shows that in many cases the iVLE is used as administrative support for learning and teaching, giving students access to things such as timetables, course handouts and reading lists, transmitting content and course information to students in a very passive way. So how can we change things at a University level so that tutors use the iVLE to engage the students in a wide range of learning activities?

Changing the focus from quality assurance to quality enhancement

The UCISA and other cases studies show that academics are using the transmission model to enhance the learning experience of students as students find it very useful to have access to their learning materials on-line. However to support academics in moving on from the transmission model we do need to take the enhancement agenda forward. If we look at any degree programme design the focus is on quality assurance and tends to be structured round the following procedure:

- Define degree profile – the programme development group will determine what the programme will be and at what level
- Programme design – this will include the definition of learning outcomes and/or competences
- Design of assessment methods – what types of assessments will be used
- Selection of learning approaches – what learning and teaching methods will be used
- Identification of resources and how they will be used.

Once the programme has been designed it is then sent to an approval board to ensure its quality and when the programme is up and running quality assurance procedures are a key part of the process. These quality assurance procedures also include external agencies such as the Higher Education Funding Council for England (HEFCE) to support them. However, if one does want to focus on enhancement then additional resources need to be found because it is crucial that the quality assurance procedures are not compromised. So, in 2000 the University of Birmingham allocated appropriate funding and set up the Learning Development Unit (LDU) with a remit to shift the agenda from programme quality assurance to programme quality enhancement. A similar process was recently highlighted in the Tuning Education Structures in Europe project as part of the Bologna Process (see figure one).

Figure one
With a focus on innovations in learning and teaching that enhances the learning experience of students, funding and project support was made available for Learning Enhancement Projects (LEaP) to be underpinned by the on-going developments in the iVLE and other learning technologies.

To date the LDU has funded well over sixty LEaP projects and there have been some significant advances in the way the academics use learning technologies. However, we did have to start somewhere and in the beginning some of the LEaP were focused on the transmission model and for some students just getting access to their learning materials online, off campus did enhance their learning experience. One of our students was off ill for some time and could not get on campus; he was able to access all the learning materials at home and perceived this type of access to his materials online as enhancing his learning experience. Many students also access the content to support them with their revision for exams. The transmission model is also a very useful tool for getting our academics to accept these learning technologies as part of their every day learning and teaching activities because they support them in the administration of their learning and teaching. Once the transmission model is well established academics then have the foundations to explore how to embed the use of learning technologies into their learning and teaching in more creative ways. The LEaP projects have been running for nearly seven years now and in most cases it has been evolution not revolution. Academics that were using the transmission model four or five years ago are now using learning technologies to support a much wider range of learning activities.

Examples of good practice include Schools that have changed their staff structures so that they can use the University of Birmingham’s iVLE to support the administrative side of learning and teaching as well as supporting the academic staff in embedding the iVLE into their own learning and teaching activities. Other examples are where degree programmes have been changed and new degree programmes developed. Some of these examples are outlined below:
• The Business School has integrated support for the iVLE into its administrative structure by changing the roles of their administrative staff. They now have a full time member of staff whose role it is to support the Business School in the development and use of the iVLE for all its programmes of study.

• In the Law School the iVLE has replaced their intranet and the School’s web designer is also responsible the iVLE across the School, ensuring that all academic staff have access to support in the use of the iVLE. All law students are now asked to survey their local law courts before coming to the university. Students post their observations of their local law courts on the iVLE and compare similarities and differences. This process is part of what we call pre-induction making the Law students aware of the learning environment at the University of Birmingham and within the Law School before they set foot on campus.

• The School of Chemistry has an academic member of staff who is responsible for the development of learning technologies. She has been given the job title of Director of e-learning. She is responsible for supporting the development and use of the iVLE for the School and leads the pedagogical developments.

• The School of Health Sciences’ department of Physiotherapy had to move from a cohort of 20 students to that of 120 students over a two year period. With 20 students they were able to see actual patients but with 120 it was very difficult, if not impossible to use actual patients so a LEaP project was set up to address the issues that this increase in student numbers raised. The outcome of the project was for the tutor to develop a series of case studies by visiting individual patients and using a DVD camcorder to record their moment disorders. The case studies are used to develop case-based-learning (CBL) where students work in groups and on their own on a range of online case studies. Students are also assessed in our Learning Centres, they are given a number of case studies on a DVD that they have not seen before and are asked to assess them through question sets within the iVLE. Students are allowed to play and rewinding the video as much as they want. Evaluation has shown that students are more confident when they go out on placements and the feedback from the students is that they really like this way of learning as it does prepare them for the real life situations.

• The School of Education is now using the iVLE for PBL with off-campus students. These students are teachers and live and work in various parts of the UK and PBL is being used to develop their skills in how to teach and support visually impaired children. The teachers meet face to face at the start of the course for three days they then go back to their workplace. Then using the iVLE they work in groups and on their own on a range of online case studies. This project was so successful that we now use it for academic staff training in on-line PBL.
The Medical School have developed a new degree programme that uses the case based learning approach. The on-line experts are consultants from hospitals around the region.

Two years ago the University of Birmingham did not see developing distance learning courses as a key part of its strategic development. The University is now encouraging Schools to develop such programmes and the Schools of Public Policy and Historical studies have set up Distance Learning Units to mainstream these developments.

The University of Birmingham is research led and is one of the leading research universities in the UK therefore the above examples are in reality significant developments for the University. So how did we get to where we are? Project funding was made available for LEaP however, just providing the funding would not guarantee successful projects. Therefore supporting academics with their LEaP projects was seen as critical to their success so robust support systems were established. These support systems are outlined below.

Support of Developing the LEaP project plans
To get access to funding Schools had to develop a LEaP project plan and it was the role of the LDU to work with academics to develop these plans. In many cases the development the LEaP project plans involved extensive discussions with a range of staff within the Schools to enable them to focus on just what the objectives of their LEaP projects were. Key to the development of these plans was the use of a resource model that is very similar to Oliver’s (2005) for embedding the use of learning technologies. Oliver’s model is very simple and both academics and learner support staff can use it to develop systems and procedures to support a wide range of learning and teaching methods no matter what type of learning technology one uses. It has three elements:

1. “Learning activities – the tasks, problems and interactions used to involve learners and upon which learning is based”.

2. “Learning resources – the learning content and information resources with which learners interact during learning activities”.

3. “Learner supports – the structures, motivations, assistances and connections that support learning”.

With the discussions focused on these three areas the academic staff were able to focus on the pedagogy to develop their LEaP project plans and by using Oliver’s model we can define just what is required for each of the three areas no matter what learning and teaching methods the academics wanted to develop or what learning technologies were involved.

Project support
To ensure that the Schools took ownership of the LEaP projects the management of the projects was based in the Schools and critical to the success of the projects would be the support from the LDU. This support includes:

- Use of funding to buy in staff to support the LEaP project leaders. Being a research led University this type of support has proved to be very effective in the success of many LEaP projects.
- The LDU administrator is the main point of contact for all LEaP project leaders. She provides a wide range of support such as advising on all aspects of project funding.
- Advise on the ongoing development and implementation of LEaP projects. As projects develop they need to be fine-tuned, academics also get other ideas they want to develop and the LDU team meet regularly with project leaders to support them in taking their projects forward.
- Evaluation of the staff and student experiences of LEaP projects. We work with the project leaders to evaluate the staff and student experience of the projects and highlight lessons learnt and added value.
- The LDU’s e-learning team supports the embedding of learning technologies within the Schools. They are 19 Schools in the University of Birmingham and they vary in size and subject areas and therefore need different types of support for the use of learning technologies. It is the role of the e-learning team to help them with developing support that is appropriate for their School. In most cases the LEaP projects have help the Schools to determine what type of support they needed.
- It is important to disseminate and share good practice so we have set up a number of communities of practice (Wenger 1998). These include the:
  - LEaP Project Leaders meetings, these are held three times a year. The project leaders find these meetings very valuable and are always well attended.
  - Practitioners Forum – the University has around 1,600 academic staff and twice a year we bring those that have an interest in learning technologies together.
  - iVLE user group meetings – as outlined above many Schools now have key staff that are responsible of the iVLE within their School these meetings are again very useful in sharing good practice and lessons learnt.

Appropriate skill sets

To ensure the academic staff could achieve the aims and objectives of their LEaP projects it was a requirement that they identified the skills they had, and the skills that they would need to develop as part of their project plan. The skills that they needed to develop were then provided by appropriate staff from across the University. If there was a skill set that could not be provide from within the University then a consultant was brought as part of the LEaP project.

With the LEaP projects many academics have developed their skills in the use of learning technologies. Many of these academic staff are now on programme development teams and are able to design new degree programmes that seamless
integrate the iVLE into their learning and teaching. This is what we see as a transformation for them, learning technologies are now an integrated part of their learning and teaching. With so many academics now using learning technologies the University felt it was time to move the focus away from the LEaP.

**Transformation from LEaP to ALP (Autonomous Learning Projects)**

Towards the end the 2005 academic year the University had secured further funding for the LEaP projects. However, because of the transformation outlined above it was thought that it was time to reflect on how we could take learning and teaching forward across the University so we took the decision to work with the academics to further develop learning independence or AL in all the 19 Schools within the University. Using the LDU project methodology outlined above we worked with Schools to develop what for this paper we will call AL action plans. Developing these action plans involved meeting with key staff in all the Schools, this usually was the Director of Learning and Teaching and the Head of School. All but one of the AL action plans have been approved and outlined below are the key areas of activity.

**Managing students’ expectations**

Managing students’ expectations was critical for most Schools especially for those students coming in at the age of 18 who had just finished their A levels. The A level curriculum in the UK tends to be outcome focused with students’ focusing on getting the right answers. It tends to involve being able to remember key facts and then been able to write them down during an exam. Students do not appear to be encouraged to question their tutors or engage in enquiry based learning and see they tend to see their tutor just as the person with the right answers.

This is very different from the higher education culture where we encourage students to engage in enquiry based learning, encouraging them to question the information and subject knowledge they gain and engage in critical debate, especially with their tutors and peers. So as part of managing students’ expectations the University has developed a ‘Vision for Birmingham Learning’ and it states that:

“**At Birmingham, we are committed to enabling all our students to profit from a culture of learning, aligned with our research ethos, which is based upon critical enquiry, debate, and self-motivation.**

This vision statement was written in consultation with all the Schools and provided a focus for the meetings we had with the Schools to develop their AL action plans. Many of Schools see pre-induction, getting students engaged with the learning environment of the University of Birmingham before they arrive on campus, as an important part of managing students’ expectations. Key to all pre-induction activities will be the use of the iVLE. Students will be given access to the iVLE before they come to the University and will be given a range of activities that we hope will give them a feel of the learning culture of the University and the learning culture of their School. Many Schools are also reviewing their induction programmes, it is
traditional to think of induction as something that happens to students when they first come to a university and as part of their AL action plans Schools are looking at continues induction, giving students the information they need at the right time. The iVLE is going to be key in enabling the Schools to develop effective rolling induction programmes.

**Effective feedback to and from students**

Further developing effective feedback to and from students is also seen as a key area for many of the Schools. The outcomes of a recent student survey at the University of Birmingham showed that in some areas both the academics and the students could make more effective use of feedback and the iVLE is seen as critical in developing more effective and efficient feedback systems. It is envisaged that areas of on-line formative assessments, that is profiling how students are progressing with their studies, will be further developed. Some Schools are also looking at the use of discussion groups for feedback and further integrating module evaluation into the iVLE.

**Skills development for students**

Students come to our universities with a wide range of skills but they all need a basic set of skills such as academic writing, ICT skills, group work communication skills etc. Students also need to develop their skills as effective ALs and the University of Birmingham has highlighted a number of areas of activities that we expect our students to engage in so that we can deliver the ‘Vision for Birmingham Learning’.

- “Engage with complex, challenging problems and real world issues
- Move from surface to deep learning
- Proactively use available resources to address problems, construct solutions and answers, identify new questions, and create new knowledge
- Question, reason, and think critically about what they see, hear, and feel, weighing up evidence and the opinions of others, and reaching their own conclusions
- Reflect constructively on their own learning, not least through use of feedback from a variety of sources
- Share their knowledge and experience with fellow students and staff
- Manage effectively their own learning processes, individual and collaborative
- Enjoy their learning, making it rewarding and fun”

To take the development of skills forward a number of Schools have used AL project funding to appoint Learning Skills Advisors (LSA). The role for the LSA will be to work with the academics to adapt and develop a range of learning resources to support the academics in the embedding and contextualising skills into the students’ programme of study. Apart from having experience in skills development the LSAs all have extensive skills in the use of learning technologies, especially in the use of VLEs in both the development of on-line learning resources and in supporting students on-line.

*Electronic Personal Development Planning*

Robert Hunter (2007), *Autonomous Learning through learning technologies*. 8
Linked to skills development is the students’ electronic personal development portfolio (ePDP). Two Schools will be leading the development of ePDP and most if not all others will take good practice from these two Schools and integrate it into their AL action plans. Both the Schools are using ePDPs to enable the students to keep their own personal ePDP while at the same time being able to share parts of ePDP with their tutors, friends or peers. At the University of Birmingham the ePDP is integrated into the iVLE.

Learning activities
Many Schools want to make more effective use of areas such as PBL and enquiry based learning (EBL) and see the iVLE has being key to enabling them do this effectively and efficiently. Some of the Schools have appointed AL E-Learning Consultants, these staff will work with the academics in making the most effective use of the iVLE to support the different learning and teaching methods they will be developing.

Research into AL.
The Schools of Chemistry and Mathematics have chosen to appoint post-graduate research students. Their research will be in the areas of Chemistry and Mathematics education. The School of Chemistry’s current research area is the use of EBL in the Chemistry lab and the School of Mathematics is researching the development of AL skills for their students because they see AL as important in developing a deep understanding of mathematics.

From the above we can see that the iVLE will be critical in ensuring that we are able to achieve the strategic aim of further developing AL action across the University of Birmingham.

Conclusions
The University of Birmingham is one of the largest users of learning technologies in Europe. I believe this is because we have been working with academics in enhancing their experience of the learning and teaching processes so that they in turn can focus on enhancing the learning experience of their students. This approach has been supported by the University of Birmingham by allocating significant resources to take the enhancement agenda forward. These resources have enabled us to fund a wide range of LEaP projects that have transformed the way we use learning technologies. This transformation has enabled the University to develop and fund an AL strategy that will involve around 25,000 students over the next two or three years.

Learning technologies will continue to grow and the dividing line between virtual learning spaces and virtual social spaces will most likely continue to blur. Two areas highlighted for the future by EDUCAUSE (2007) are with the ongoing developments of Web2 our students will need to further develop their analytical and critical thinking skills to make sense of just what is out there. Our students are also using more and more sophisticated technologies as part of their everyday activities. We will need to
tap into these technologies to ensure that we can make the most effective use of them to support our students in their learning activities. However EDUCAUSE predict that the gap between the students understanding and the academics understanding of these technologies will continue to grow!

The key issues for me are that we must ensure that both academics and students have the right set of skills to enable them to become effective ALs in a technology rich world.

References and further reading.

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