**Promoting Learner Autonomy through enquiry based learning, role play and the use of "students as consultants, tutors as clients".**

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**Abstract**

This case study evaluates the extensive use of autonomy in “The European Challenge” which simulates the re-location of the European Headquarters of a US based corporation of 350 employees. The project examines the integration of business issues and real estate location, building selection and evaluation and space planning and design.

This ambitious multi-disciplinary project brings together over 80 students in pan European teams from 8 countries to engage in one of the most demanding projects delivered in Europe. The case study focuses on two aspects of the project:

* **the use of the Blackboard virtual learning environment (vle) to foster autonomous learning; and**
* **the setting up of students as consultants, tutors as clients as a learning approach.**

Using control groups, the European Challenge is compared with other projects using statistical monitoring and evaluation tools within the vle, triangulated against student focus groups, to evaluate the autonomous learning potential of the project

 **Overview of the European Challenge project**

*Historical background*

The “European Challenge” is the author's second major international project. In 1997, the “Vancouver Challenge”, a virtual development exercise for students and practitioners was a great success, being runner up in the global EMMA (Education Multi Media Awards).

This inspired real estate faculty members of Hanzehogeschool, Groningen to commission a new challenge, this time with a corporate real estate focus. This has grown and now includes a variety of Universities across Europe including the European Business School, Kingston, Sheffield Hallam, Warsaw School of Economics, Dublin Institute of Technology, The Technical University of Slovakia, The Institute of Construction, Copenhagen and Johns Hopkins Washington DC. In 1996 additional partners in Germany, Finland and Slovenia joined the project. The European Challenge project involves both final year undergraduate and postgraduate students (Johns Hopkins) working together on a complex consultancy project simulating the relocation of a 350 person financial services organisation to a new Headquarters building in Europe. Between 6 and 8 students from Sheffield Hallam join the project each year.

The project is partly funded by the European Union, who fund the travel and accommodation costs of the 80+ students and 10+staff, and partly by CETL funding.

*Need*

The project recognises the growing significance of corporate real estate, the interface between business and real estate and changing client expectations. Real estate professions need to operate with high grade consulting skills, and this project develops such skills.

*Operation*

The structure and schedule of the project is illustrated graphically in Figure 1:

***Figure 1***

**January week 2**

**In a European Capital – e.g. Amsterdam, Paris, Frankfurt, Milan, Warsaw, Bratislava, Vienna, Prague, Munich. and Helsinki.**

**PHASE 2**

**Students are grouped into international teams and engage with their client to produce a Strategic Brief**

**PHASE 3**

**Students visit their allocated city study inward investment and real estate and evaluate a number of buildings; meet**

**with real estate**

**professionals**

**PHASE 1**

**Each group of students in their “home Universities engage in learning knowledge around a theme: such as Benchmarking, Space, Strategy, Productivity**

**PHASE 4**

**Students present their findings to the client “Board”.**

**Presentations attended by international employers scouting for talent.**

**January week 2**

**In Berlin**

**October – December**

**Takes place in partner University.**

**January week 1**

**In Berlin**

In the first semester students work in their home University teams, researching one of eight knowledge themes which underpin the practical project. They work autonomously using Blackboard and on the first formal day of the project they present their themes to the whole group, provide a briefing paper and up-load key resources they have found to the Blackboard virtual learning environment. The students are then formed into multi-national, inter-professional teams acting as consultants to the client. Whilst respecting student autonomy in the selection of teams, knowledge is managed by embedding the themes within each group, demanding that there is no more than one student from each University in a team and thereby restricting autonomy in self selection of groups. Our experience has also found that selecting teams based on Belbin (2003) scores and Hofstede (2001) profiles creates more stable dynamics. The students become consultants to each other and experts in their knowledge themes. Consultancy hours facilitate student to student learning and support. Tutors only act as facilitators, providing guidance and support but no traditional teaching.

The second stage of the project requires the students to prepare a “strategic brief” defining the needs of the organisation, its priorities, culture, adjacency preferences and expectations. Alongside comprehensive written material such as business plans, mission and vision statements; board meetings and client meetings using extensive role play with tutors acting as Board members ensures that the soft people management issues are thoroughly engaged with. Designed in tensions between the Board members replicate real life consultancy. At the end of the first week the students fly out to one of 11 major cities including Bratislava, Paris, Geneva and Brussels to evaluate the strengths and weaknesses of the location and find a suitable building using an objective matching technique to score the building location, attributes and specification against the organisational demands as set out in the strategic brief. Active involvement by Inward Investment agencies and local real estate consultants add to the realism of the experience.

Returning to Berlin for the second week the students are required to present a City template – profiling the cities in a consistent format, which requires both desk research and field investigation. It covers aspects such as business and personal costs, residential property availability, schools and access by air, rail and car. They also produce a detailed building appraisal; a space layout which preserves adjacencies identified in the strategic brief and on the final day a presentation to the “Board of Directors”. Above all they must convince the Board that their solution will support the ambitious productivity improvements sought by the company.

On the final day the 11 groups present to the “board of directors” and the tutors from each participating university. The top three are then asked to repeat their presentation and to present to ALL staff, students and a jury, which includes invited professionals and HR managers.

**Rationale**

The Challenge project is a good example of Enquiry Based Learning (EBL) in which the problem – the relocation of the case study company, drives the learning. EBL emphasises the development of curricula around complex problems set within a context. In the Challenge this is the changing role of the real estate professional as consultant and the growing awareness of the linkages between business and real estate.

The Challenge project has reference to leading best practice in EBL design emphasising the support dimension which Juwah (2002) presents in the form of “scaffolding” (presented below in Figure 2). This scaffolding should be applied to all projects, although the individual make up of the scaffolding will be dictated by the context, subject and nature of the project.

***Figure 2***

**PROBLEM**

Provides the stimulus to enquiry and learning

Innate

Abilities

Prior

Knowledge

Define problem and set goals

Conceptualise Problem

**EXPERT KNOWLEDGE/**

**GUIDE**

to enthuse/

motivate

* Knowledge
* Content
* Case Studies
* Stories
* Prompts
* Agent –

 Technology

**SCAFFOLDING**

In which collaborative learning takes place

**SHARED**

**ENVIRONMENT**

Solve

 Problem

Solution/

Knowledge Capture

Assessment

&

Feedback

**Achieve the Goal/Outcome**

In the European Challenge this scaffolding involves:

* the knowledge and expertise of tutors;
* context setting and instructional content up-loaded to the Blackboard vle;
* case studies/information up-loaded to the vle and presented at the opening conference;
* stories from tutors, students and the “executives of the client company” and from real life practice - two of the participating tutors are engaged in this type of activity for real;
* prompts from the tutors acting as the executives of the client company; and
* technology – the Blackboard vle to drive learning and facilitate communication for groups who are scattered across Europe.

The defining characteristics of the approach are that students define the learning issues, are responsible for searching appropriate sources of information and decide what is researched to address the problem. This reflects a problem based learning (PBL) approach to learning through enquiry. n the substantial literature about PBL reference is constantly made to it being a vehicle to drive autonomous learning; this is considered in the next section.

**Autonomous Learning in the European Challenge**

The European Challenge embraces the fundamental principle of learner autonomy as ***‘taking charge of one’s learning***’ Holec, (1981:3). Whilst all students follow a well crafted brief, ***how*** they manage the learning is largely left to them as both a team and as individuals. The Blackboard learning environment facilitates a range of learning opportunities for which they must take control and set the pace and agenda for learning.

Learner autonomy as learner control has origins in language study- an emphasis on learning management, and cognitive processes to build metacognitive knowledge. The European Challenge tries to expand this perspective. We reviewed how to conceptualise learner autonomy and arrived at the following four elements:

1. integration of knowledge and learning, Boyer (1990) scholarship of integration/application with students creating a variety of original approaches within and between disciplines.
2. use of local, national and international contexts that enable students to evaluate and participate in activity in the wider world, Peters (2004) and Brown (2002);
3. supporting students through transitions so they take control of their learning experiences; and
4. Putting pedagogic innovation at the heart of the learning experience.

Finally we believe these elements should be blended and recognise that knowledge workers require skills of networking, self-realisation and knowledge management. The Challenge builds these elements into the design of the project by:

* ***Networking*** – the project creates many relationships in pan European project teams; relationships between students from the same country / University; diverse tutor relationships including role play, mentor, supervisor and local support and networking with professionals working in a team’s allocated European city. The Blackboard vle provides a valuable networking system.
* ***Self Realisation*** – Belbin team role analysis and comprehensive role play encourages reflection and self realisation of the student’s strengths and weaknesses in managing their learning. Autonomy in how to manage communication and working processes to complete the tasks encourages personal reflection and an evaluation of their team role and management styles.
* ***Knowledge Management*** – the project requires students to create their own micro “learning organisation” and to convert tacit to explicit knowledge needed as described by Nonaka (1994) in creating a knowledge management framework. Again the Blackboard vle facilitates this process.

**Syndicated knowledge sharing:**

In preparing for the challenge students work on an allocated knowledge theme. Whilst they are given guidance and a range of initial texts and references to work from, it is their responsibility to build a contemporary, focused knowledge base for their component of the challenge. An element of peer pressure and institutional pride drives high engagement, after all when they first arrive in Berlin they are still in their University teams and will be presenting their theme to students from many other countries. In addition, the fact they in turn will become the “experts” for that knowledge theme, drives motivation and engagement without intervention from tutors. Students are required to prepare for the first day in Berlin:

* an A0 sized poster for a poster conference
* a briefing paper for circulation
* a minimum of THREE new appropriate and useful resources uploaded to Blackboard

The success of this approach, through the creation and sharing of a contemporary knowledge platform from which the project can be operated from, resonates with the work of Cohen & Levinthal (1990) “absorptive capacity has been demonstrated in studies that show that a person’s learning rate is determined by the breadth and depth of his or her prior knowledge.” The more objects, patterns and concepts in one’s memory, the more rapidly one acquires and uses new concepts. Bower and Milgard (1981).

**Evaluation *-*** *the evaluation examines two components:*

* ***autonomy measured in terms of the use of Blackboard***
* ***student feedback through focus groups with specific reference to the students as consultants, tutors as clients" philosophy***

Blackboard is used in the European Challenge to provide:

|  |
| --- |
|  **tutor defined resources** |
| Briefing documents and essential project information |
| Learning materials – such as context setting papers; country specific information and open learning material about the processes and techniques participants will be using. |
| Web links to major articles, papers and consultants reports |
| Project announcements and message boards. |
| **communications tools** |
| e-mail tools |
| discussion forums, wiki’s and blogs for interaction between supervisors and role play executives of their client organisation. |
| File sharing and group interaction tools |
| **autonomous learning tools**  |
| A separate Blackboard site to each group gives them a level of autonomy to design and implement communication and other learning tools in a way which meets their individual and team learning needs. |
| Virtual Classrooms and Virtual Meetings |
| Team announcements and message boards. |
| Discussion forums, wiki’s and blogs for autonomous interaction between teams.  |

**Basis of the evaluation.**

The Blackboard vle also provides a comprehensive set of tools which monitor its use and allow a detailed evaluation of how students have engaged in the project, used the resources provided and therefore the level of communication, interaction and autonomy achieved within the project.

In this analysis the European Challenge students have been compared against a group undertaking the project but only as a classroom based activity (with no City visits and teams constructed only of students from one nationality) and a UK project group using Blackboard as part of a final year u/g project.

**Engagement by students**

In evaluation of the European Challenge we examined the Blackboard statistics for the European Challenge project against a control group engaged in a similarly weighted blackboard delivered assignment using a more traditional approach. Each project had the same number of ECTS and contact hours.

Interrogation of the Blackboard course statistics reveals amazing levels of engagement by the European Challenge groups, for example, the seven strong team allocated to Madrid as their potential location produced an astonishing 5511 hits on the site during the 12 week semester period (see Table 4 for a breakdown of hits). Examination of the detailed usage shows an even spread of usage by students and represents an average of 76 hits per week per student.

***Table 4***

|  |
| --- |
| **Blackboard Statistics: *Total Number of Accesses per Area*** |
| **Area Name** | **Hits** | **Percent** |
| **Announcements** | **1734** | **31.46** |
| **Course Information** | **204** | **3.70** |
| **Staff Information** | **164** | **2.96** |
| **Course Documents** | **3171** | **57.53** |
| **Assignments** | **134** | **2.43** |
| **Books** | **104** | **1.88** |
| **Total** | **5511** | **100** |

This compares with a total of only 489 total hits for the comparable “control” group of six students following a Blackboard enabled project of the same credits and duration in the final year of an undergraduate programme in the UK.

Autonomy is also embedded in the way in which freedom and flexibility of the use of Blackboard has been embraced by the providing University – the Hanzehogeschool, Groningen , The Netherlands, allowing students greater access and control than is common in many UK institutions.

Analysis of student autonomy is still being evaluated in detail. However, initial outputs show unprecedented levels of student autonomy as measured by the diversity of usage of the tools and resources provided to students by the Blackboard vle. Each student team was given its own Blackboard site and was encouraged to develop its style, format and management of the site in an autonomous setting.

Initial results show a wide diversity in the use and development of the sites with standard deviations showing a wide variety of usage of the various components. Simple analysis of the usage indicates that some groups preferred a series of discussion boards around specific topics and virtual meetings in an informal and fairly unstructured format, whereas other groups were highly structured requiring formal virtual meetings at set times every week and a formal minutes and agenda system.

Simple graphical analysis of each team’s use of the communications facilities is set out in Figure 5 below. This shows the diversity of engagement and supports the view that high levels of student autonomy were achieved.

***Figure 5***

**Graphical comparison of 4 out of the 7 groups engaged in the Challenge in 2006 to illustrate the variety of how students used the communication tools given to them in their group Blackboard facility.**

**A proxy variable for autonomy.
*(Note all groups were given identical resources and briefing information as to how to use the facilities.)***

Initial comparisons with the control groups working in one country and not given the same amount of control over their resources show fewer interactions, less motivation and inferior outcomes to those given high degrees of autonomy over how they manage the project over a 12 week Semester.

**Student Feedback through focus groups with specific reference to the students as consultants, tutors as clients' philosophy.**

Student feedback has been consistently positive throughout the three years and the enthusiasm of students grows stronger. In particular, students relish the empowerment and liberation of the “students as consultants, tutors as clients” approach.The following statements from focus group sessions illustrates this:

*"You're asked to engage with the concepts that are put forward and figure things out for yourself and I found that to be, I found that a lot more exciting than sitting there watching a PowerPoint slide that's just spoon-feeding you information that you know you've got to go away and learn it, like a parrot basically, and then deliver it in an exam, this is a lot more practical, and felt like it was linked a lot more closely to the real world than a lot of the modules".*

*"It's worked really well, especially after being on placement (where you've) been asked to be a professional for a whole year and then getting back to university...with this course you're still being asked to apply that professional approach to your work. In doing that... I've got more out of this".*

*"Berlin especially has given me more confidence because it applies other subjects, it's given me the confidence when I start my graduate job to use what I've learnt, because we've actually applied it during this project, I now feel more confident applying it to my actual job".*

*"A lot of it does get embedded in your mind because you're working so intensely and because you're engaging, you're so engaged with it and you're not just reading stuff and trying to remember it you're actually being asked to figure things out...you feel like you're...going your own way it's your work completely... and that definitely helped me to remember everything".*

*"Working as a consultant was great we had so much responsibility and a very difficult client to manage - I can remember at one point getting quite shot down by Nick (Nunnington) in his role as CEO for asking quite a stupid question which you only learn from making but I'm glad that I made that mistake in Berlin cause it's certainly not one that I'll be making again".*

*“in this project I was seeing, hearing, doing all the time, we learnt of each other, the tutors in and out of role, constantly, almost 24/7. It didn’t feel like learning.”*

*“I have never worked so hard and I ask myself why . . . we all wanted to learn because we were challenged not only with the subject matter which was really up to date . . . but also by each other we needed to manage the project and each other to complete the task . .. we all wanted to do well and show our client what we could do . . . the tutors were not tutors anymore, they really became the client and gave us a really hard time . . . but that’s what it’s like in the real world.”*

The author’s reflections on the students' comments are that they validate the approach and actually exceed the original aims and objectives of the project. For example, comments such as “*it did not feel like learning*” suggests that immersion in the intensity and realism of the project works effectively to dispel the artificiality of many traditional learning activities. It is also encouraging to see how students reflect upon both the impact and longevity of the learning when compared to traditional teaching and assessment where much of the study is not retained. With the Challenge this “*embedding in the mind*” is confirmed by students who confirm how much they remember several years after the project and how useful it is in the workplace. Finally, it is especially gratifying to see how the project can actually change students' behaviour, in some cases really forcing them to take leadership and responsibility and in others to open their eyes to employability possibilities they had not ever thought about.

**Conclusions and Further Development**

The academic team managing the European Challenge are proud of the outcomes, the warm reception by students and sponsors and the valuable lessons learnt for future implementation of the project in Europe and beyond.

The team believe that the project meets the changing paradigms in both the profession and in education and it provides a model of best practice for adoption and evaluation by other Institutions. The project emphasises and integrates significant research being undertaken into the interface between business and real estate.

The team are pleased that the project has been recognised in the UK by the ACBEE initiative (Accelerating Change in Built Environment Education) as a case study of Excellence. This initiative is supported by, amongst others, The Centre for Education in the Built Environment and the Learning Teaching and Support Network (the latter now known as the Higher Education Academy).

We also believe that the Blackboard vle developed as an integral part of the “scaffolding”, needed to support students working at a distance and in an autonomous setting, has proved to be an invaluable tool for both implementation and evaluation of the Challenge. The unprecedented usage of both the learning resources and the communication tools compared to control courses is confirmation that distance is no longer a barrier to learning and that high levels of motivation can be achieved where students are in control of their learning.

A fascinating additional study would be to analyse the formality of working against the make up of the teams to identify if cultural typologies of different nations influence the autonomy of use of the Blackboard resources.

In summary, in this context, autonomy is concerned with setting up a dynamic and stimulating setting which motivates and fosters self directed approaches, or what the team describes as ***facilitated autonomy***. The approach recognises that investment in autonomous learning is front loaded with considerable time and energy being devoted to creating a realistic and exciting problem or set of problems to engage with, ensuring appropriate prior knowledge is made available and creating comprehensive “scaffolding” which supports the learner to achieve the desired outcome. Facilitated autonomy is an approach where student and tutor choice is designed in and students have control over their learning environment. For example, the use of a virtual learning environment where how it is used is not dictated by the Institution.

Facilitated autonomy should be complex and multi faceted, providing a problem that stimulates engagement; exposing learners to different perspectives, using practitioner’s stories, role play; and deliberate provocation to stimulate deeper learning. All of this facilitation drives autonomy in the European Challenge and the team believes is the source of its extremely successful operation.

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