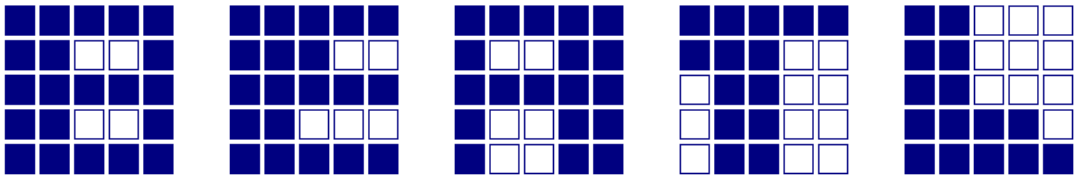

Built Environment: Appropriate Technology for Learning

BEATL/93

Final Summary Project Report 2001

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1. INFORMATION AND GOALS

1.1 Contact Information for BEATL

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1.2 Description of the BEATL Project and Objectives

Project Description. The BEATL Project has aimed to develop effective and efficient methods of integrating the use of new learning technologies into the delivery of modules within the undergraduate modular programmes at the universities of the West of England, De Montfort and Westminster. Built environment undergraduate modular programmes include a wide range of disciplines, from architecture to town planning; from building surveying to environmental management. Such programmes offer, therefore, a testbed of wide variety for embedding the use of new learning technologies into teaching and learning. A key aspect of BEATL project methodology is the use of partnerships between modules, normally across two of the three faculties. These pairs of modules have generally involved similar subject topics with a shared interest between module teams in embedding the same technology-based materials. The BEATL approach has been educationally led rather than technology-led, enabling module staff to choose the nature and scale of their innovation in the expectation that a range of types of technology and of subject matter will be employed. This diversity of 'testbeds', together with the preparation of systematic evaluation methodologies, has aimed at ensuring both a range of transferable products and generalisable learning for good practice in introducing new technology. A Project Handbook has been developed as a guide to staff on embedding good practice, and for use in staff development workshops.

1.3 Project Objectives

- to embed appropriate technology-based applications and learning materials into 25 or more built environment modules, including large interdisciplinary modules
- to evaluate the impact of these applications and materials on the quality of the student learning experience and identify high quality innovations
- to evaluate the full resource implications of the project innovations and identify cost effective solutions, where possible
- to identify ways in which faculty/institutional take-up of educational technology can be reinforced
- to introduce collaborative arrangements among the consortium universities for testing transferability of good practice
- to ensure that project innovations are accessible to identified groups of students with disabilities, as far as is practicable and within the resources allocated to the project
- to prepare detailed case study reports for 8 or more project innovation topics
- to prepare a staff handbook on good practice for embedding appropriate technology

- to prepare and run staff development programmes incorporating 3 or more workshops for staff in HE institutions to promote good practice in the embedding of appropriate technology
- to ensure the project clients and stakeholders are kept informed and engaged in the project throughout its development by means of a communication, dissemination and exit plan

2 SUMMARY OF PROJECT OUTCOMES

2.1 Project Objectives

All project objectives have been achieved. In a number of cases the targets set have been exceeded.

2.2 Project Products

Five different categories of product have been developed in BEATL and are available beyond the life of the project.

- A BEATL Staff Handbook which has been developed to be accessed primarily through the internet and is available on the BEATL website http://www.uwe.ac.uk/fbe/beatl. The Handbook includes guidance for academics, departmental managers and support staff, and provides background detail on BEATL including the 14 case studies at the heart of the project
- Coursewhere Packages available through John Counsell or Neil Porritt at UWE, Bristol
- Innovation Methodology Tools available through Neil Porritt at UWE, Bristol
- Project Reports through John Winter, UWE Bristol
- A BEATL Publicity Leaflet available through John Counsell or John Winter, UWE, Bristol.

2.3 Project Impact

The impact on teachers delivering module innovations within the BEATL programme has been strongly positive, with 84% of BEATL module leaders responding that their innovation had been effective in helping meet their module's learning objectives. There is also evidence, generally, that the BEATL innovations have enriched the student learning experience, and some evidence that student achievement has improved, but no conclusive evidence on cause and effect for the latter.

The impact on the 3 partner departments in BEATL has been significant with 37 academics engaged across 30 module innovations, and with a clear commitment among this group to the continued use and development of ICT in their teaching. The challenge now for the departments concerned is to reach beyond the 'early adopters', and engage with the 'early and late majority'. The impact on the host institutions, beyond the built environment, has inevitably been more limited during the life of the project. But with confirmation that many BEATL messages are of a more generic nature, dissemination at university level has been given greater priority at the end of the project; this has been promoted especially through BEATL workshops in each partner university engaging 1 or more faculty beyond the built environment.

There has been some dissemination at national level throughout the project in line with the dissemination plan, focussing mainly on raising awareness of work in BEATL. Close liaison with the Centre for Education in the Built Environment (CEBE) at the University of Cardiff will aim to ensure that the learning and outputs from BEATL are communicated nationally, following project completion.

2.4 The Main Project Achievements

The focus of the BEATL project is on embedding learning technologies within the teaching and learning process in individual modules. A very clear message to come from the innovation choices made by academics was the preference for small scale, generic applications such as the use of web pages or formative self assessment quizzes, rather than large off-the-shelf packages. This was not at all what was expected going into the project and stems from a number of factors including the increased accessibility of the latest technology and its intrinsic flexibility for accommodating the individual academic's home-grown content.

A major achievement of BEATL has been the systematic evaluation of the student learning experience on 14 sets of courseware in 30 modules across three built environment faculties. In virtually all cases there was evidence that the BEATL innovations had enhanced the student learning experience, including for example the introduction of online quizzes for formative self assessment.

Much has been achieved in BEATL through the evaluation of the resource dimension of project innovations. The main overall conclusions are 1) that introducing technology does not generate significant resource savings, but 2) that well integrated innovations may break even in resource terms over time, with 84% of innovations having a shelf life of 3 years or more.

A key achievement has been to design and evaluate a methodology for the effective partnering of each project application between a pilot module and an associate module in a different university. The main learning to come from partnering has been to provide insights into the factors that are likely to encourage or impede the transferability of technology applications to the wider academic community. Two of the key messages to emerge with regard to facilitating transferability are:

i) use more generic applications such as e-mail, spreadsheets, quiz engines, CD case studies, and,
ii) use simple, cheap, widely used and accessible software

Experience on the project has underlined the importance of considering accessibility from the early design stages of any innovation involving ICT. Evidence from BEATL is clear that academics do not automatically give attention to these matters unless directed to do so, with the consequent risk that accessibility is limited unnecessarily.

2.5 Continuation Strategy

It is planned that the BEATL project will continue to have an impact beyond December 2001 at 3 levels – the department, the university and nationally. Three key elements in this continuation strategy are given below.

At departmental level each partner department has developed an explicit commitment to "mainstream" good practice from BEATL.

At university level each partner will continue a programme of dissemination through the electronic Handbook and associated workshops.

At national level through a Transferability Bid involving CEBE the LTSN subject centre for the built environment at the University of Cardiff.