Economic and Social Research Council
Teaching and Learning Research Programme

ETL Project Progress Report

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Institutions:	University of Edinburgh in collaboration with the Universities of Coventry and Durham	
Project Team:	Professor Noel Entwistle	Co-Director
	Professor Dai Hounsell	Co-Director
	Professor Liz Beaty	Associate Director
	Professor Erik Meyer	Associate Director
	Dr Charles Anderson	Associate Director
	Dr Kate Day	Associate Director
	Dr Ray Land	Associate Director
	Dr Glynis Cousin	Senior Research Fellow
	Dr Velda McCune	Research Fellow
	Dr Nicola Reimann	Research Fellow
	Mrs Jenny Hounsell	Project Administrator

Original Aims and Methods of Research

This project is designed to explore ways of strengthening the teaching-learning environments experienced by students taking degree-level courses, so as to enhance their achievement. It will build on existing research into teaching and learning in higher education, by extending the range of disciplinary perspectives being used and relating them more directly to the professional knowledge of academic staff in contrasting subject areas. By working collaboratively with five departmental partners in each of five contrasting subject areas at first- and third-year undergraduate levels, ways of enhancing the system-wide capacity for research-based practice will be explored and disseminated. The subject areas selected are electronic engineering, molecular and cell biology, economics, history, and media and communications. Specially designed inventories will measure students' approaches to learning and studying and their perceptions of the teaching-learning environments they have experienced. These will be supplemented by questionnaires and interviews for both students and staff. Information about attainment will be obtained from departments and also through analysis of marker outcomes in a sample of the departmental settings.

Highlights of the Research and Important Findings

All the research goals set for the first year of the project have been achieved and we are now deciding which departments to approach for the main phase of the project. It is hoped that the first work with departments will begin as expected in February though some slippage has been unavoidable. Interesting ideas are already emerging from our telephone interviews and discussions with both subject advisers and LTSN Subject Centres, relating to subject area differences. These developments in our thinking are being used to guide the data gathering for the main phase of the study.

Publications

One article that has contributed to the work of the project has been submitted for publication, while completed working papers are being mounted on our web-site at http://www.ed.ac.uk/etl. Other working papers are, meantime, on our own intranet.

Entwistle, N. J & McCune, V. S. The conceptual bases of study strategy inventories in higher education. Submitted to *Educational Psychology Review.*

Summary of Work Carried Out during the First Year

Symposium on study strategy inventories

Prior to the formal start of the project, we hosted an international symposium attended by colleagues from Finland, Germany and Holland, and also from England, which enabled us to hear about the latest developments in the design and use of study strategy inventories, at no cost to the project.

Literature review

The project proper began with a review of the literature related to conceptualising and describing teaching-learning environments. This resulted in an extensive concept map covering a whole range of concepts which have been used to describe differing aspects of these environments, and has been placed on our intranet. For our project, we shall be focusing down on to those aspects of the teaching-learning environment which are likely to influence students most directly and are feasibly open to change by our departmental partners. A condensed form of the concept map is currently being prepared and will be used to inform the development of an inventory to assess students' perceptions of the teaching-learning environments they have experienced.

Visits by international consultants and subject advisers

Our two international consultants each visited us earlier in the year. John Biggs, from Australia, discussed with us his notion of *constructive alignment*, which stresses the importance of ensuring that academic staff set aims which demand conceptual understanding and skills at an appropriate level for the student intake and the stage of the degree. It then shows how teaching, assessment, and indeed the whole teaching-learning environment has to be aligned to ensure that all aspects of them are directed towards those aims.

David Perkins and his colleagues in Harvard developed a *Teaching for Understanding* framework which he explained to us. Although this scheme is intended to guide school teachers in designing curricula in ways which encourage the development of understanding, he pointed out its potential relevance for higher education, too. He also described a more recent project – *Understanding for Organisations* – which involved setting up innovations with university administrators designed to improve the quality of their work. The ways in which Perkins and his colleagues had developed an appropriate language for communicating ideas from research into their own ways of thinking will be of particular relevance to our project, as will the advice on how best to work with academic colleagues.

We have talked individually to each of our subject advisers and also held a seminar where the aims and methods of the project were outlined and draft reports on the telephone interviews (see below) were discussed with them.

Analysis of Teaching Quality Assessment and QAA Reports

Data collection and analysis for the project began by examining the TQA and QAA reports of departments judged to be excellent (or the equivalent in point scores). Nearly forty departments in our five selected subject areas were chosen to reflect a spread of differing kinds of universities. The research team was divided into pairs for each subject area and the reports were read and discussed in those pairs, who then each produced a summary report. The five summary reports were then analysed to establish the main aspects of teaching-learning environments used by the assessors, and to extract from the comments indications of what was seen as evidence of high quality in teaching each of the subject areas.

The nature of the TQA and QAA exercises meant that to a large extent the aspects being looked at were equivalent across the subject areas. It was also found that as the main concern of the panels was to justify the assessment they had made, the reports tended to describe, rather than substantiate or explain, what they had found. Where summary documents had been produced by the panels, these provided rather better information but, as expected, these TQA analyses, overall, provided rather little detailed information about high quality teaching-learning environments.

The analyses did, however, provide some useful pointers for the main phase of the project, for example, by drawing attention to the different 'cultures' existing in departments, seen in terms of a relative balance of emphasis between research, professional work, and wider student access. The generic characteristics of teaching-learning environments could be divided into three main areas – course administration, curricula,

teaching-learning and assessment, and student support, and the extent to which the provision was appropriately matched to the student intake.

Analysis of telephone interviews

The research design had anticipated that we would obtain only limited indications from the TQA reports about the characteristics of high quality teaching-learning environments in 'excellent' departments. It had therefore built in the need for telephone interviews with about half of the sample used for the TQA analysis. These interviews were carried out by subject area pairings as before, with summary reports being prepared again.

At this stage our immediate goal has been to firm up our understanding of high-quality teaching-learning environments in each of our five subject areas in ways that capture salient discipline-specific features while also identifying shared aspects and themes. An important outcome has been to begin the process of identifying high-quality learning outcomes in first- and final-year course settings which teaching staff associate with fundamental ways of thinking and practising in the subject areas concerned. It has also been possible in the interviews to begin to explore with staff how particular teaching-learning and assessment strategies are seen as facilitating the pursuit of certain key learning outcomes, especially those related to high-level understanding and skills, and are thus viewed as well-aligned. A further benefit has been to yield potentially promising items for the ALSI and ETI inventories (see below).

Following the initial summary drafts, more substantial reports are in preparation for each of the subject areas. These will be based not just on the telephone interviews, but also on discussions with subject advisers, LTSN Subject Centres, other colleagues, and published accounts of subject-specific pedagogical research and development. These reports will focus on the ways of thinking and practising in the subject and how these activities are being fostered through the teaching-learning environments provided by highly rated departments. It is envisaged that these reports will form the basis for one or more substantial publications in due course.

Development of inventories

The symposium held prior to the start of the project provided us with details of all the items used in the most widely-used study strategy and course perceptions inventories in Europe and Australia. These two pools of items were examined conceptually to establish which aspects of study strategies and course perceptions were most commonly described. These aspects were then considered in relation to the specific aims of the project to decide what to include in the inventories.

The most urgent development was of an inventory that covered students' approaches to learning and studying. Here, as indicated in the proposal, we built on extensive work already carried out and were able to trial a pilot instrument prior to the end of the 2000-01 academic session, with a shortened and refined version trialled early in the current session. As a result of this work we have produced a 36-item inventory – the *Approaches to Learning and Studying Inventory (ALSI)* - that covers five scales directly related to our project aims, namely *deep approach, surface approach, monitoring studying, organised studying* and *effort management.* This set of items will form the core of an extended questionnaire which will also include items related to students *orientations to learning* – what they expect to learn from the degree course they are taking.

We are currently following a similar approach in developing an *Experiences of Teaching Inventory (ETI)* that will cover generic aspects of students' perceptions of teaching-learning environments. It is intended that at the end of their course units students will be asked to complete both inventories and also a questionnaire designed to assess the extent to which constructive alignment is experienced as taking place in the course unit.